

Chemistry 334
Final Examination

May 11, 2009

Professor Charonnat

Name: _____

Be certain that your examination has nine (9) pages including this one.

Put your name on **each** page of this examination booklet.

By putting your name on this examination booklet you agree to abide by California State University, Northridge policies of academic honesty and integrity.

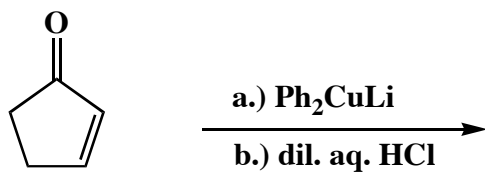
Molecular models are allowed for this examination. All electronic devices, including calculators, are unnecessary and are not allowed.

Name: _____

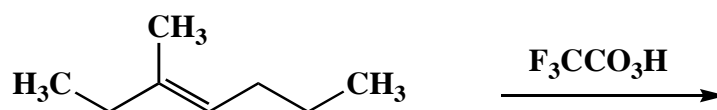
1. (50 points)

Draw the major organic product for each of the following ten (10) reactions.

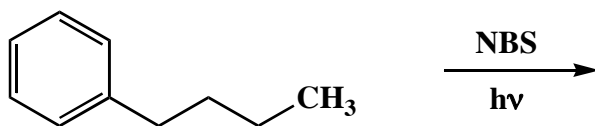
A.



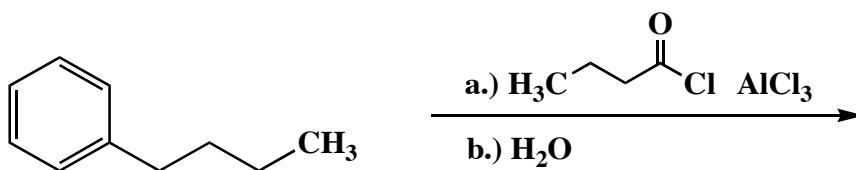
B.



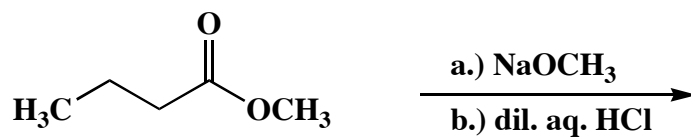
C.



D.



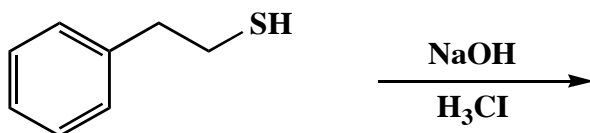
E.



Name: _____

1. (continued)

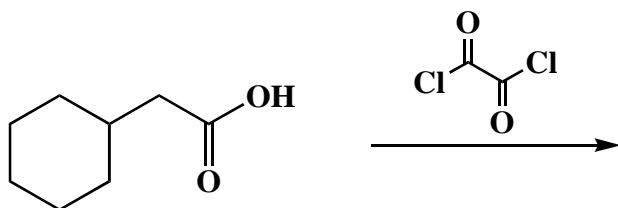
F.



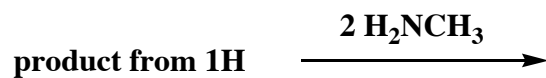
G.



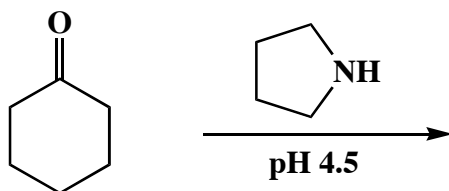
H.



I.



J.

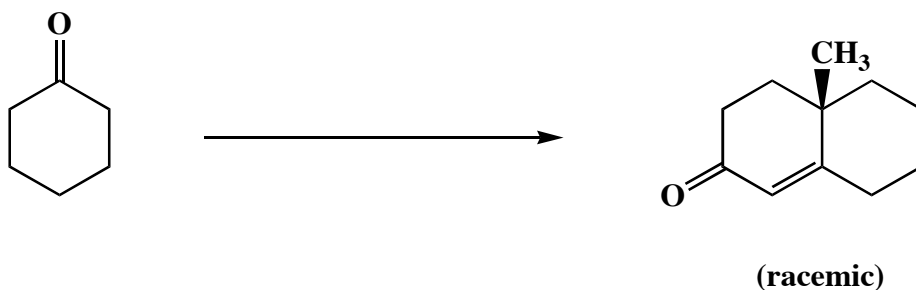


Name: _____

2. (35 points)

Draw the specific reagent(s) necessary to effect the transformation shown for each of the following three (3) questions. If more than one step is required, be certain to specify each step separately.

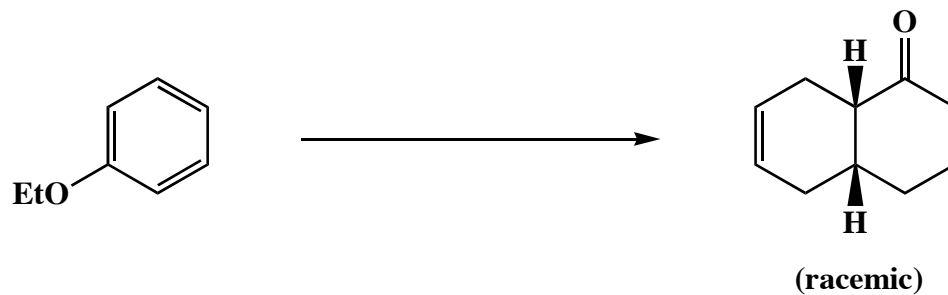
A.



B.



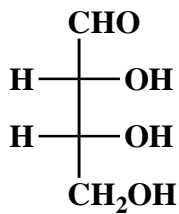
C.



Name: _____

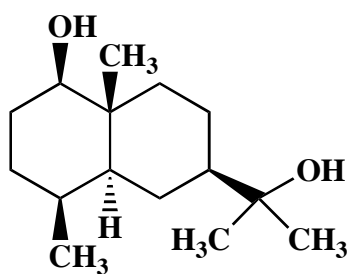
3. (10 points)

Use IUPAC nomenclature to write the systematic name of the following carbohydrate.



4. (10 points)

Circle the "isoprene" units in the following terpene. Clearly label the head (h) and tail (t) of each "isoprene" unit.



balanitol

Name: _____

5. (25 points)

Circle the letter that corresponds to the correct answer for each of the following five (5) questions.

These questions are unavailable due to copyright considerations.

Name: _____

6. (20 points)

Draw the structure of a specific example for each of the following ten (10) categories.

A. any sulfonium salt:

B. any naturally-occurring unsaturated fatty acid:

C. any alternating copolymer:

D. any nucleophile:

E. any steroid:

F. any optically active tertiary amine:

G. any step-growth polymer:

H. any antiaromatic compound:

I. any naturally-occurring acidic α -amino acid:

J. any γ -amino acid:

Name: _____

7. (30 points)

Answer the following three (3) questions precisely, succinctly and with correct grammar.

A. Define the term, “nonrepetitive secondary structure,” and give a general example.

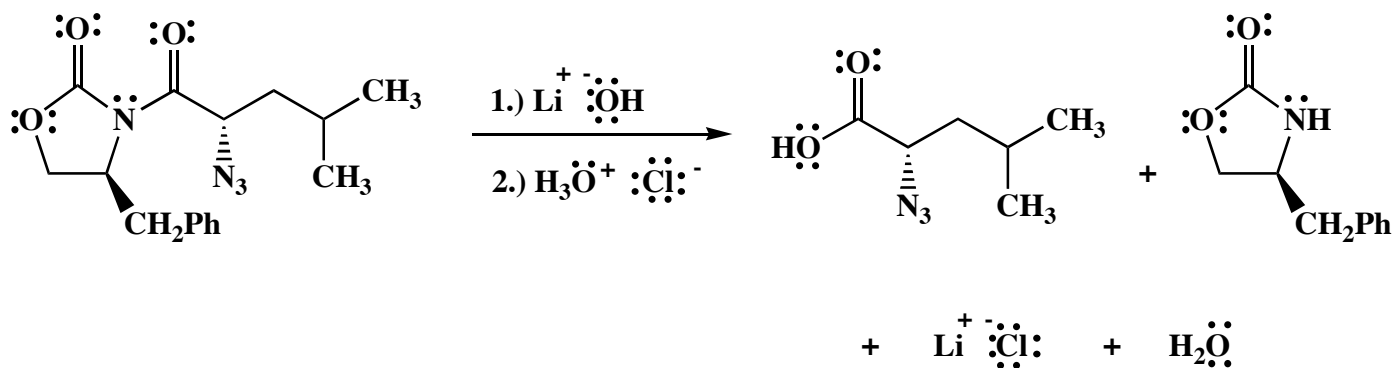
B. Describe the individual steps in a Merrifield solid-phase polypeptide synthesis.

C. Define the term, “nonreducing sugar,” and draw a specific example.

Name: _____

8. (20 points)

Draw the mechanism of the following reaction, using the curved-arrow notation to indicate the reorganization of electron density. Show all intermediates and denote all unshared electrons, formal charges and countercharges where appropriate.



Congratulations!

1	/50
2	/35
3	/10
4	/10
5	/25
6	/20
7	/30
8	/20
Total:	/200