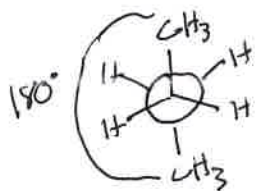
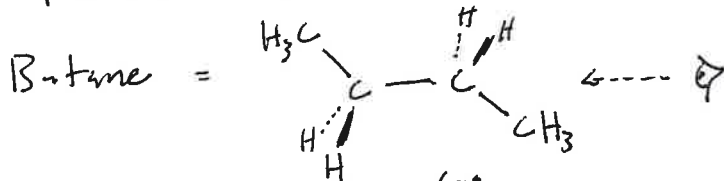


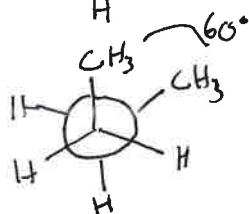
Submit a *Single-sided Copy* to the Undergraduate Office
NO NOT STAPLE - ONLY WRITE NOTES INSIDE THE SQUARE BELOW

Recall: Alkane conformation ("shapes")

→ Rotation about a C-C bonds



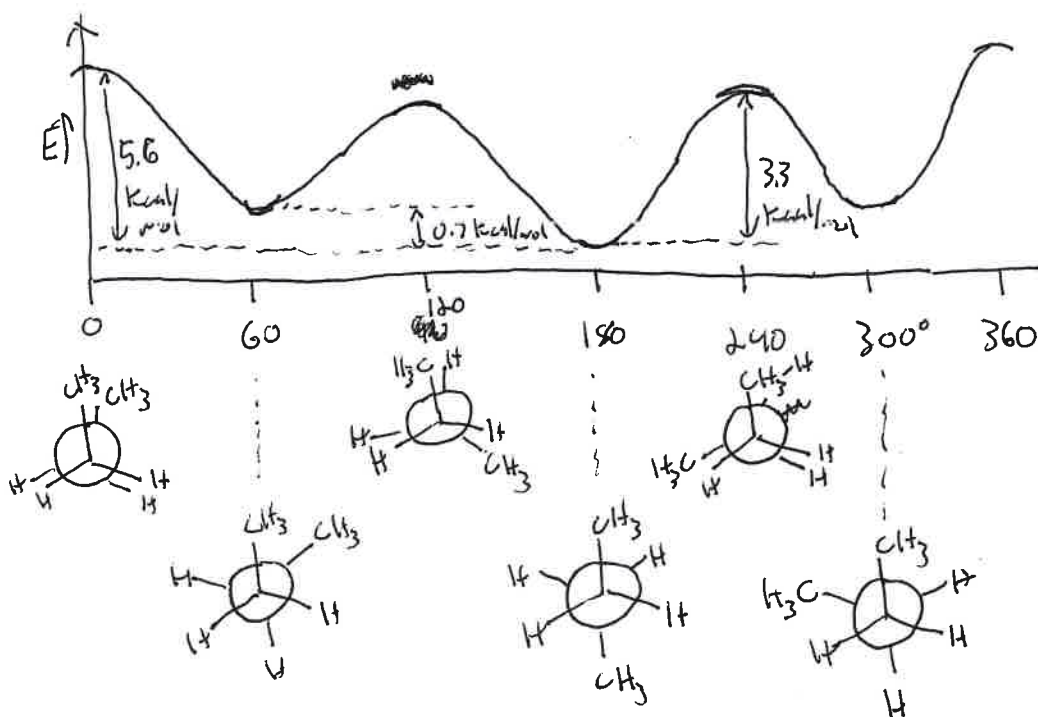
anti



"gauche"

Also 2 "eclipsed" conformations

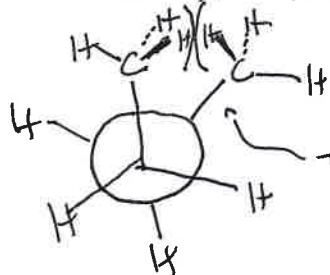
Rotational energy diagram of $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3$



Submit a *Single-sided Copy* to the Undergraduate Office
NO NOT STAPLE - ONLY WRITE NOTES INSIDE THE SQUARE BELOW

Why is the gauche confirmation less stable than the anti confirmation?

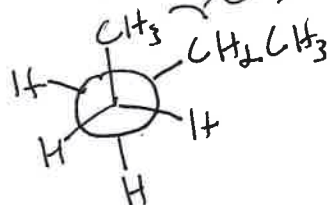
")(" denotes a steric repulsion



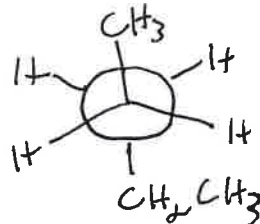
The methyl groups are bumping into each other. The electrons from the C-H bonds are repelling each other. Called a ~~strong~~ steric repulsion, in general,

a "gauche interaction" when two groups are gauche to one another.

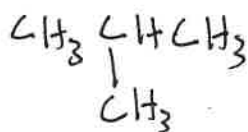
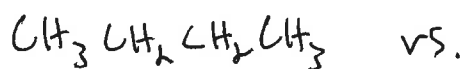
These principles can be extended to all alkanes (and other molecules)



gauche confirmation



Alkanes w/ ≥ 4 C's can be "branched"



n-butane

↑
normal \Rightarrow linear

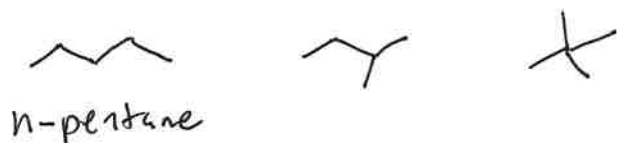
i-butane

↑
iso \Rightarrow branched

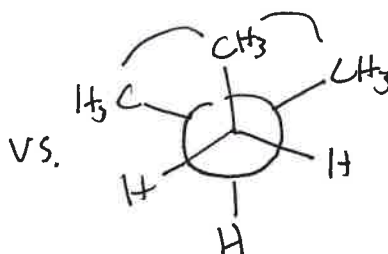
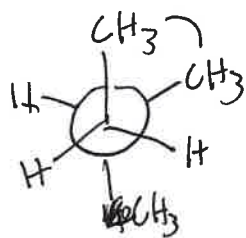
Course 343 Lecturer Sam Gellman
 Day Wednesday Date 9-14-16
 Notes Taken By Nels Gerstner Total # of Pages 4

Submit a *Single-sided Copy* to the Undergraduate Office
NO NOT STAPLE - ONLY WRITE NOTES INSIDE THE SQUARE BELOW

Now consider molecules w/ C_5H_{12} isomers...



Conformational principles from ~~the~~ linear alkanes are readily extended to branched alkanes.

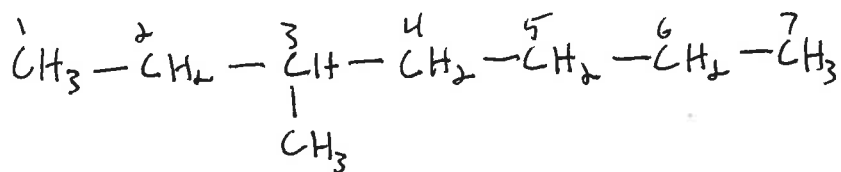


Alkane nomenclature

Name \rightarrow structure, so study some nomenclature

(NOT structure \rightarrow name)

A few comments... via illustration



longest chain \Rightarrow 7 carbons, so heptane derivative

3-methylheptane is the correct name

