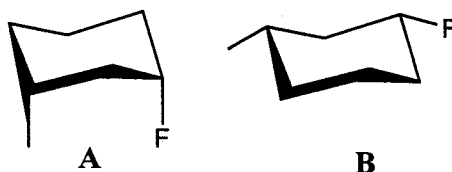


Chapter 2

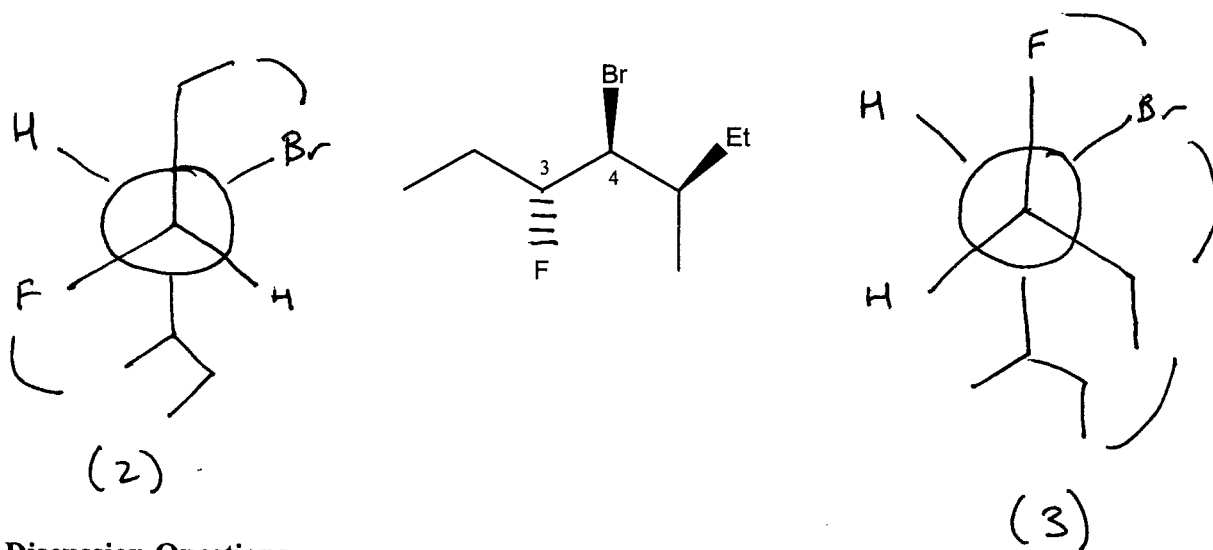
Chem 30A- Week 3

Warm-up Exercise

What is the relationship between A and B? *Structural, conformational isomers? Same? Or unrelated? SAME - both are ^{ax}1-fluoro, 3-methyl cyclohexane*

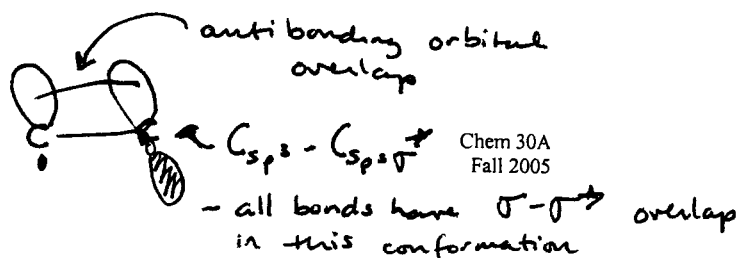
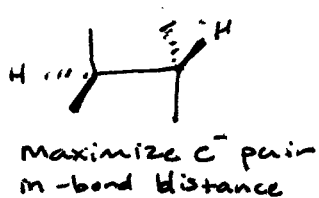
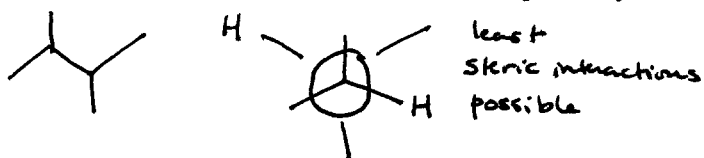


Draw the Newman projection of the most stable staggered conformation from the viewpoint from carbon 3 to carbon 4.



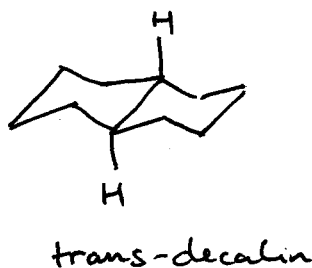
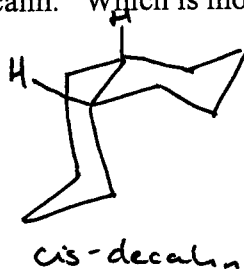
Discussion Questions

- Why is the staggered conformation of 2, 3- dimethyl butane preferred. (focus on C2 and C3). Use molecular orbitals as part of your answer.



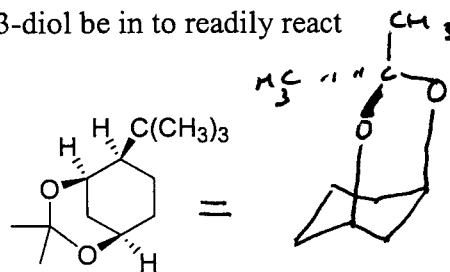
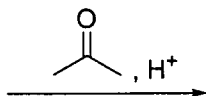
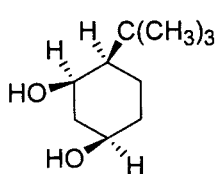
Chapter 2

2. Decalin is two fused cyclohexane rings. Decalin can have a *cis* and a *trans* conformation- referring to the bridgehead carbons. Draw both *cis* and *trans* decalin. Which is more stable?

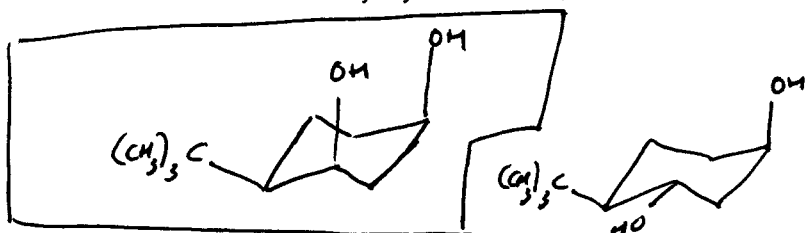


trans-decalin is more stable 3x1-3-diaxial interactions cause *cis*-decalin to be of higher E than *trans*-decalin

3. What conformation must 4-*tert*-butyl-cyclohexane-1,3-diol be in to readily react with acetone and an acid catalyst to form an acetal?



4-*tert*-butyl-cyclohexane-1,3-diol



ONLY ONE
where acetone can react
w/ both hydroxides

