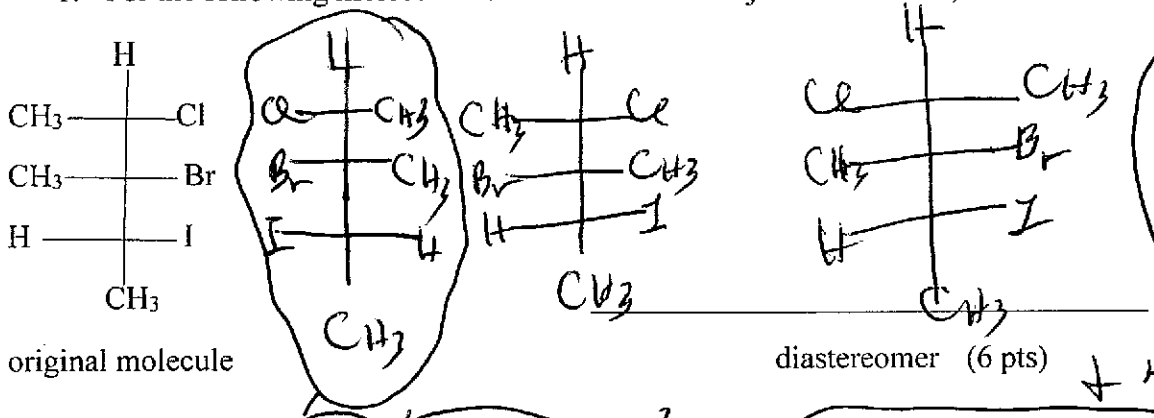
Organic Chemistry I (CHEM 340) Spring 2016 Dr. Hahn 3/25 F MWF 8 am Quiz III Exam # _____

Name Key Print Name _____

Please show work on all questions for partial credit even on questions which do not specify. (25 total pts) -6

1. For the following molecule written as a Fisher Projection Formula, draw one DIASTEREOMER.



original molecule

diastereomer (6 pts)

- structural isomer
- different molecule
+ many more

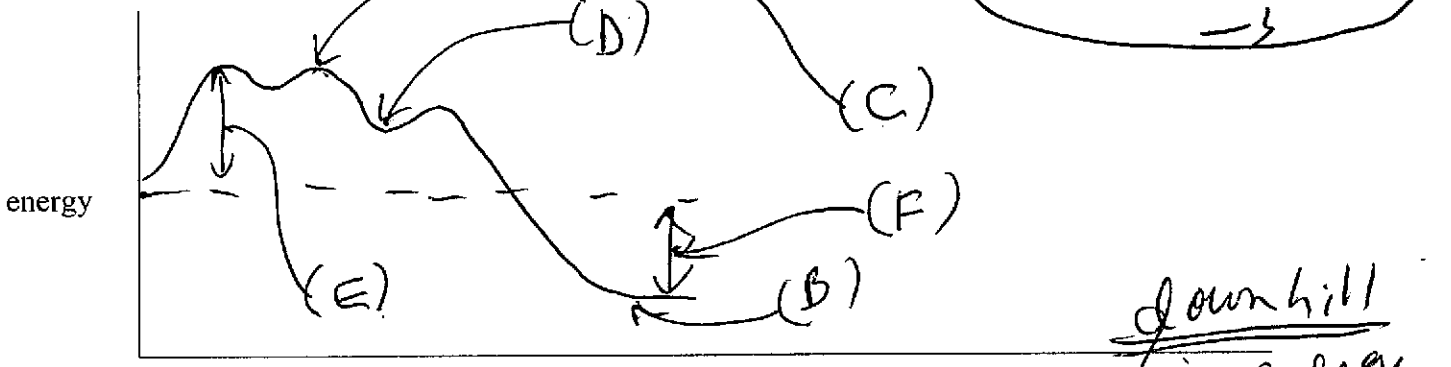
enantiomer -3

same - no charge -6

same - some charge -3

2. a. Given the following energy diagram, label by filling in the blank parenthesis with one of the following letters. (only one letter per blank) (3 pts each, 15 pts)

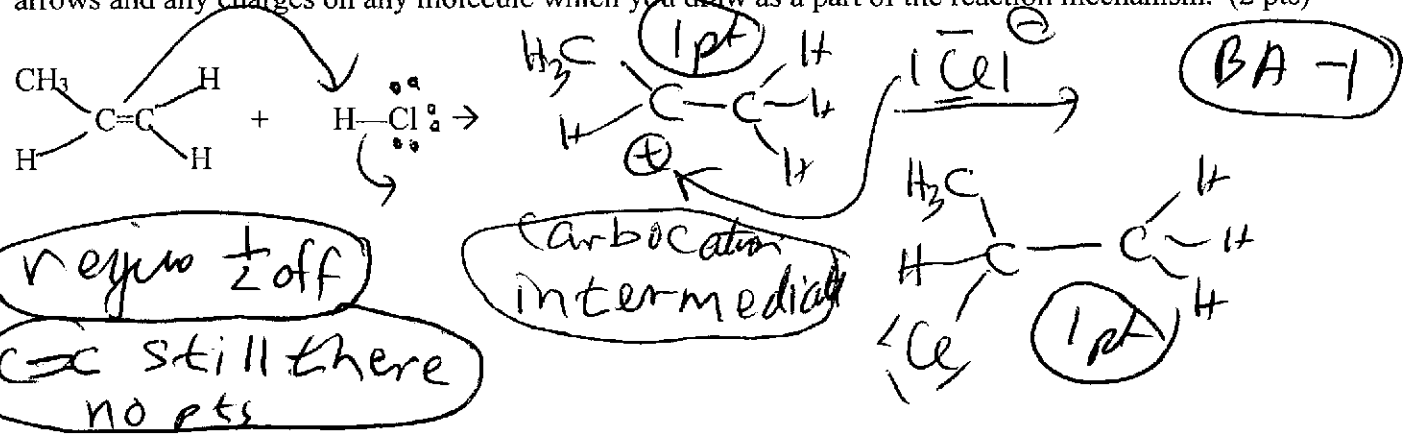
(A) reactant (B) product (C) transition state (D) intermediate (E) activation energy E_a or $\Delta G^{\ddagger}$ (F) ΔG°



downhill in energy

b. Is the energy diagram above the energy diagram of a reaction which goes [(forward to product releasing energy) or (not favored to go forward to product)] (circl one) (4 pts)

Extra Credit: Show the reaction mechanism of the Electrophilic Addition of H Cl to the following alkene. You must show the intermediate, you do not need to show transition states, you must show electron pushing arrows and any charges on any molecule which you draw as a part of the reaction mechanism. (2 pts)



1pt

carbocation intermediate

1pt

BA -1

regio +2 off

C=C still there no pts

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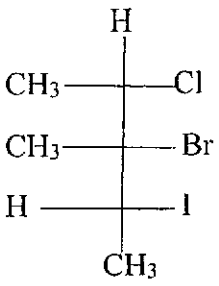
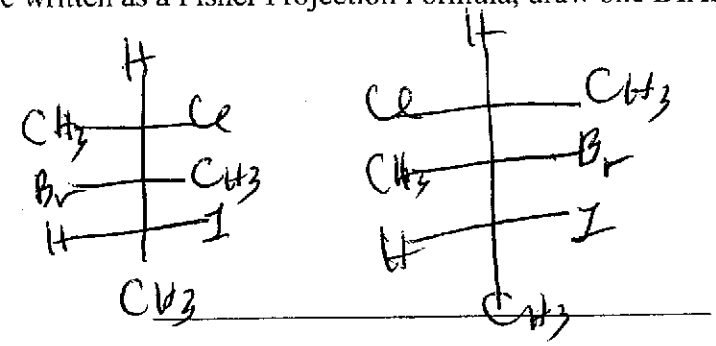
1. For the following molecule written as a Fisher Projection Formula, draw one DIASTEREOMER.



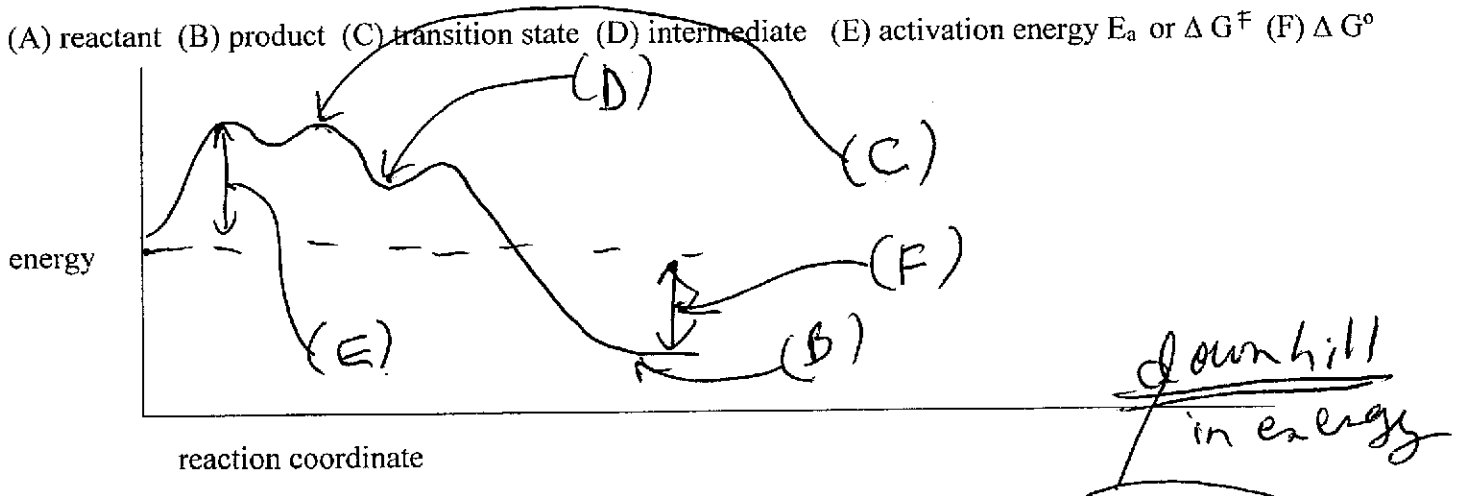
original molecule



diastereomer (6 pts) + many more

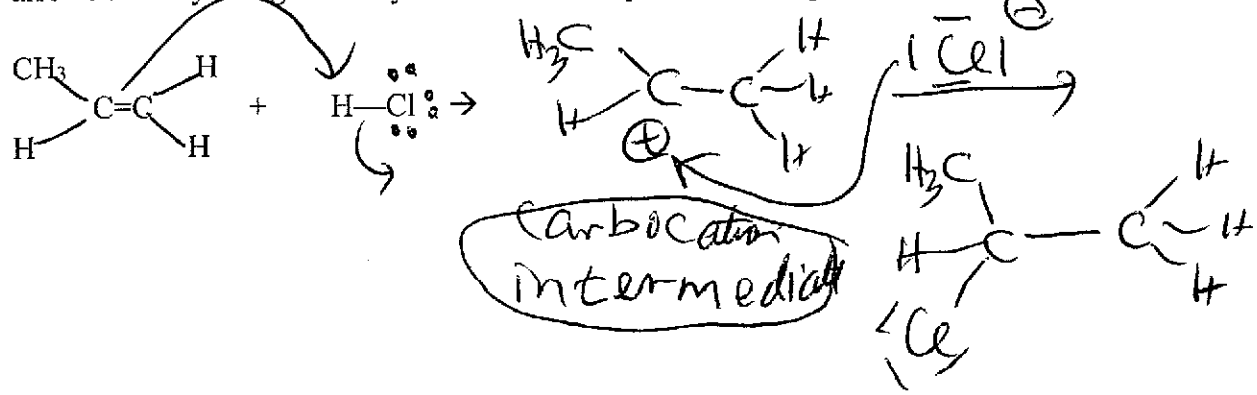
2. a. Given the following energy diagram, label by filling in the blank parenthesis with one of the following letters. (only one letter per blank) (3 pts each, 15 pts)

(A) reactant (B) product (C) transition state (D) intermediate (E) activation energy E_a or $\Delta G^{\ddagger}$ (F) ΔG^{o}



b. Is the energy diagram above the energy diagram of a reaction which goes [(forward to product releasing energy) or (not favored to go forward to product)] (circl one) (4 pts)

Extra Credit: Show the reaction mechanism of the Electrophilic Addition of H Cl to the following alkene. You must show the intermediate, you do not need to show transition states, you must show electron pushing arrows and any charges on any molecule which you draw as a part of the reaction mechanism. (2 pts)

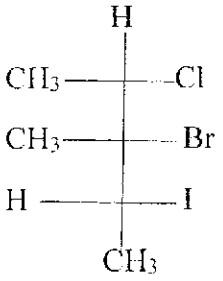


Organic Chemistry I (CHEM 340) Spring 2016 Dr. Hahn 3/25 F MWF 8 am Quiz III Exam # C-9

Name _____ Print Name _____

Please show work on all questions for partial credit even on questions which do not specify. (25 total pts)

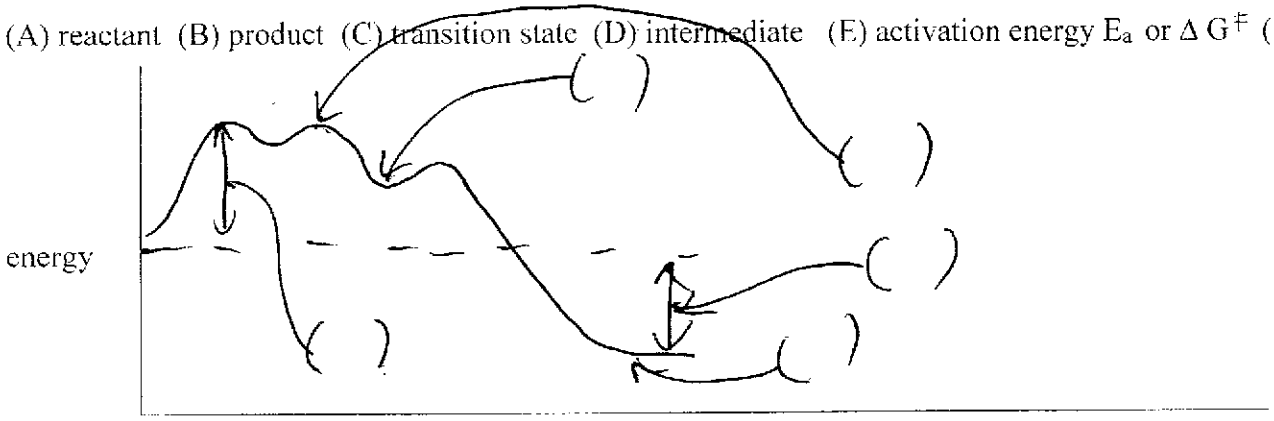
1. For the following molecule written as a Fisher Projection Formula, draw one DIASTEREOMER.



original molecule _____ diastereomer (6 pts)

2. a. Given the following energy diagram, label by filling in the blank parenthesis with one of the following letters. (only one letter per blank) (3 pts each, 15 pts)

(A) reactant (B) product (C) transition state (D) intermediate (E) activation energy E_a or $\Delta G^{\ddagger}$ (F) ΔG°



b. Is the energy diagram above the energy diagram of a reaction which goes [(forward to product releasing energy) or (not favored to go forward to product)] (circl one) (4 pts)

Extra Credit: Show the reaction mechanism of the Electrophilic Addition of H Cl to the following alkene. You must show the intermediate, you do not need to show transition states. you must show electron pushing arrows and any charges on any molecule which you draw as a part of the reaction mechanism. (2 pts)