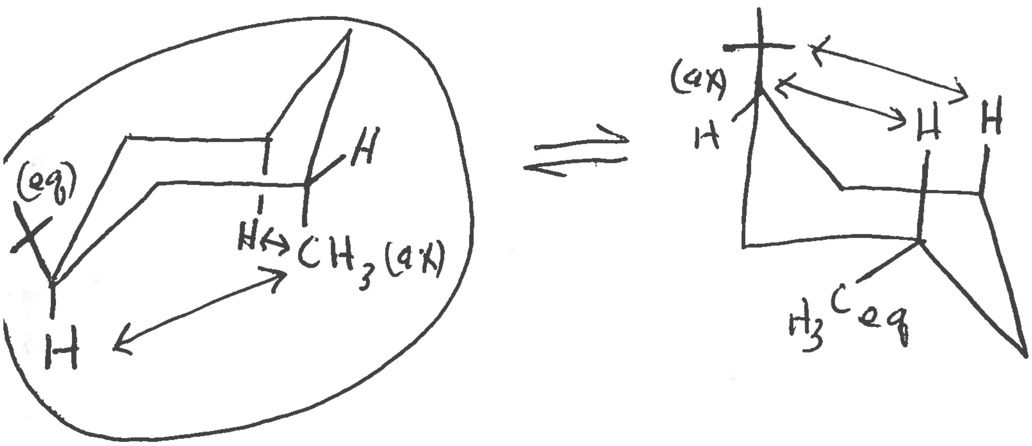
**MAD ORG. CHEM. MIN. # 10**

LAST NAME________________ FIRST NAME________________

ID#________________ Circle time: 10 AM 1 PM

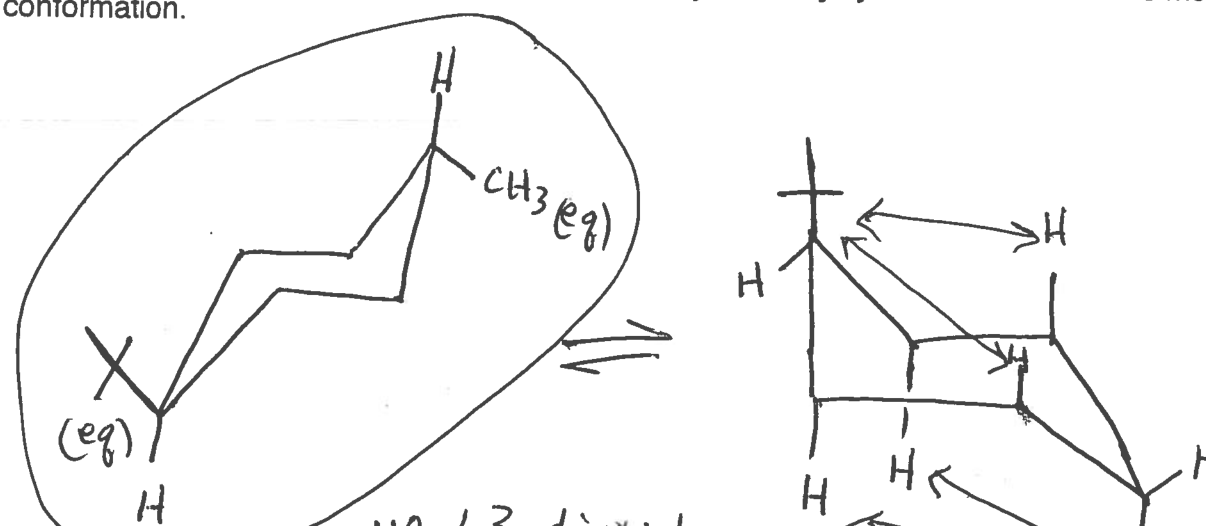
1. Draw the two chair conformations of <u>trans</u>-1-<u>t</u>-butyl-3-methylcyclohexane. Circle the more stable conformation.




severe 1,3-diaxial interaction when t-butyl is axial

1,3-diaxial interactions (steric) less when $CH_3$ is axial

2. Draw the two chair conformations of <u>trans</u>-1-<u>t</u>-butyl-4-methylcyclohexane. Circle the more stable conformation.



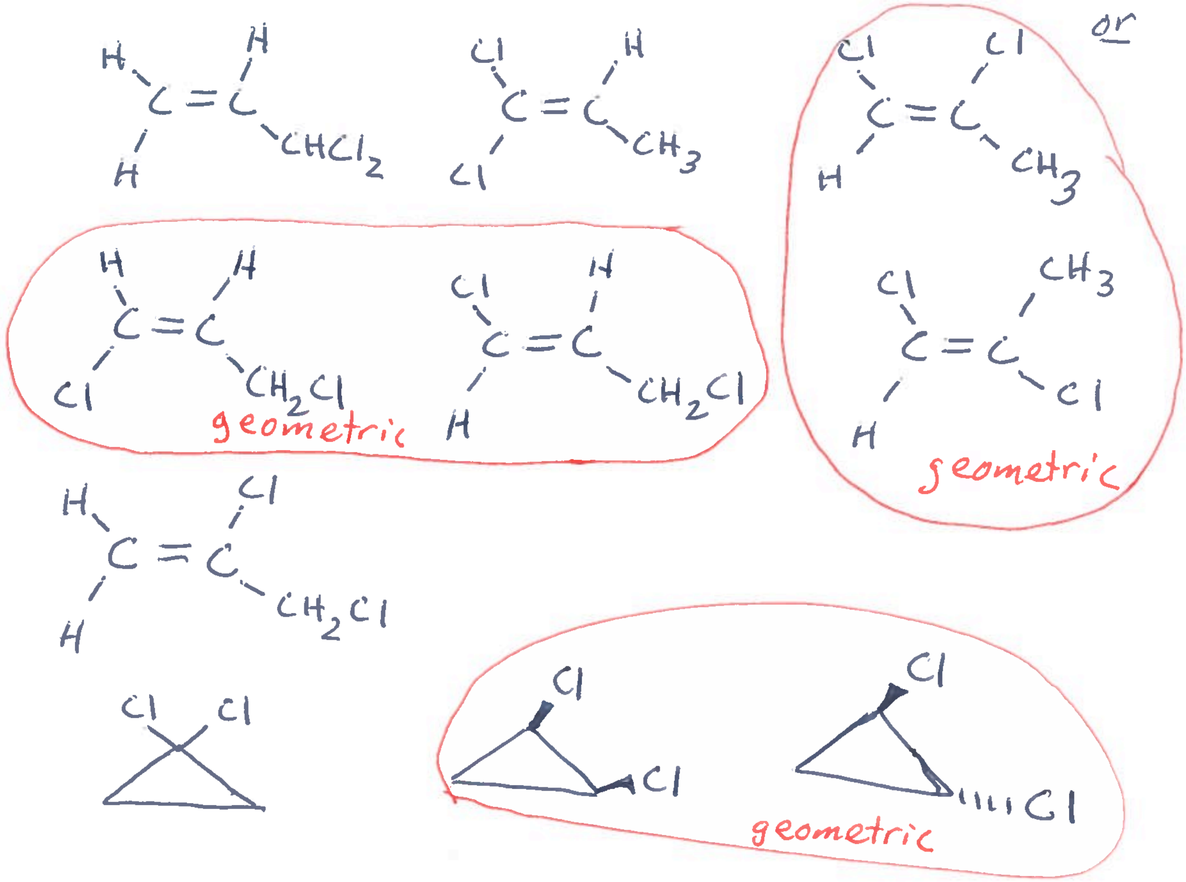

<u>NO</u> 1,3 diaxial interactions

3. Which isomer is more stable? Why?

<u>trans</u>-1-t-butyl-4-methylcyclohexane is more stable, because it has no steric crowding in the more stable conformation.

Two kinds of isomer problems:

1. Find all the structural and geometric isomers of $C_3H_4Cl_2$. UN# = 1, means 1 π bond or 1 ring




2. Find all the structural and geometric isomers resulting from the dichlorination of cyclopropane. (These will have the formula $C_3H_4Cl_2$.)

↑ all structures must have △