

CH1020 Final Exam Name _____

May 9, 2001 SSN _____ Seat No _____

___ Check here if you want your grade posted on the web page by the last 4 digits of your SSN.

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1. _____ 2. _____

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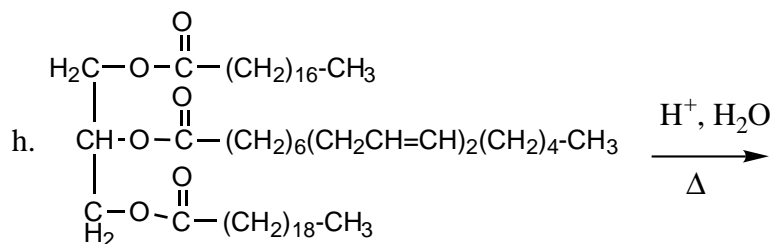
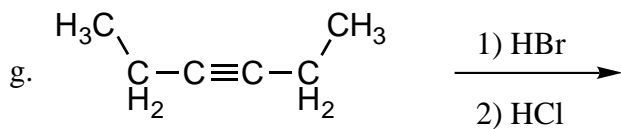
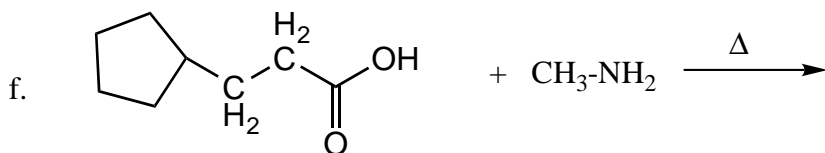
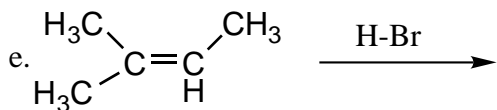
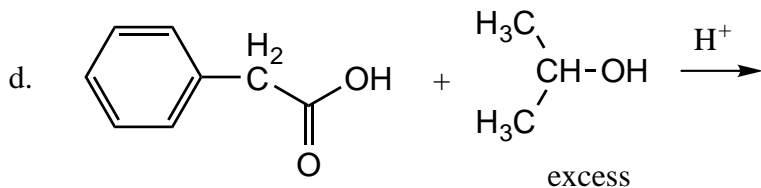
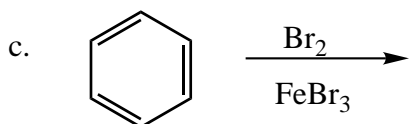
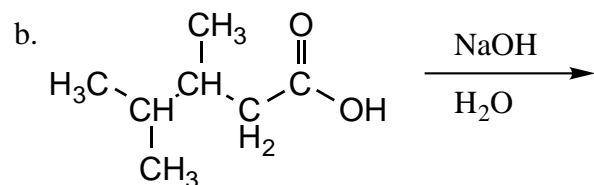
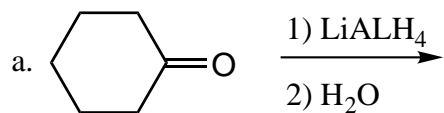
7. _____ 8. _____

9. _____

Total minus _____

Grade _____

1. Complete the following equations. Name all organic reactants and products. (40%)



2. Draw the structures of the compounds whose names are given below. (12%)

a. 2,4-dinitrochlorobenzene

b. *Trans*-2-methyl-3-hexene

c. R-2-pentanol (Draw 3 dimensional structure)

d. S-methionine in its zwitterionic form (Draw Fischer projection)

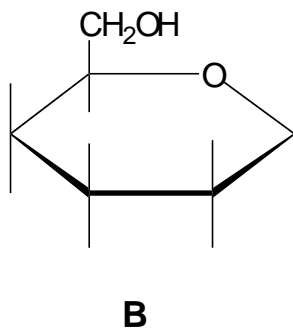
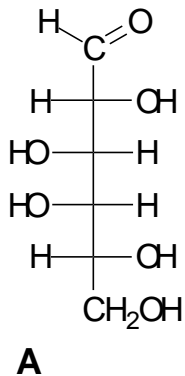
3. Start with cyclopentene and write an equation for the preparation of:

a. Cyclopentanol (5%)

b. *Trans*-1,2-Dibromocyclopentane (5%)

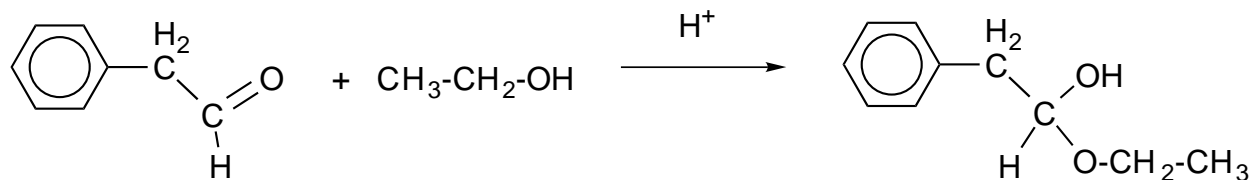
4. Draw the structure of the tripeptide Tyr-Leu-Asp that would be present at physiological pH. (7%)

5. For the carbohydrate whose Fischer projection is given by **A**, depict the β form of the cyclic hemiacetal by adding appropriate H or OH groups in cyclic structure **B**. (5%)



6. Draw the structure of a trinucleotide of structure A-T-C (reading from 5' to 3' end). (7%)

7. Write the mechanism for the reaction shown below. (7%)



8. Sucrose has D-glucose and D-fructose bonded by an α linkage to the 1 carbon of glucose and a β linkage to the 2 carbon of fructose (that is an $\alpha,\beta(1\rightarrow2)$ -glycosidic linkage. Draw sucrose. (7%)

9. Below are depicted 4 base pairs of a DNA strand. Using these base pairs as an example show how this DNA strand could replicate itself to two identical strands. (5%)

