

(25) Today

Next Class (26)

Sections 5.1 – 5.5

Chirality and Determining the Configuration of Chiral Centers

Sections 5.6 – 5.12

Diastereomers, N,P, and S, and Prochirality

(27) Second Class from Today

Chap 6

Third Class from Today (28)

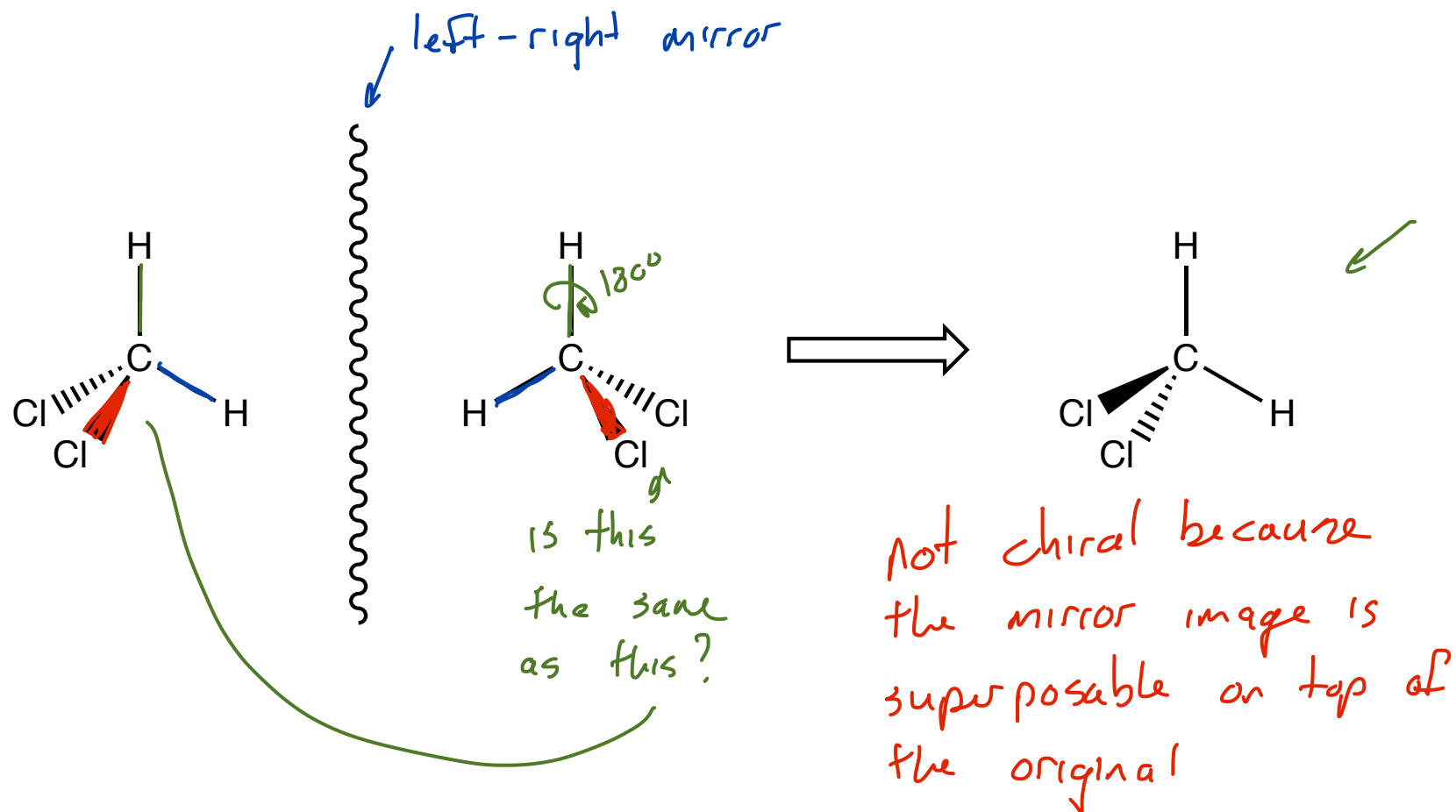
Chap 6

Rework test 2 by Monday, Nov. 20.

What makes your feet chiral?

A chiral object has a non-superposable mirror image

Superposable mean that when you superimpose the two objects everything lines up.

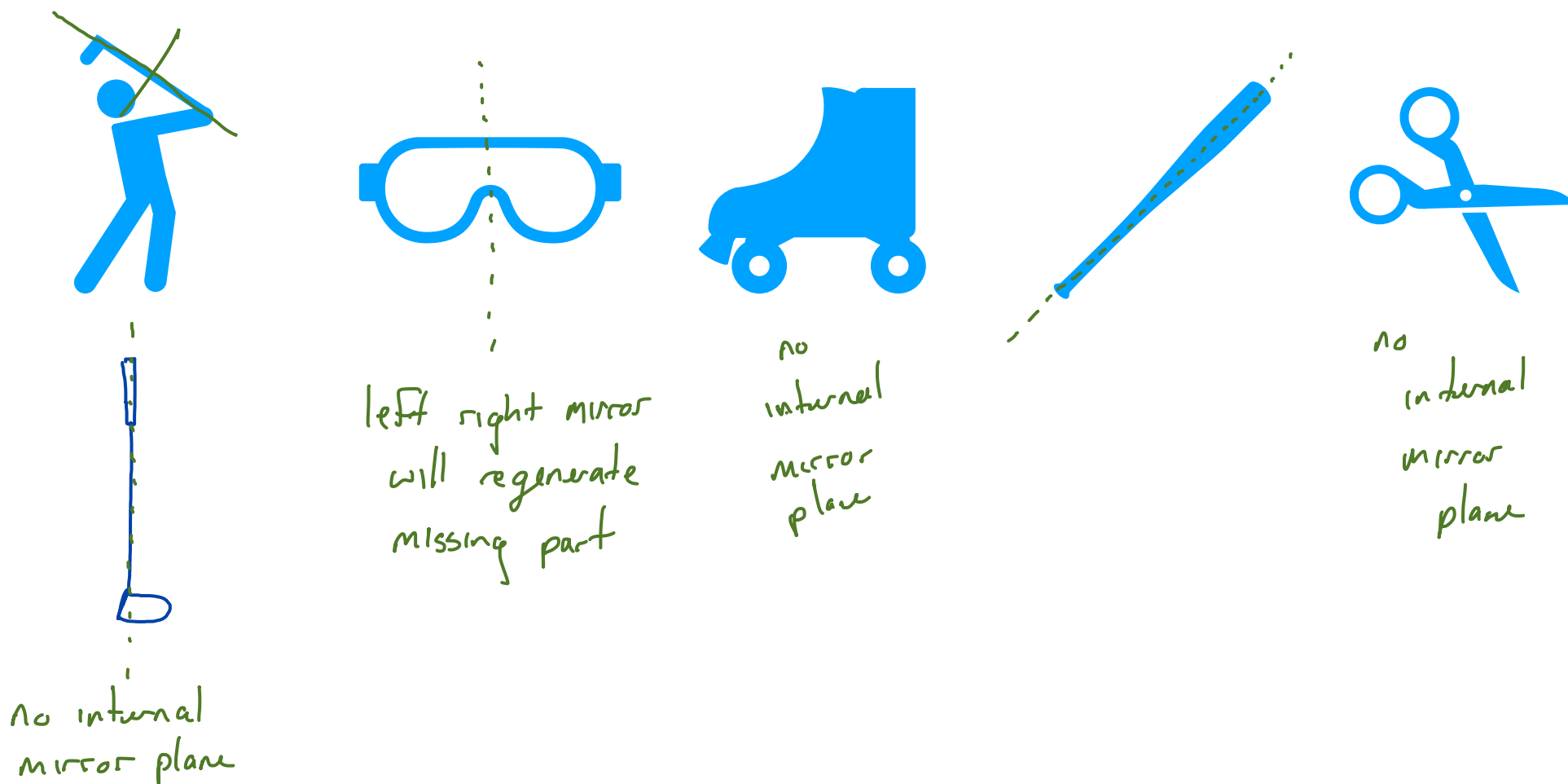


Chirality: Chemistry for Handedness

Section 5.1 – 5.5

chop in half + regenerate the missing part
with a mirror?

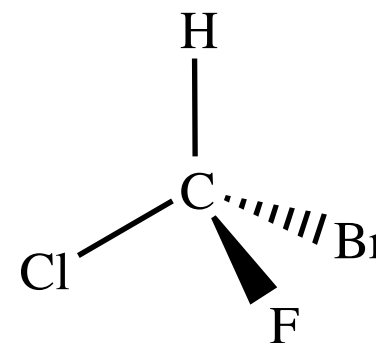
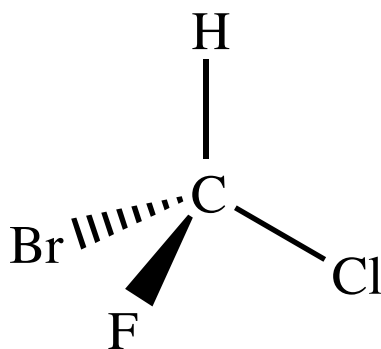
A chiral object lacks an internal mirror plane*



*Technically it's an improper axis of rotation, but a mirror plane is an S_1 and a center of inversion is an S_2

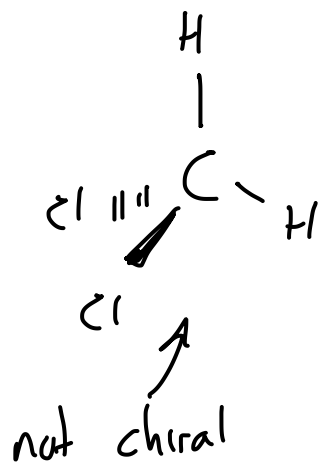
A chiral object lacks an internal mirror plane

there is no internal mirror plane



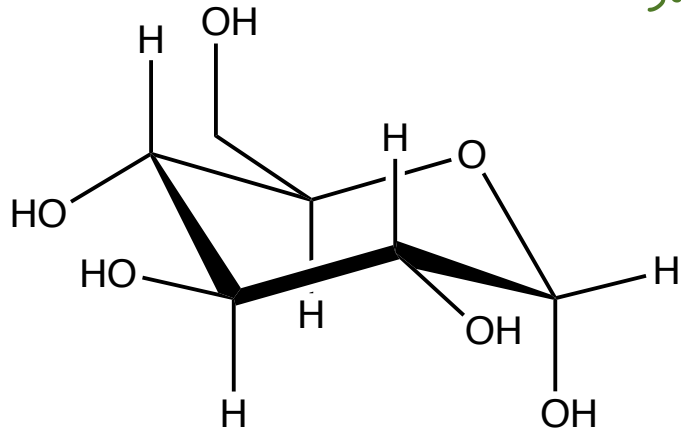
L-R
Mirror

can't superpose this one
on the original...
these are chiral molecules



these 2 molecules are enantiomers of
each other

plants

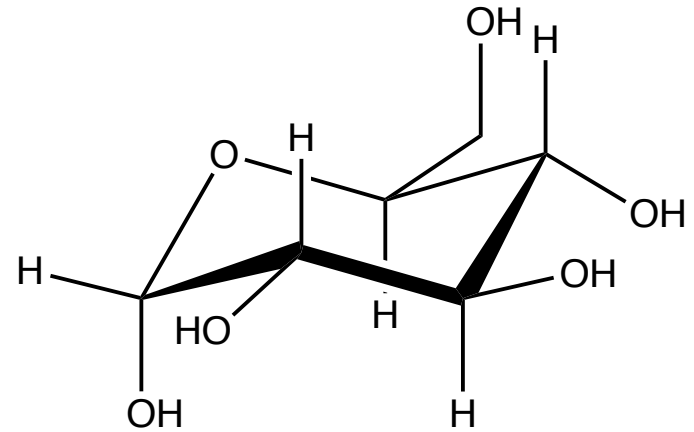


D-glucose
~~6¢~~ per gram
11¢

sugars like
glucose &
fructose are
chiral

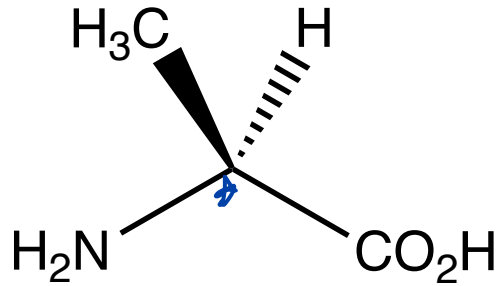
enantiomers
of each
other

synthetic



L-glucose
~~\$103~~ per gram
\$119

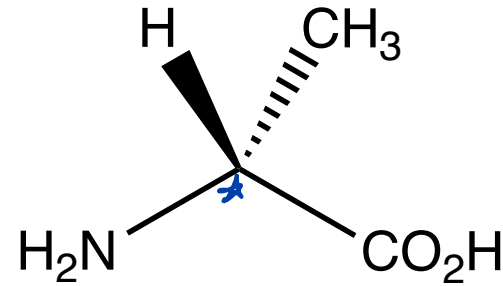
Why Do I care?



L-alanine

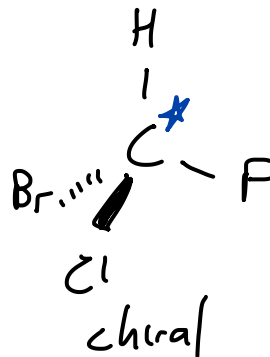
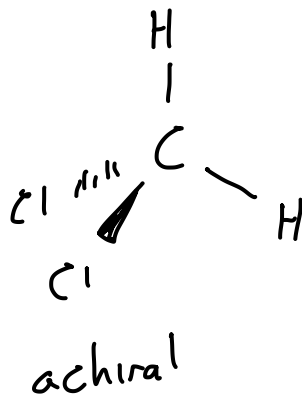
we build proteins with this one

- chiral
- don't contain a mirror plane
- they are enantiomers of each other



D-alanine

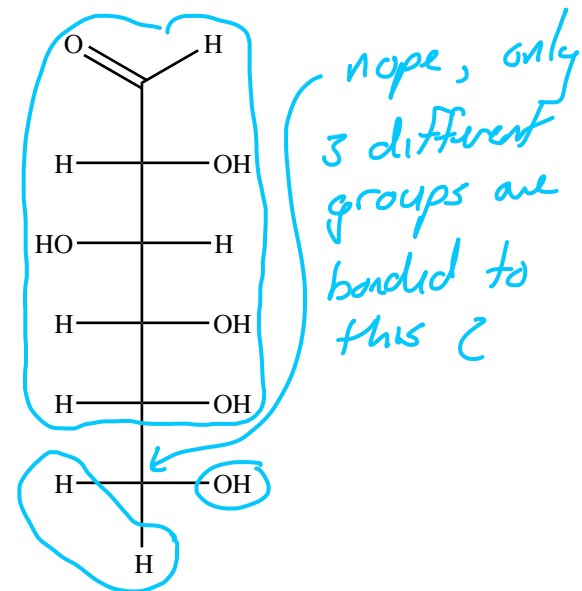
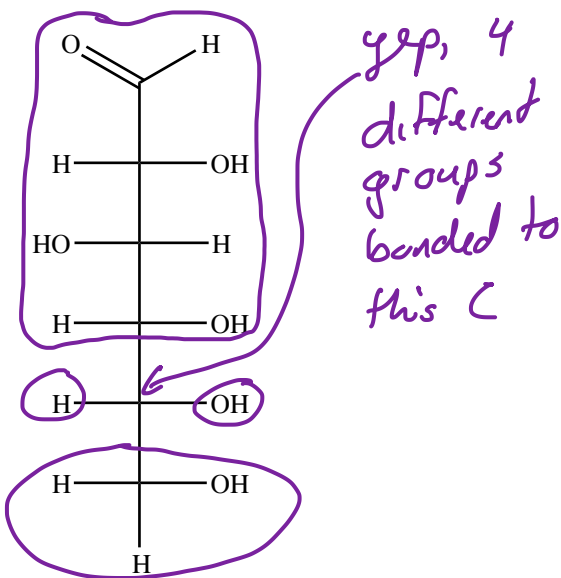
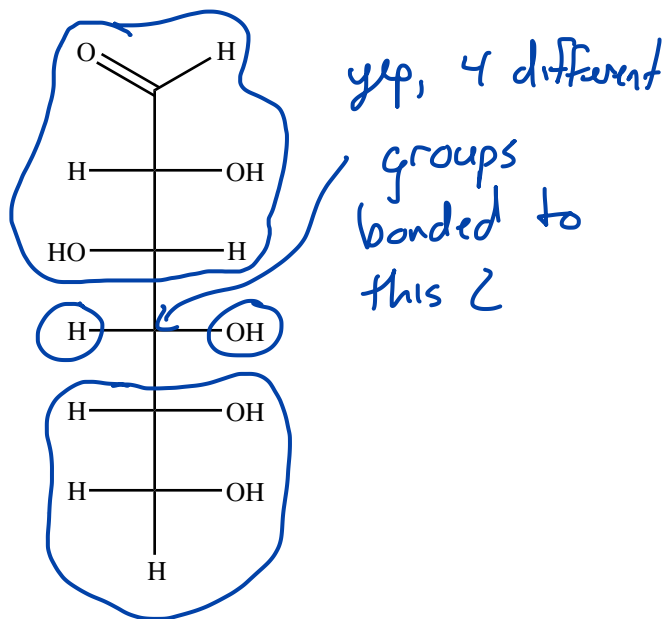
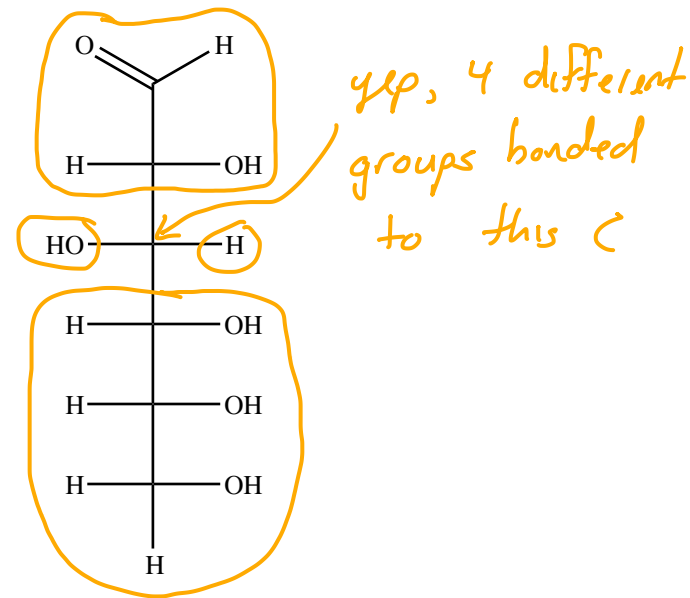
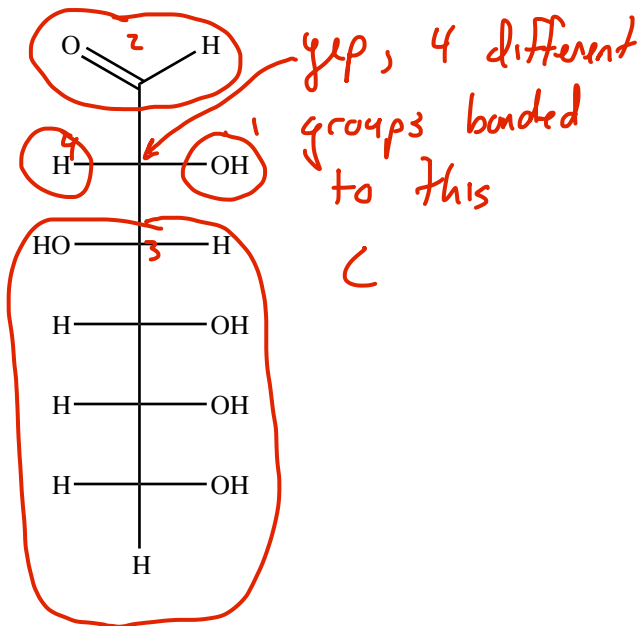
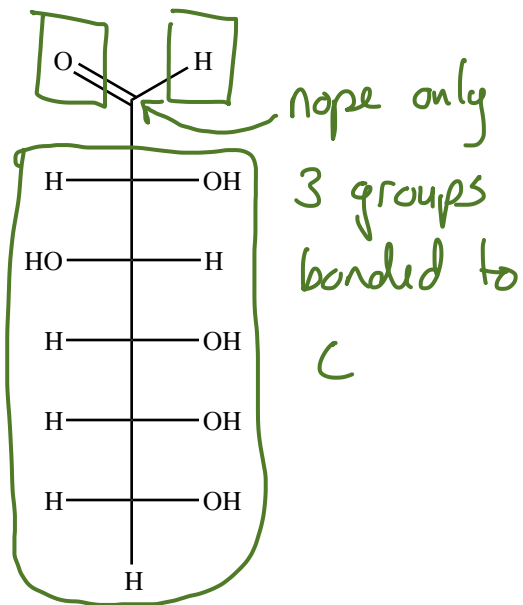
bacteria make cell walls with this



4 different groups bonded to a C will make the C a center of chirality

Practice Recognizing centers of chirality

Section 5.1 – 5.5

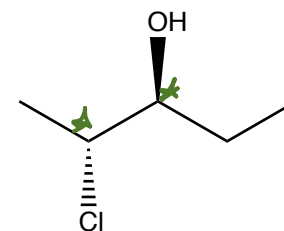
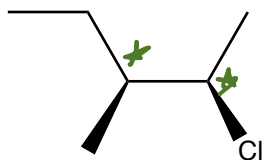


Practice Recognizing centers of chirality

ignore CH_3 , CH_2

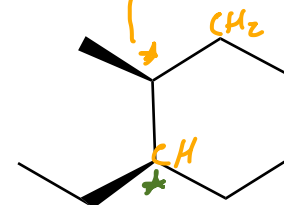
Section 5.1 – 5.5

Hyacinth + company

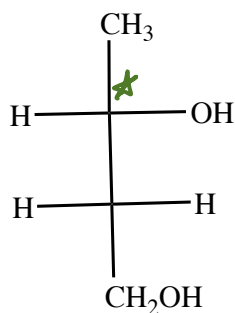
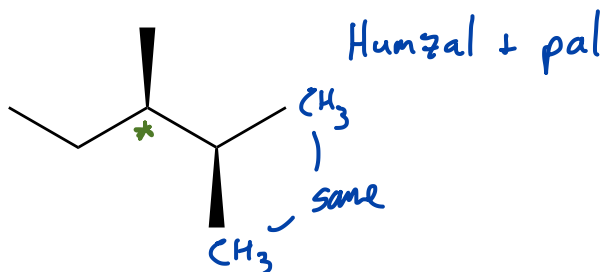


Lexus + Friends

CH_3 , H, CH_2 + stuff, CH + stuff



Evelyn + chums



Ethan + crew

