Chemistry 333

Examination #2

November 2, 1998 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.

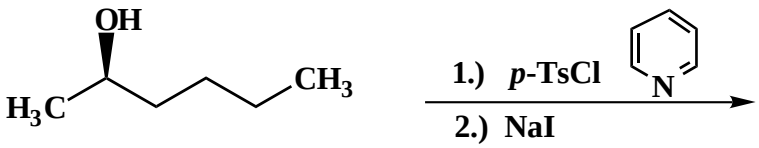
By putting your name on this examination booklet you agree to abide by
California State University, Northridge policies of academic honesty and integrity.

Name:_____

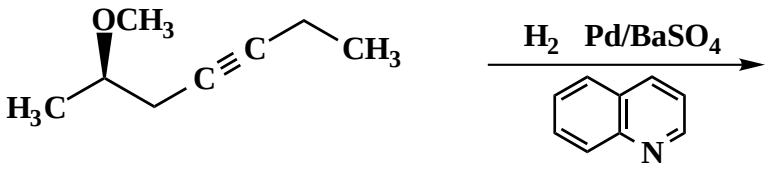
1. (25 points)

For each of the following five (5) questions draw the structure of the expected major organic product. If relevant, explicitly specify absolute and/or relative stereochemistry.

A.

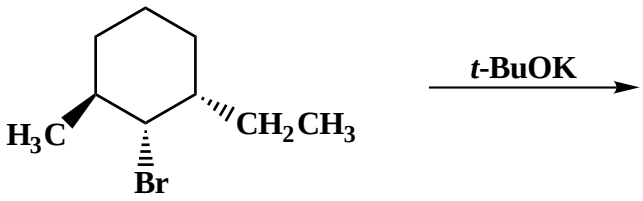


B.

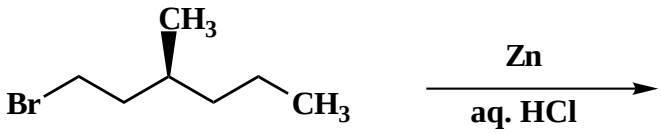


C.

D.



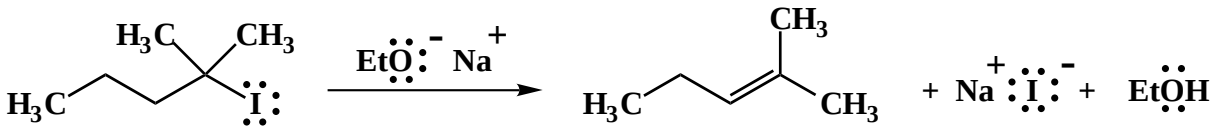
E.

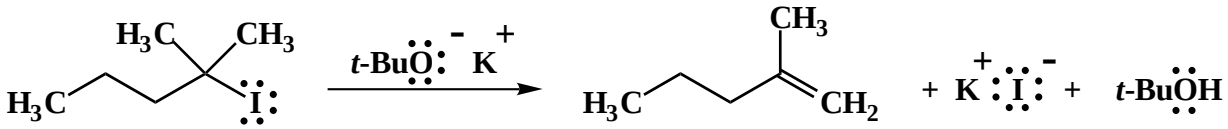


Name:_____

2. (25 points)

Draw the mechanisms of the following two (2) reactions, 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. Briefly explain why the two reactions afford different regioisomeric products.





Name:_____

3. (20 points)

For each of the following five (5) questions, circle the number that corresponds to the correct answer.

A. Increased base concentration causes an E1 reaction to:

1. proceed at a faster rate
2. proceed at a slower rate
3. proceed at the same rate

B. The rate of an S_N2 reaction is faster in:

1. a polar protic solvent
2. a polar aprotic solvent
3. a nonpolar solvent

C. The reaction of (*S*)-3-iodooctane with sodium cyanide affords a substitution product with:

1. retention of configuration
2. partial inversion of configuration
3. complete inversion of configuration

D. Meso compounds contain:

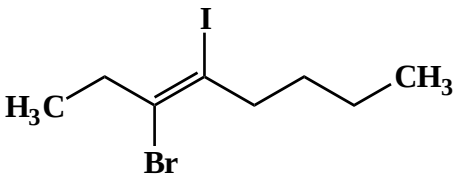
1. no chiral center(s)
2. chiral center(s) and are optically active
3. chiral center(s) and are optically inactive

E. A straight line in Flatland will appear:

1. as a line or a dot
2. only as a line
3. only as a dot

4. (10 points)

Use IUPAC nomenclature to write the systematic name of the following tetrasubstituted alkene.

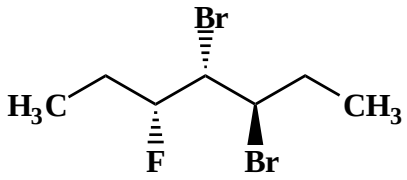


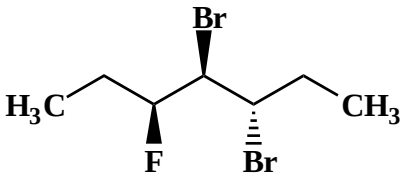
Name:_____

5. (20 points)

State the relationship between each of the following four (4) pairs of alkyl halides.

A.





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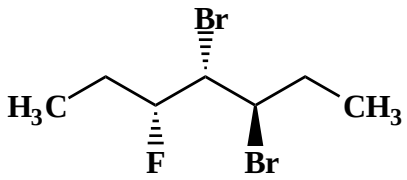
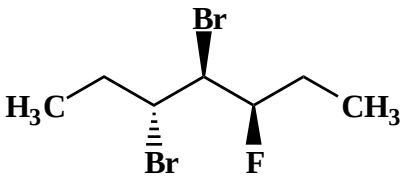
B.





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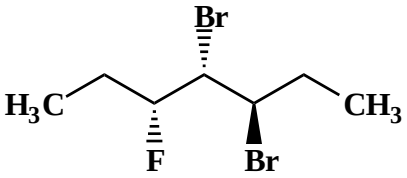
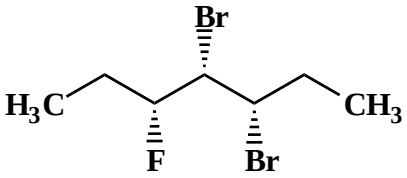
C.





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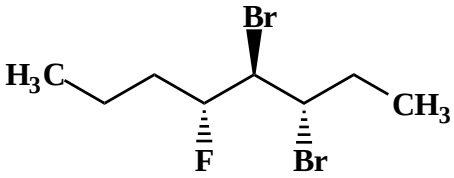
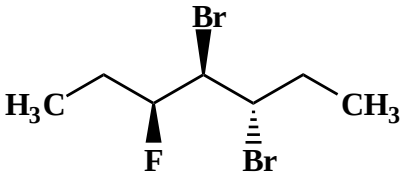
D.





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Congratulations!

1	/25
2	/25
3	/20
4	/10
5	/20
Total:	/100