

**(19) Today**

Section 4.1 Naming Cycloalkanes and Halogen Substituents

Section 4.2 cis-trans isomerism

Sections 4.3 – 4.8 Stability of Cycloalkanes and Conformations of Cyclohexanes

**Next Class**

Sections 4.3 – 4.8 Stability of Cycloalkanes and Conformations of Cyclohexanes

**(20) Second Class from Today**

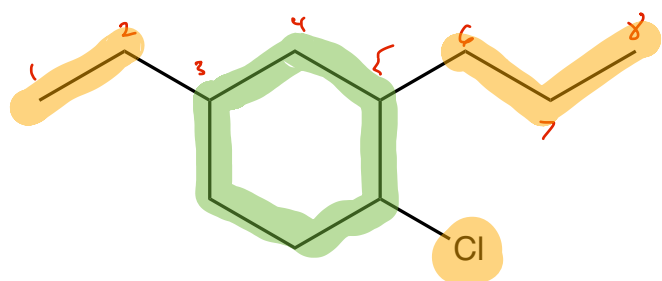
Sections 4.3 – 4.8 Stability of Cycloalkanes and Conformations of Cyclohexanes

**Third Class from Today (21)**

Chap 5

## Cycloalkanes

- Determine the name of the parent alkane
  - Ring is the parent hydrocarbon unless the alkyl substituent has more carbons; in that case the acyclic part becomes the parent hydrocarbon
  - cyclo(#)ane
    - cyclohexane
    - cyclopentane
- Cite the name of substituent before the name of the parent cycloalkane
  - one substituent, no need to give it a number
  - two substituents
    - alphabetical order
    - first substituent is given the number 1
    - numbers counted (clockwise or counterclockwise) to give lowest 2<sup>nd</sup> substituent number
  - more than two substituents
    - not necessarily in alphabetical order
    - starting point (substituent with number 1) and direction of the counting (clockwise or counterclockwise) is decided by finding the combination that gives the lowest possible numbers for all of the substituents



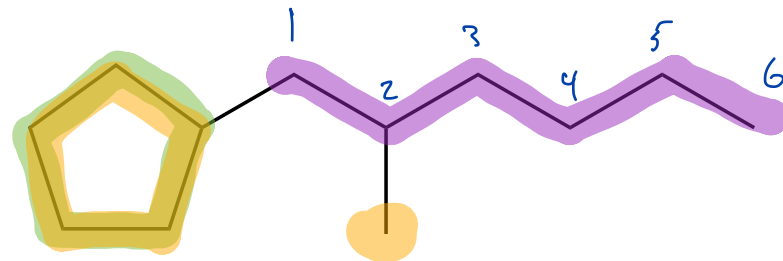
● 6 membered ring ✓

what about the 8 C's  
across the top?

The ring breaks the string

● so the alkyl groups  
are 2 C + 3 carbon  
substituents

cyclohexane



● 5 membered ring

● 6 carbon chain ✓  
parent hydrocarbon

ring + methyl group  
become substituents

Methane ⇒ methyl  
cyclopentane ⇒ cyclopentyl

1-cyclopentyl-2-methylhexane