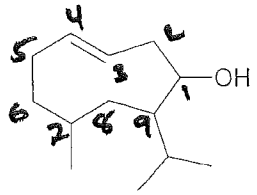
Exam 2
Organic Chemistry CH 334
November 14, 2012

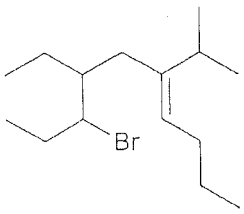
In-class number _____ key

Name (last, first) _____

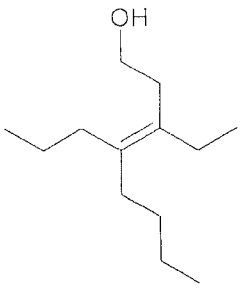
1. Name the following compounds. (15 pts)



(E) - 9-isopropyl-7-methyl cyclonon-3-enol
or
3-en-1-ol

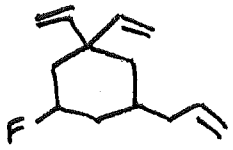


(Z) - 8-Bromo-7-ethyl-5-isopropyl dec-4-ene

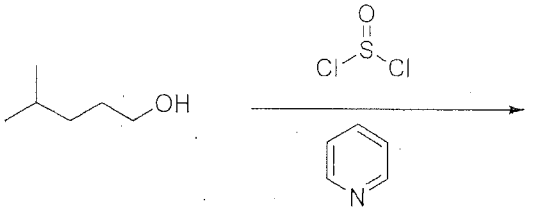


(E) 3-ethyl-4-propyl oct-3-en-1-ol

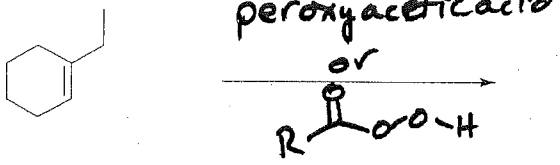
2. Draw 3-allyl-5-fluoro-1,1-divinylcyclohexane in bond line. (5 pts)



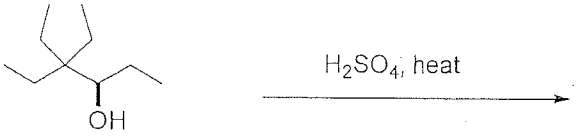
3. What was the starting material, reagents, or product/s for the following chemical transformations? If there is no reaction write "no reaction" (44 points)



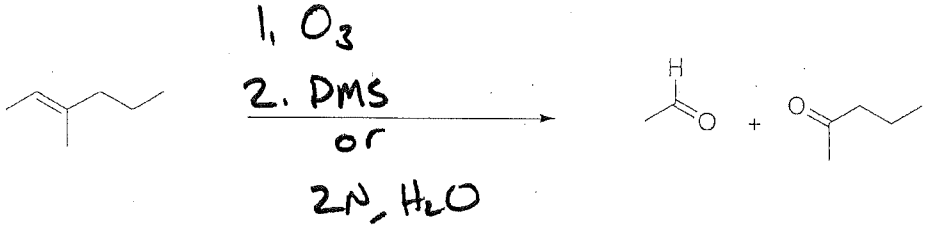
4 pts



5 pts

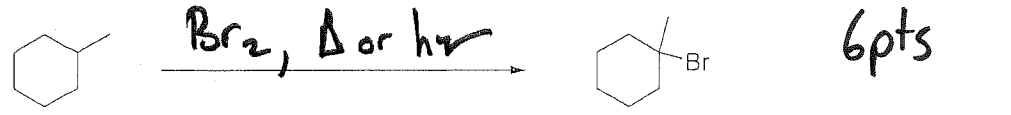


6 pts

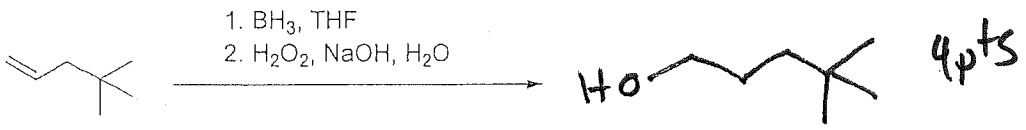


6 pts

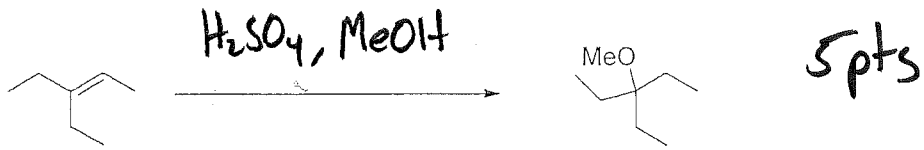
Problem 3. Continued



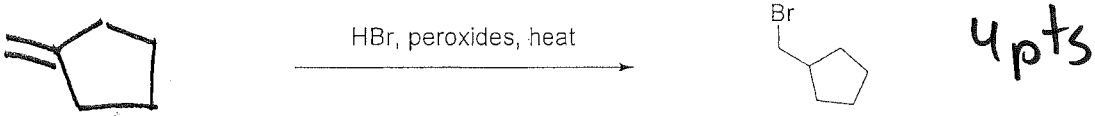
6pts



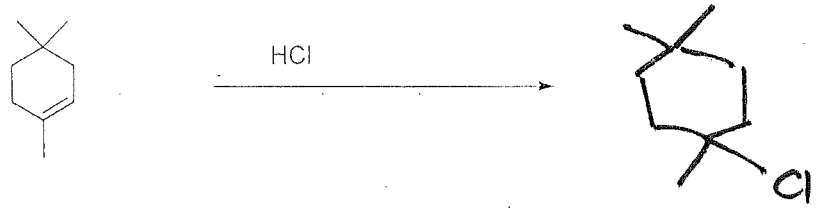
4pts



5pts

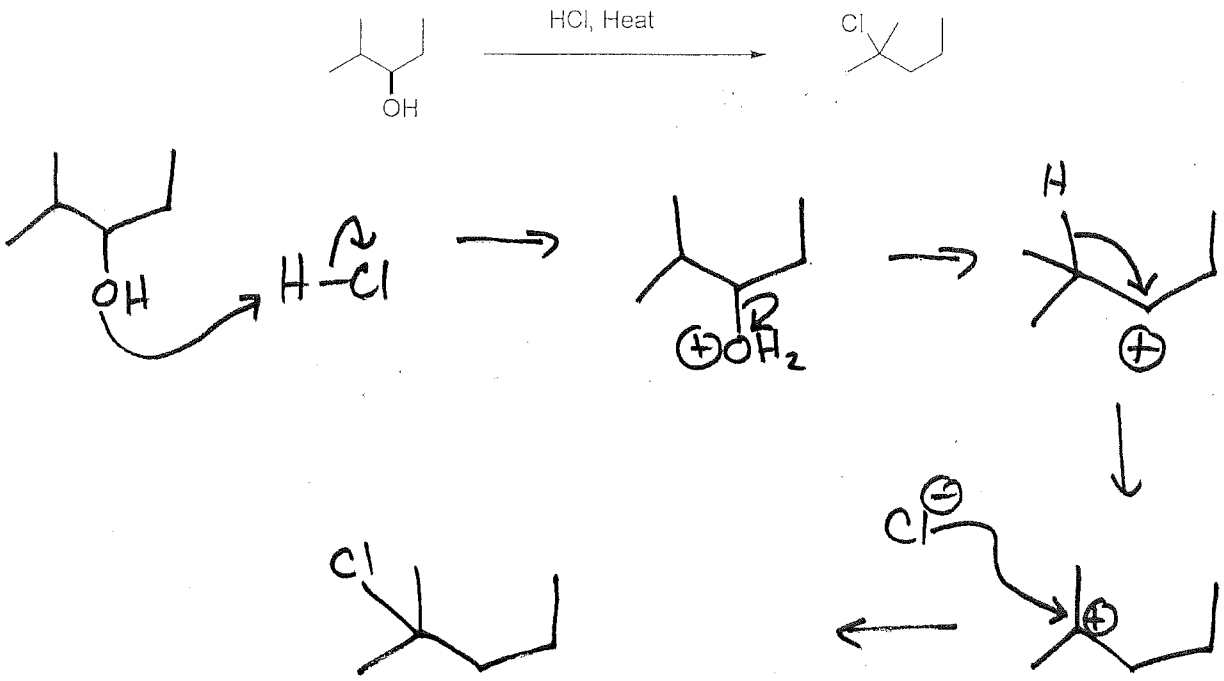


4pts

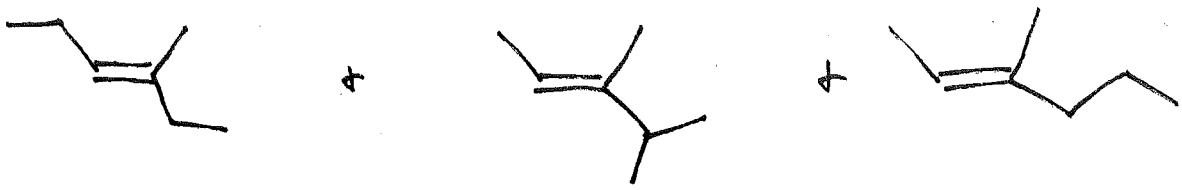


4pts

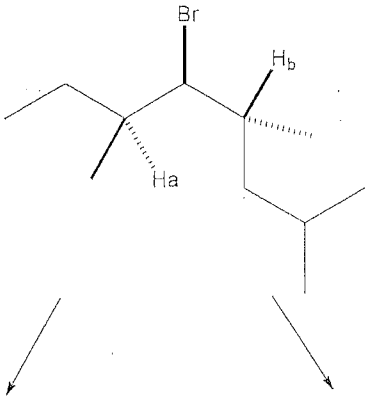
4. Draw the mechanism for the following reaction. (9 pts)

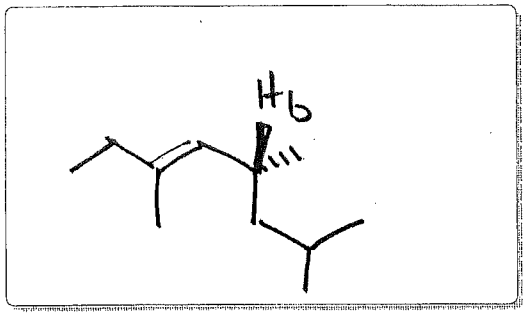


5. Draw (in bond line) three <u>*E*-trisubstituted</u> alkenes with the molecular formula C_7H_{14} (6 pts)

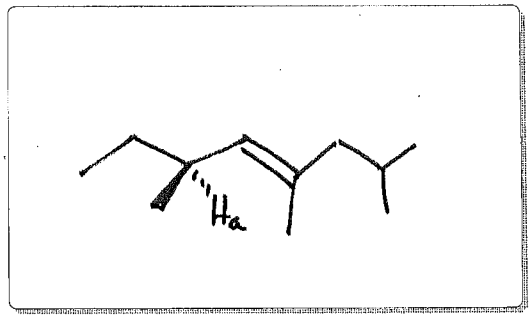


6. What is the product if we do an E2 elimination of H_a, H_b. (8 pts)



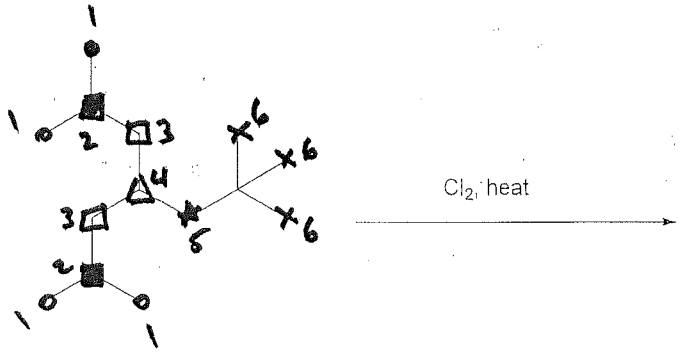


E2 of H_a



E2 of H_b

7. How many different monochlorinated products a possible from the following reaction? (4 pts) **You do not need to draw the different products.**

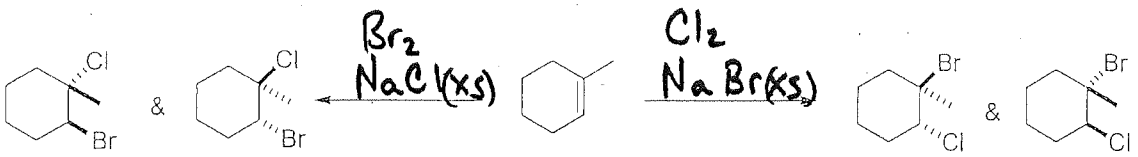


Cl_2, heat

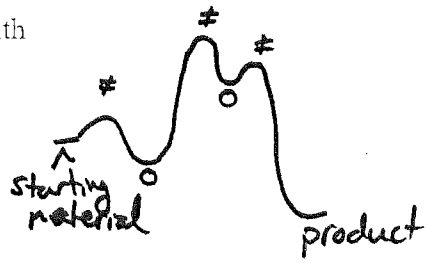
6

# of different products

8. Fill in the necessary reagents for the following chemical transformations. (4 pts)



9. Please answer the following questions about an S_N1 reaction with 2-methylpropan-2-ol and hydrogen chloride. (5 pts)



a. The S_N1 reaction has 3 (number) transition states.

b. The S_N1 reaction has 2 (number) intermediates.

c. The slow step of the reaction is

the leaving group leaving.

**********Insurance Question (5 pts)**********

Draw the mechanism for the following reaction.