

(21) Today

3.6 - 3.7 Practicing Newman Projections

Chap 4 Cycloalkanes
Section 4.1 Naming Cycloalkanes and
Halogen Substituents

Section 4.2 *cis-trans isomerism*

Next Class (22)

Section 4.2 *cis-trans isomerism*

Sections 4.3 – 4.8 Stability of Cycloalkanes
and Conformations of Cyclohexanes

(23) Second Class from Today

Sections 4.3 – 4.8 Stability of Cycloalkanes
and Conformations of Cyclohexanes

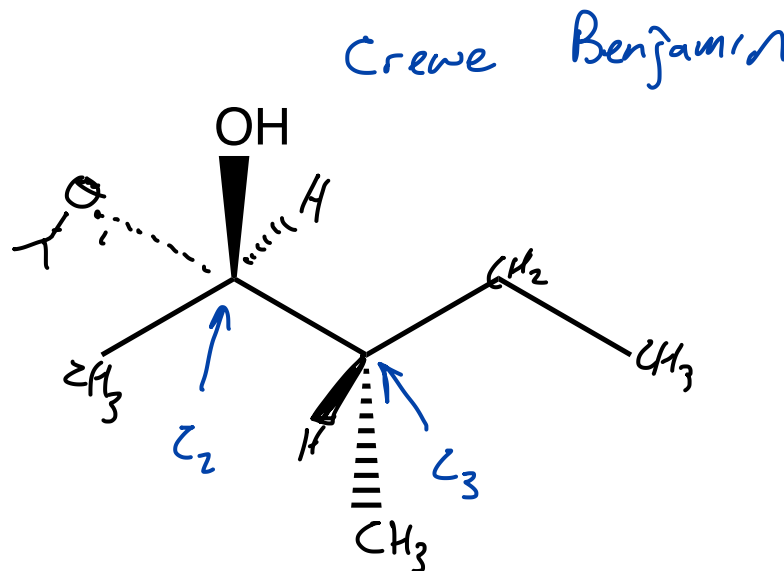
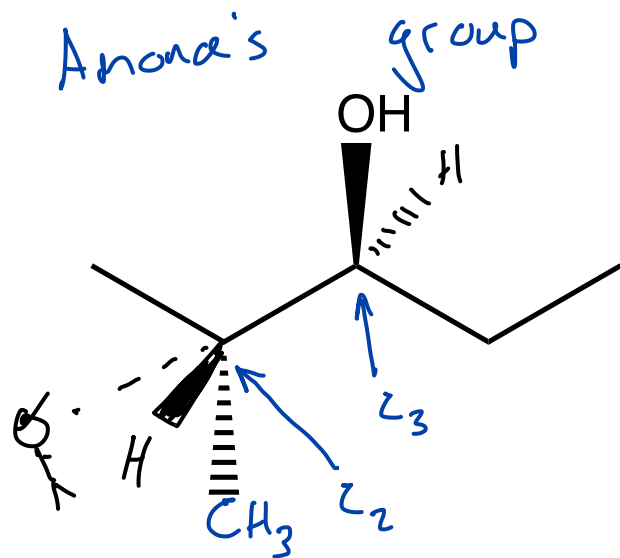
Third Class from Today (24)

Test 2
Sections 2.4 – 2.12
Sections 3.1 – 3.4, 3.6 – 3.7

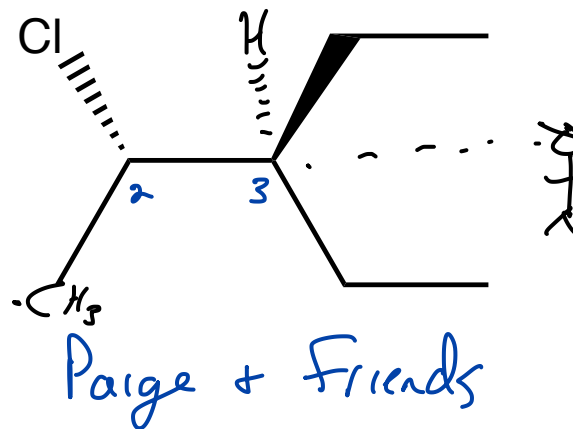
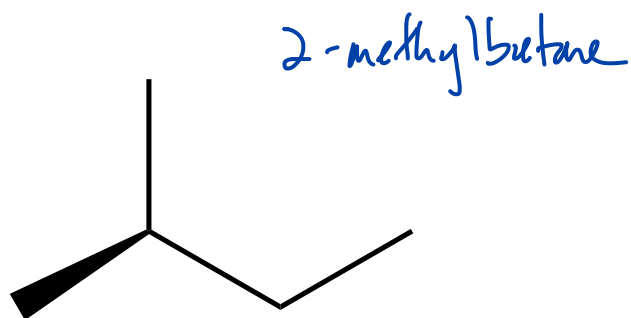
Section 4.1

Office hours postponed to 12:30 to 1:15

Draw the Newman projection along the C₂ to C₃ bond in the following structure



Draw the Newman projection along the C₃ to C₂ bond in the following structure

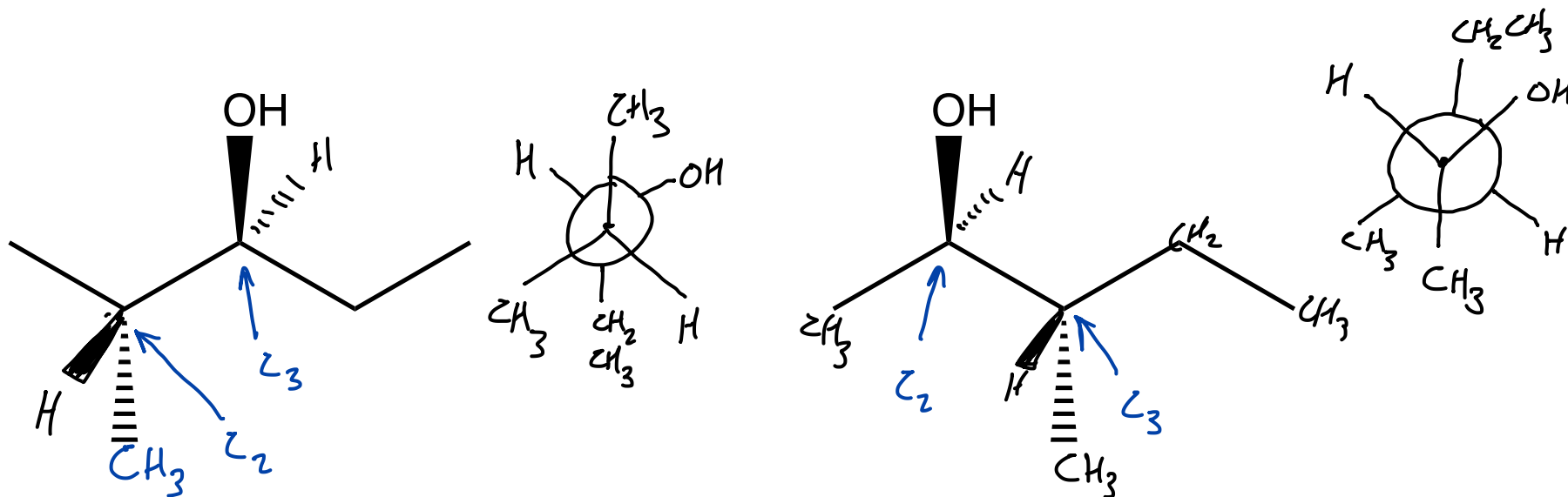


Amanda's clan

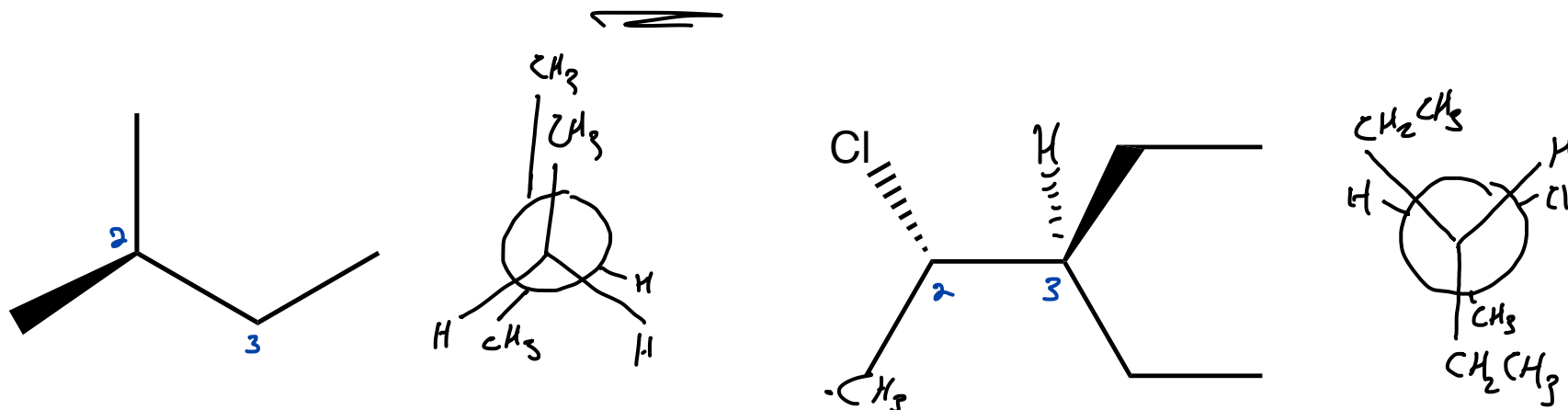
Practice Using Newman Projections

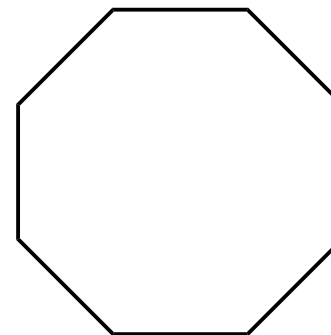
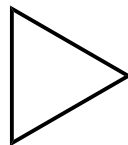
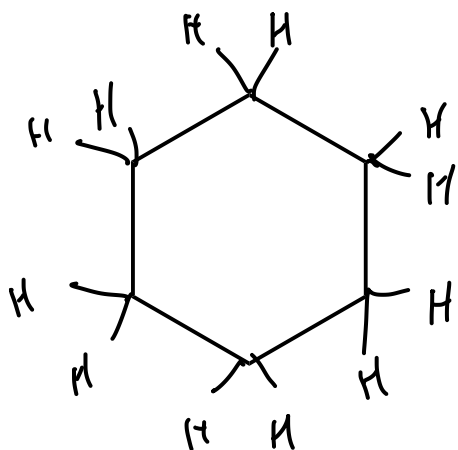
Sections 3.6 - 3.7

Draw the Newman projection along the C₂ to C₃ bond in the following structure



Draw the Newman projection along the C₃ to C₂ bond in the following structure



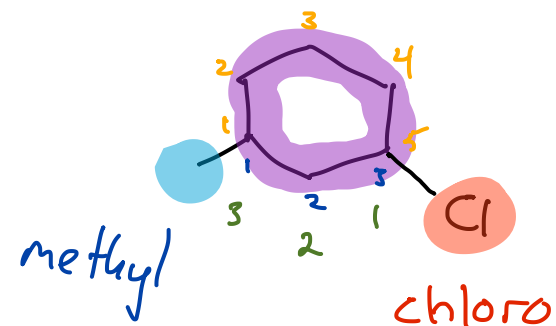


a hydrocarbon with sp^3 C's with a complete "circle" of C atoms

Cycloalkanes

- Determine the name of the parent alkane
 - Ring is the parent hydrocarbon unless the alkyl substituent has more carbons; in that case the substituent 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 2nd 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

chain no cyclo



Alkyl halides: alkanes containing a halogen

Common name

- alkyl name + halide
 - CH₃I = methyl iodide
 - CH₃CH₂I = ethyl iodide

1-chloro-3-methylcyclohexane

IUPAC Nomenclature of halo-alkanes

- The halogen is a substituent on the alkane and is treated like any other substituent.
- The halogen is indicated by removing the "ine" ending from the element name and adding "o"
 - CH₃Cl = chloromethane
 - CH₃CHCl₂ = 1,1-dichloroethane

