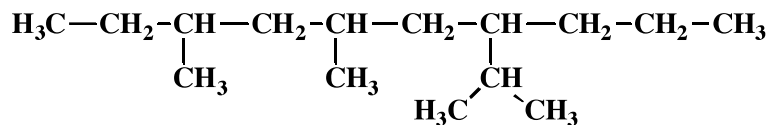


Signature _____

Pg 2 _____(15)

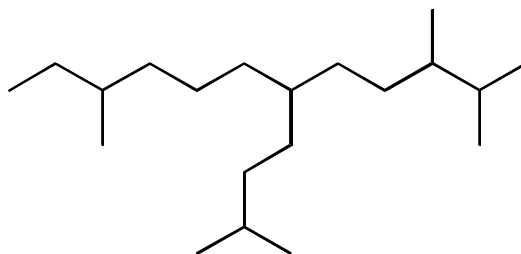
3. (4 pts each) Provide an acceptable IUPAC name for the following molecules. You can ignore R and S for this one.

A)



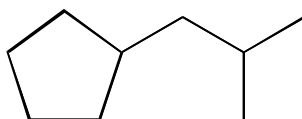
(1 pt) How many stereoisomers are possible for this molecule? _____

B)



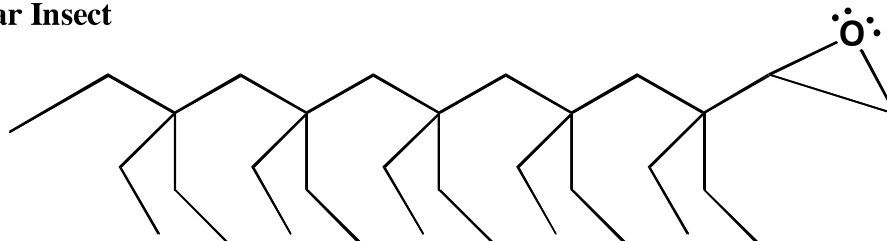
(1 pt) How many stereoisomers are possible for this molecule? _____

C)



(1 pt) How many stereoisomers are possible for this molecule? _____

Molecular Insect



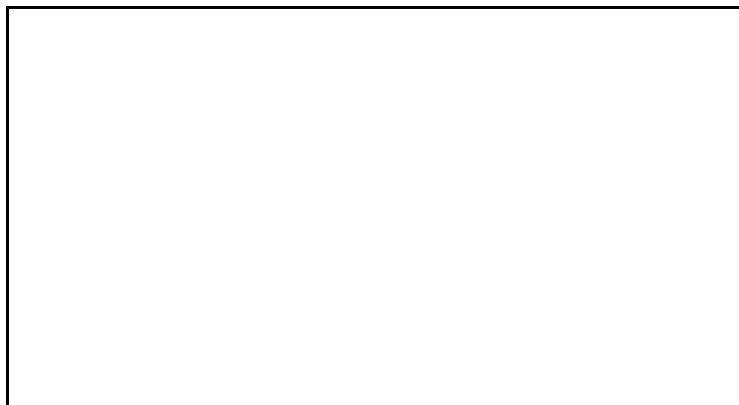
(You don't need to name this one!)

Signature _____

Pg 3 _____(13)

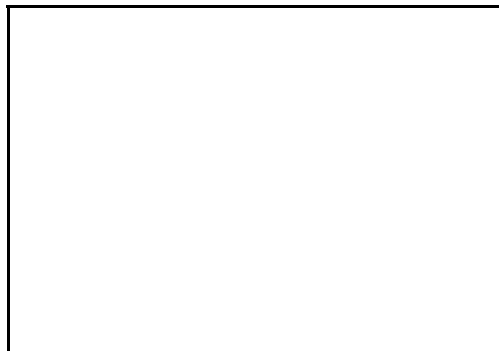
5. (3 or 6 pts each) For the following IUPAC names, draw the appropriate line angle drawing.

A) **6-*tert*-butyl-3,4,5-trimethyldecane** (you can ignore R and S for this one)

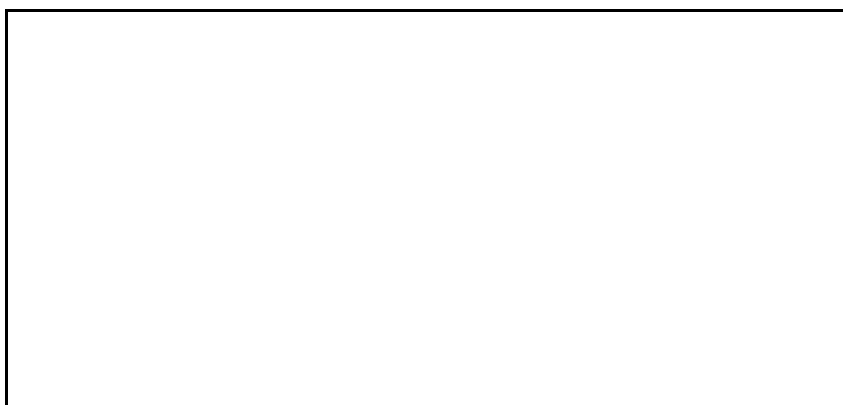


(1 pt) How many stereoisomers are possible for this molecule? _____

B) ***R*-2,3-dimethylpentane**



C) Draw all the different stereoisomers of ***trans*-1-isopropyl-3-methylcyclohexane**

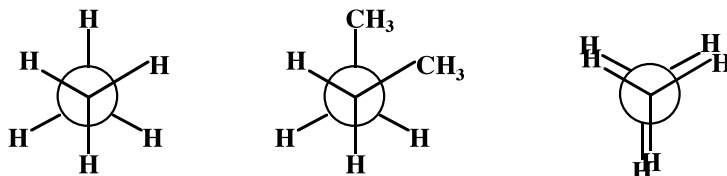


Signature _____

Pg 9 _____(13)

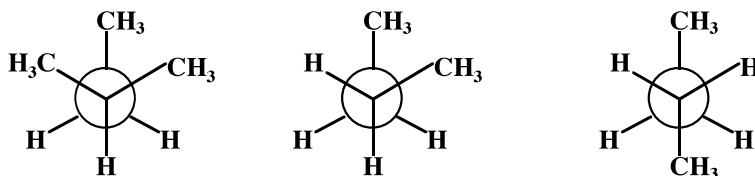
11. (13 pts) This page tests your understanding of important chemical terms. Make sure you read these carefully so that you do not make any silly mistakes.

A) Circle the structure with the MOST torsional strain.



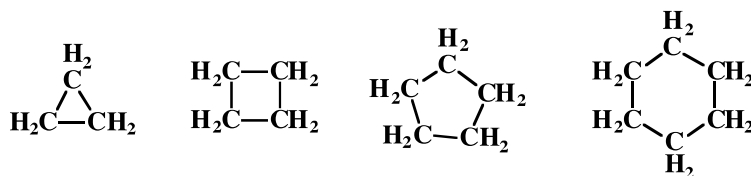
The structure you circled is given the special name _____

B) Circle the structure with the LEAST steric strain.

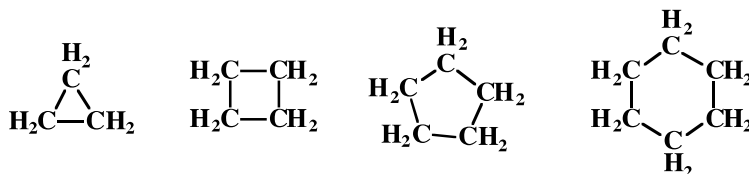


The structure you circled is given the two special names _____
and _____.

C) Circle the structure with the MOST angle strain.



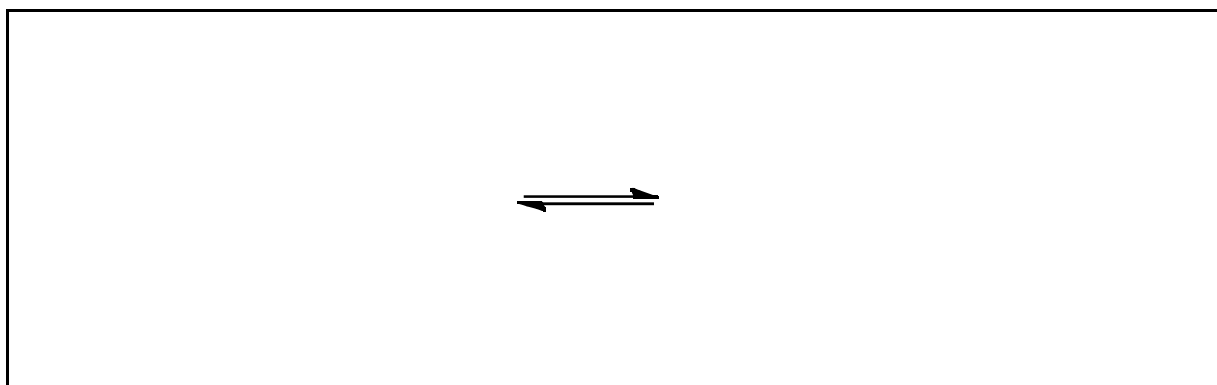
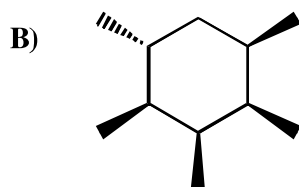
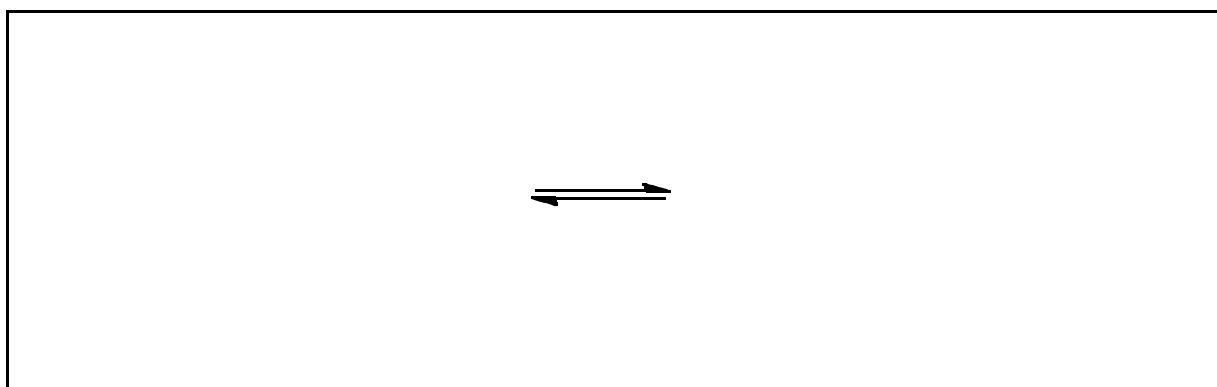
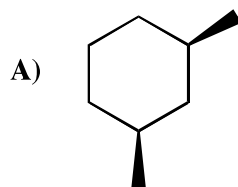
D) Circle the structure with the LEAST torsional strain.



Signature _____

Pg 10 _____(14)

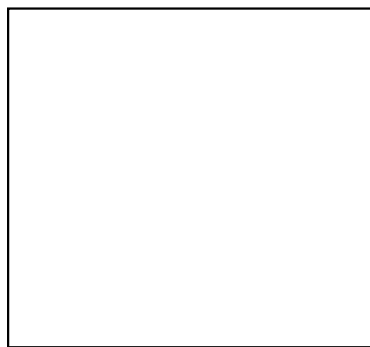
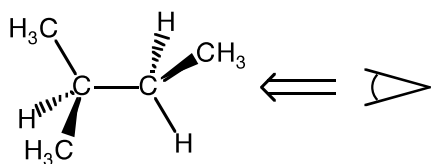
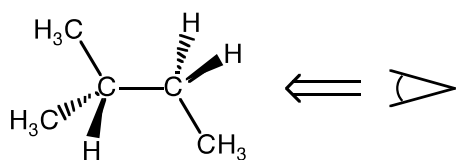
14. (7 pts each) For the following cyclohexane derivatives, draw the two alternative chair conformations. IF there is a difference in stability, draw a circle around the more stable conformation. If there is not difference in stability, do not circle either chair form.



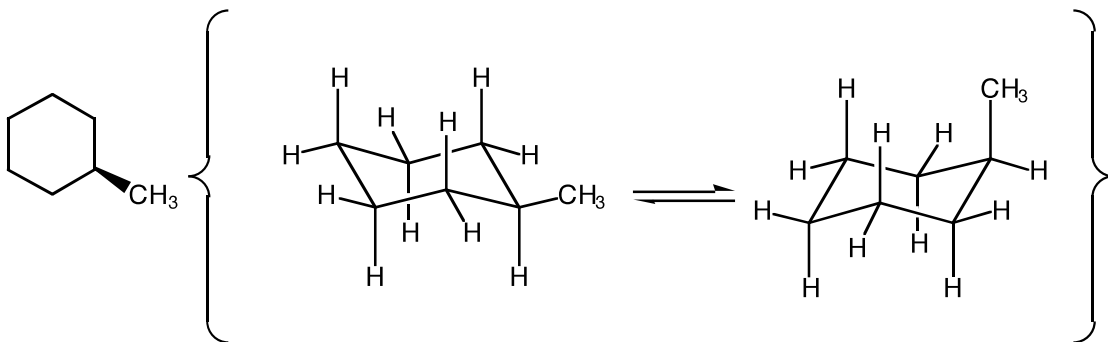
Signature _____

pg 10 _____ (20)

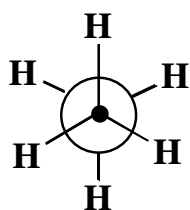
12. (14 pts) Draw a Newman projection for each alkane viewed down the bond as indicated. Circle the Newman projection you drew that represents a conformation with the MOST STERIC STRAIN.



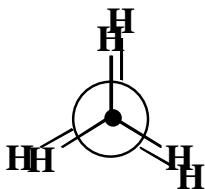
13. (6 pts) On the following chair structures: 1) **CIRCLE** all of the **AXIAL** atoms or groups. 2) **DRAW A BOX AROUND** the more stable chair conformation.



13. (4 pts each) For each pair of molecules, circle the one that has LESS STRAIN, then put an "X" in the box under all the types of strain that explain(s) your answer:



vs.



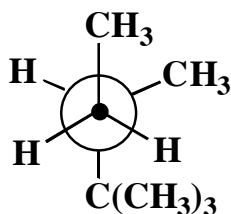
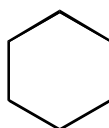
Angle strain

Torsional strain

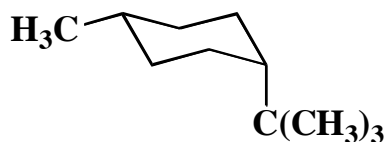
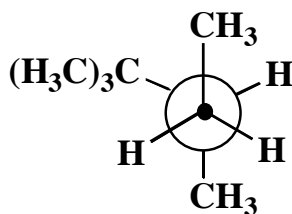
Steric strain



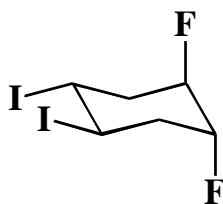
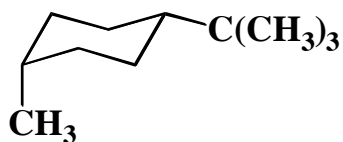
vs.



vs.



vs.



vs.

