

Name: \_\_\_\_\_

CHEMISTRY 3311, Fall 1998  
Professor Walba  
Third Hour Exam  
November 19, 1998

scores:

- 1)
  - 2)
  - 3)
  - 4)
- \_\_\_\_\_

This is a closed-book "open model" exam. You may use models, but no notes or books. Please put all your answers on the test. Use the backs of the pages for scratch.

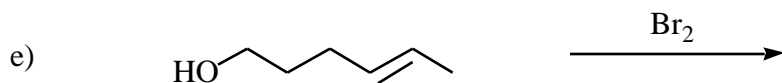
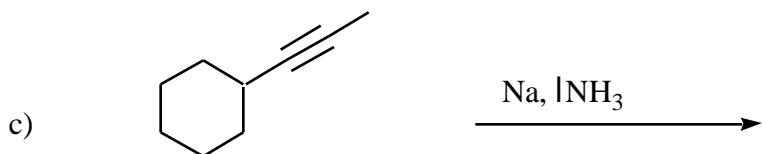
PLEASE read the questions carefully!

## Partial Periodic Table

1A							8A
1 H	2A	3A	4A	5A	6A	7A	2 He
3 Li	4 Be	5 B	6 C	7 N	8 O	9 F	10 Ne
11 Na	12 Mg	13 Al	14 Si	15 P	16 S	17 Cl	18 Ar
						35 Br	
						53 I	

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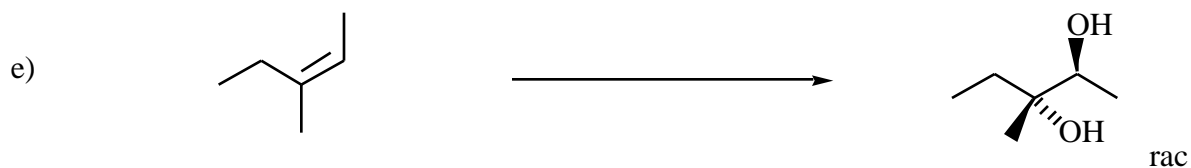
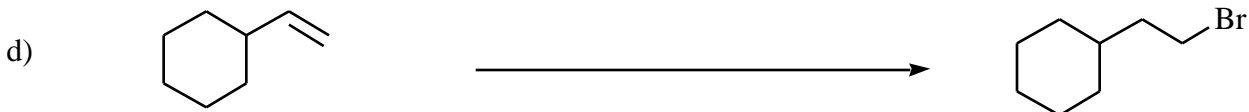
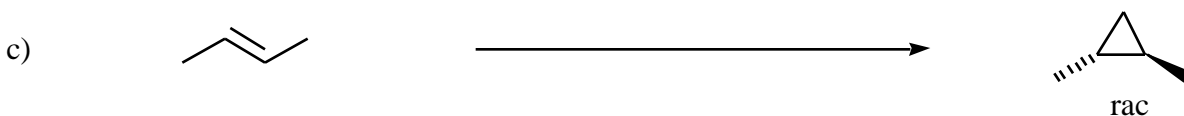
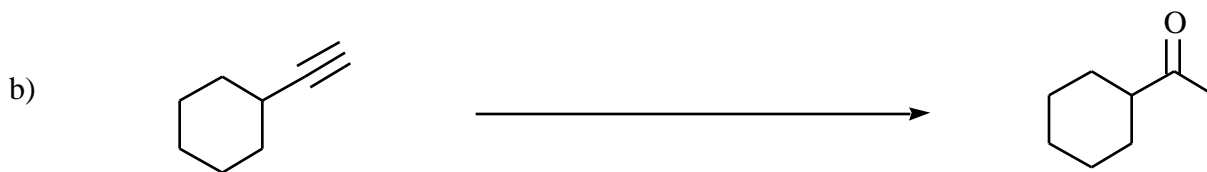
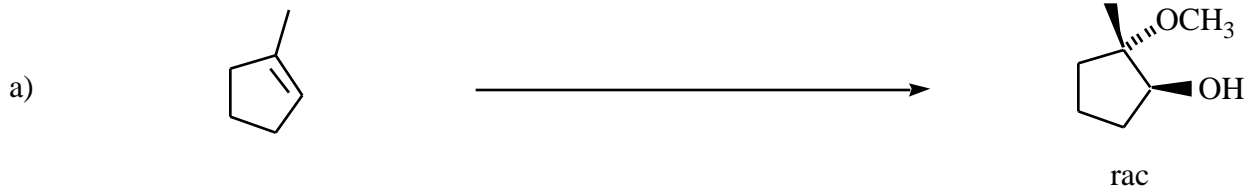
1) (25 pts) Give the single major organic product for each of the following reactions. If a racemate is formed, consider this to be one product, show only one of the enantiomers, and label the structure racemic (rac). Carefully show the stereochemistry of the product using wedges and dashes if appropriate.



C<sub>6</sub>H<sub>11</sub>OBr

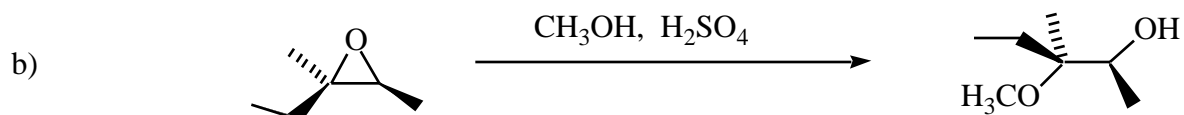
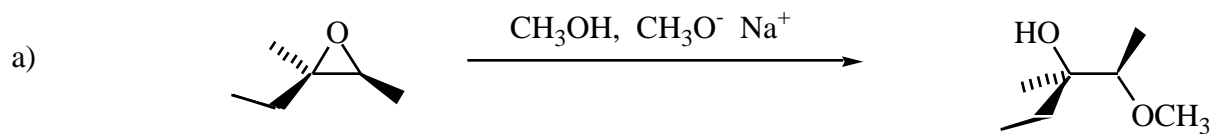
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2) (25 pts) Propose reagents for accomplishing the following transformations. NOTE: more than one step may be required! Try to make your synthesis efficient (i.e. the desired product should be the major product). You must use the starting material given, and you may use any other organic or inorganic reagent you want.



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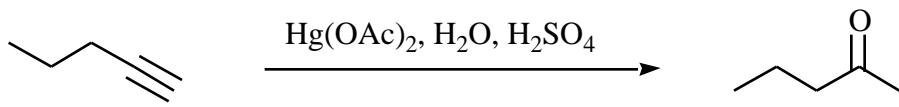
3) (30 pts) Propose an arrow pushing mechanism for the following transformations. Be sure to show all intermediates in the pathway from starting material to product, but do not show transition states. Make all structures in your mechanism proper valence bond structures with correct formal charges and all lone pairs.



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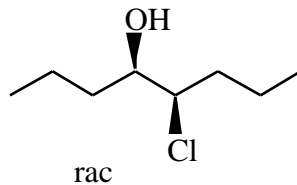
3 - continued -

c)



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4) (20 pts) a) Propose a synthesis for the following targets from organic starting materials with FIVE carbons or less, and any reagents you need. As usual, try to make your synthesis efficient (that is, the desired target in each step should be the major product). For these questions, put down as much as you can - do NOT leave the page blank. There will be partial credit. CONTINUED ON NEXT PAGE!



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4 - contined-

b)

