

Conformations

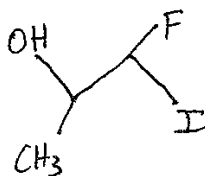
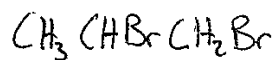
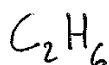
What are conformations?

Sawhorse Representations

- Draw the C-C bond at an angle to the page
- Show bonds to all atoms

Newman Projections

- Front carbon is part of ,
- Back carbon is part of (
- Looking through the C-C bond.

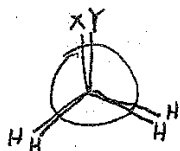


Propane

# Conformational States

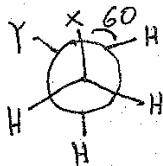
## Eclipsed

Groups overlap



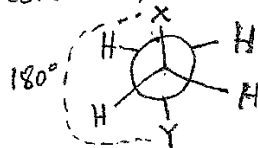
## Gauche (Staggered)

Groups  $60^\circ$  apart  $\rightarrow$  not anti

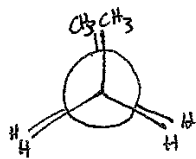
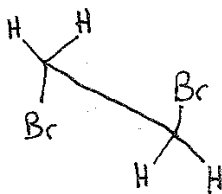
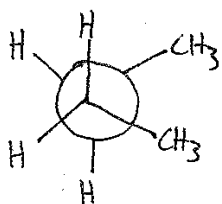
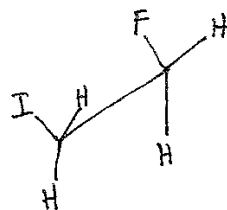
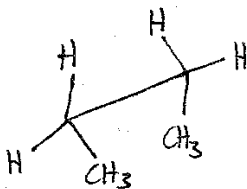
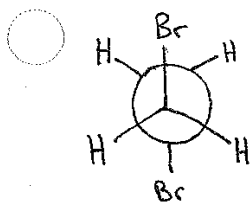


## Anti (Staggered)

Biggest groups  $180^\circ$  apart  
rest are hydrogens



Identify the following as either Eclipsed, Gauche, or Anti:

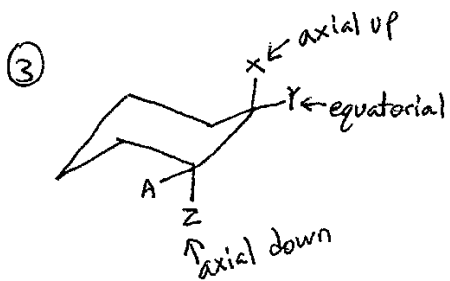


## Strain

What is strain?

When is strain induced?

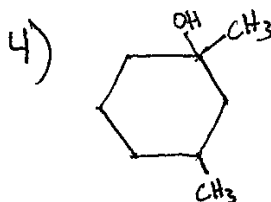
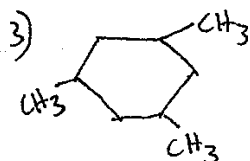
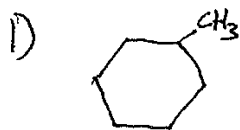
## Chair Conformations



Largest group prefers equatorial position.

## 1,3 Diaxial Interactions

Draw a chair conformation for the following molecules. In addition, make sure it is the most stable conformation.



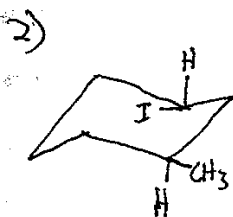
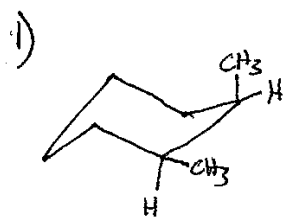
## Ring Flips

1)

2)

3)

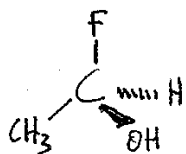
Draw ring flips for the following:



# Stereochemistry

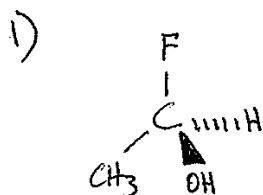
Chirality:

Enantiomers:

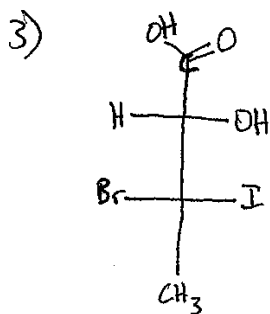
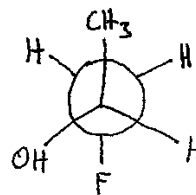


4 different functional groups

Draw enantiomers for each:



2)



## Fischer Projections

