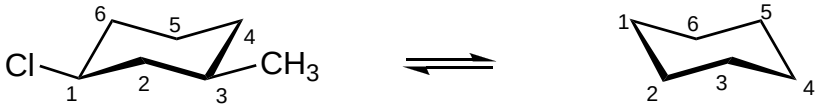
Library of Organic Chemistry Active Learning (LOCAL) Resources

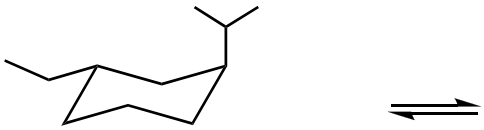
Conformations of Substituted Cyclohexanes

Name:_____ Section: _____ (day/time)

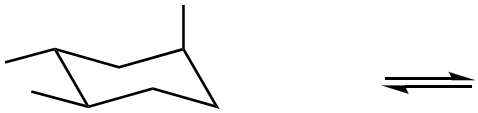
For each problem, a chair conformation of a substituted cyclohexane (**A**) is given. **Draw in the missing hydrogen** at each substituted carbon, and **draw the other chair conformation** (**B**) by performing a "ring flip". Remember to maintain the same orientation of the ring (as demonstrated with the numbering shown in the first example), and that groups in the "up" position remain "up," while groups in a "down" position remain "down." Which conformer (A, B or neither) predominates at equilibrium? Explain briefly.



A **B**



A **B**



A **B**

Draw the most stable chair conformations of:

***trans*-1-*t*-butyl-2-methylcyclohexane** and ***cis*-1-*t*-butyl-2-methylcyclohexane**