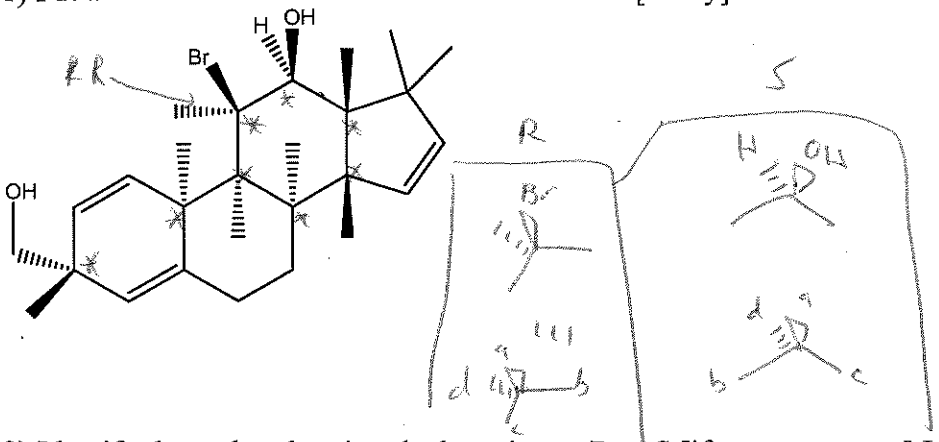
Assignment # 8
Organic 211
Fall 2020

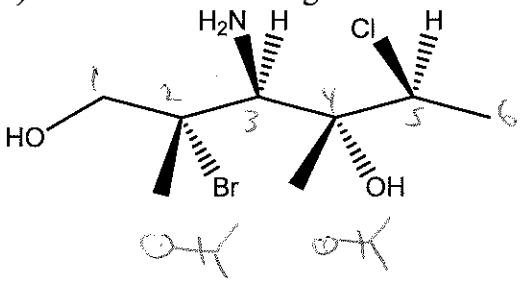
Name:_____

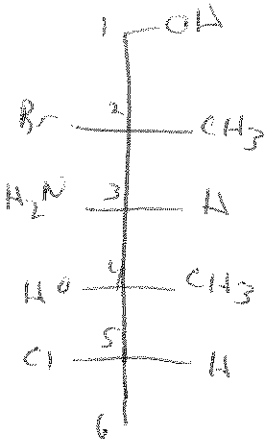
1) Put an asterisk besides all of the chiral centers [if any] for the following molecule.



2) Identify the carbon bearing the bromine as R or S [if a stereocenter.] Identify the carbon bearing the secondary alcohol as R or S [if a stereocenter.]

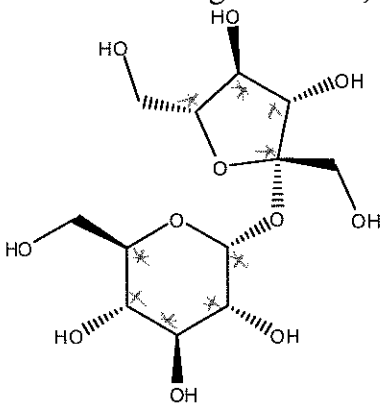
3) Convert the following molecule into a Fischer projection using a Stickman.





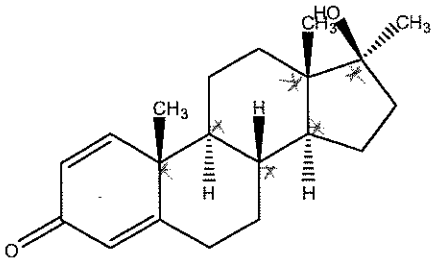
4) For the following molecules, indicate the numbers of stereocenters with an asterisk.

a)

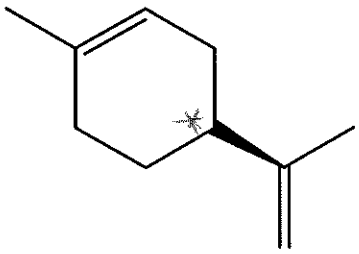


Mm! Sugar!

b)

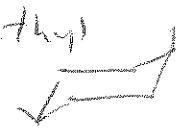


c)



5) Give a molecule that can have diasteromers but not enantiomers. Draw and name the diasteromers. no chiral centers

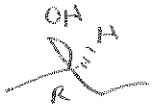
cis-1,4-dimethyl Cyclohexane



trans-1,4-dimethyl Cyclohexane

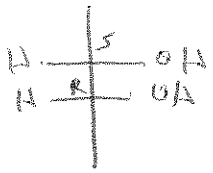
6) Give a molecule that can have enantiomers but not diasteromers. Draw and name the enantiomers. one chiral center

R-2-butanol



S-2-butanol

7) Give a molecule that can have both enantiomers and diasteromers. Draw and name the enantiomers and diasteromers. 2 or more chiral centers



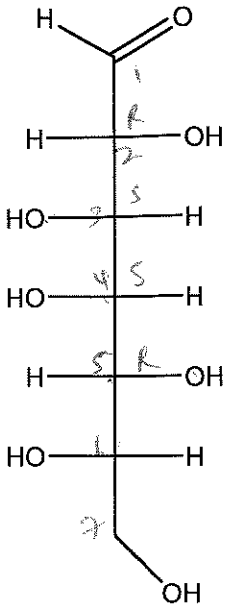
2S,2R-butan-2,3-diol

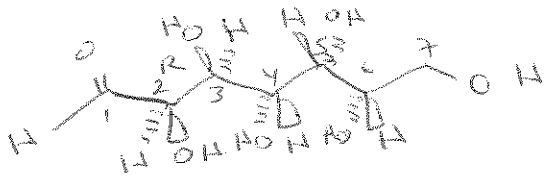
or

2R,3S- " "

2S,3S-butan-2,3-diol

8) Convert the following Fischer projection into a 3D- drawing.





9) Assign R or S to the chiral centers in the molecule above.

~~1R, 2S, 3S, 4~~

2R, 3S, 4S, 5R, 6S