

Chemistry 333

Examination #2

March 26, 2008

Professor Charonnat

Name: _____

Be certain that your examination has five (5) pages including this one.

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

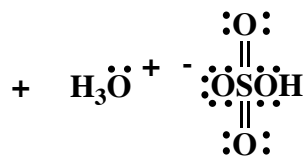
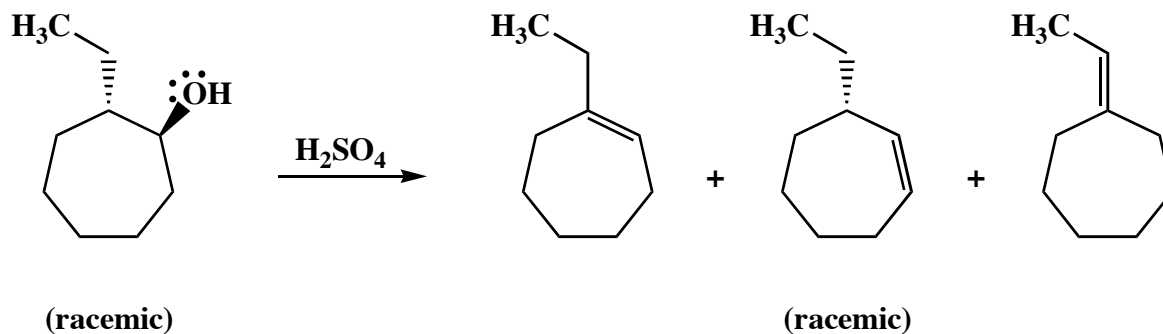
By putting your name on this examination booklet you agree to abide by California State University, Northridge policies of academic honesty and integrity.

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

Name: _____

1. (20 points)

Draw the mechanism of the following reaction, using the curved-arrow notation to indicate the reorganization of electron density. Denote **all** intermediates, lone pairs, nonzero formal charges, countercharges, and reversibility or nonreversibility.



Name: _____

2. (30 points)

Circle the number that corresponds to the correct answer for each of the following six (6) questions.

A. The rate of an E1 reaction is affected by changes in

1. base concentration
2. substrate concentration
3. both base and substrate concentration

B. A 70:30 mixture of two enantiomers will have an observed rotation that is

1. nonzero only at room temperature
2. nonzero at all temperatures
3. zero at all temperatures

C. Primary kinetic isotope effects are observed in which reactions?

1. E2
2. E1
3. S_N2

D. E2 eliminations typically occur via

1. a noncoplanar conformation
2. a syn coplanar conformation
3. an anti coplanar conformation

E. Which of the following reactions is the most stereoselective?

1. S_N1
2. S_N2
3. E1

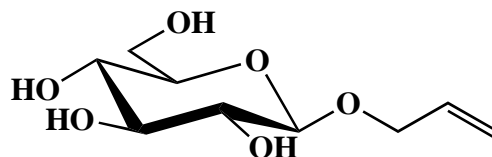
F. How many stereocenters does the alkene in problem 4B possess?

1. zero
2. one
3. two

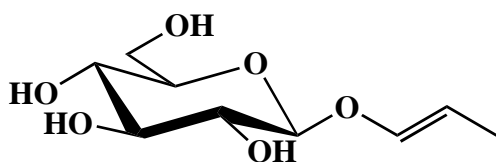
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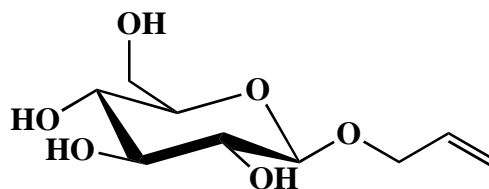
3. (30 points)

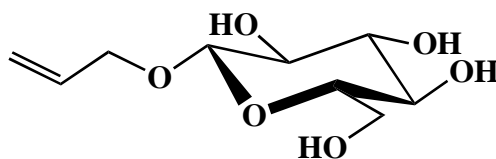
State the relationship between each of the following six (6) structures and the carbohydrate derivative **1** (identical, enantiomer, diastereomer, structural isomer, conformational isomer, or different compound that is not isomeric).

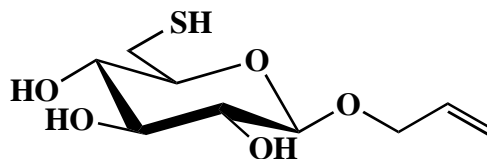


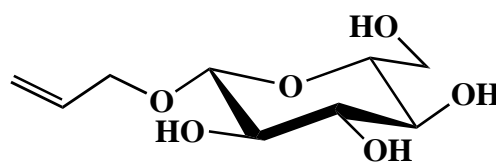
1

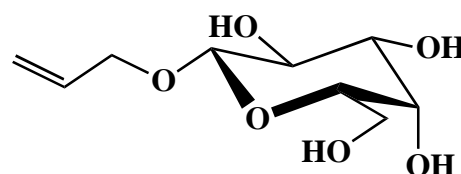










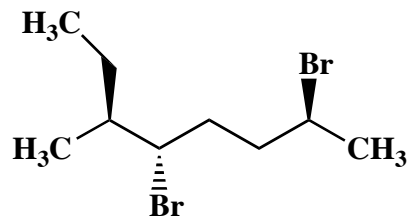


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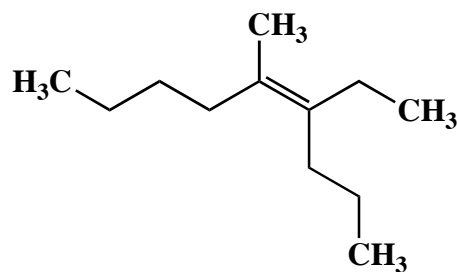
4. (20 points)

Use IUPAC nomenclature to write the systematic names of the following two (2) compounds.

A.



B.



Congratulations!

1	/20
2	/30
3	/30
4	/20
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Total:	/100