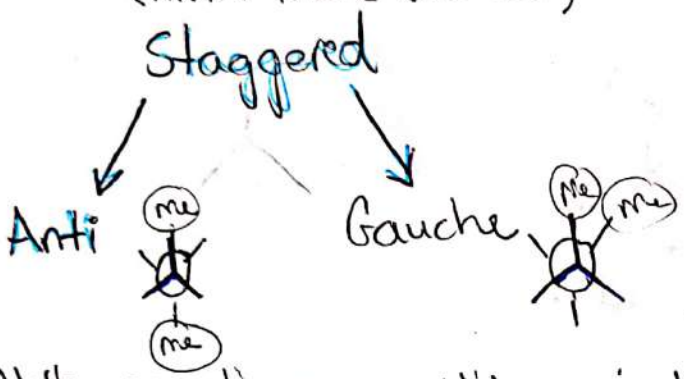
Ch 6.1 + 6.2

Name: Key

Date: 2/6

Newman Projection practice #1

① List out (and draw examples) the different possible Newman Projections (Hint: there are 3!) Number them from least → most stable



1

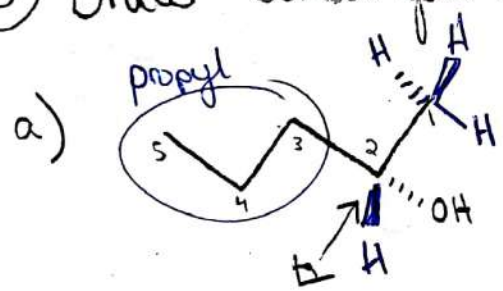
3

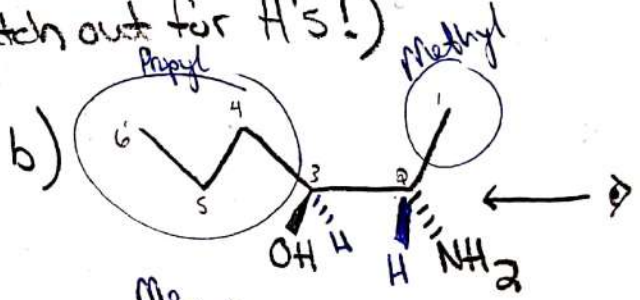
② Why are there multiple projections for a single molecule?

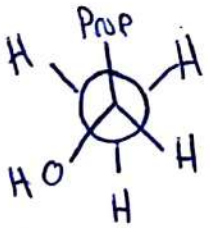
b/c single bonds can rotate!

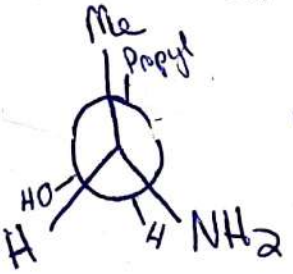
(and twist into many diff. arrangements due to that rotation)

③ Draw "what you see" (watch out for H's!)









* must be shown as eclipsed!

④ Describe the stability of the structures (as shown) in 3a & b.

3a - in staggered pos. - pretty stable

3b - Me & Prop are eclipsed * NOT stable!

⑤ Name each structure in 3a & b. (ignore stereocenters R/S)

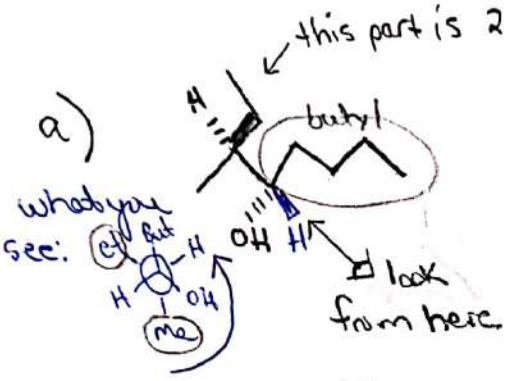
a) pentan-2-ol

b) 2-aminohexan-3-ol

Key

⑥ Draw and label the most and least stable projections for each picture. (Hint, you may need to draw "what you see" then rotate!)

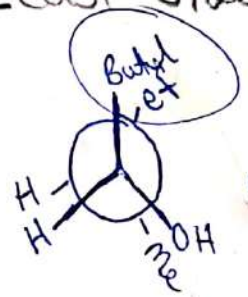
a)



Most Stable

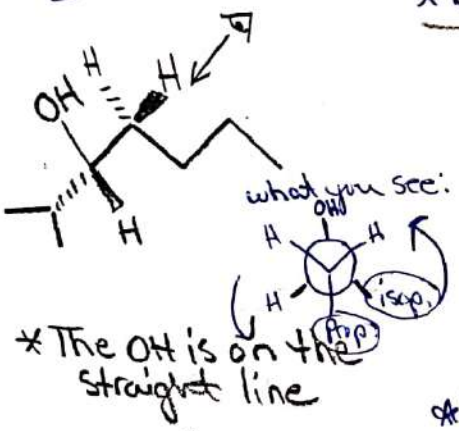
Butyl + Et. anti

Least Stable

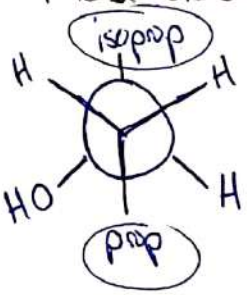


*need butyl & et. eclipsing!

b)

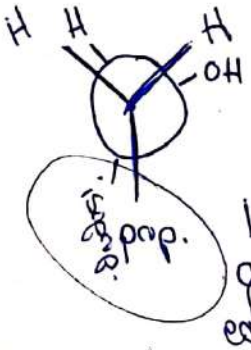


Most Stable



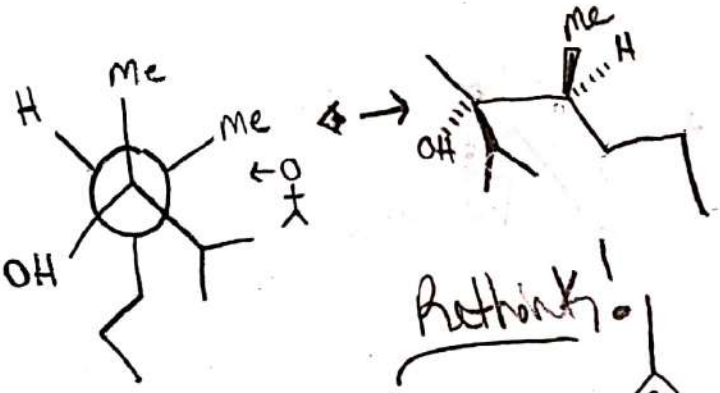
isopropyl & propyl anti

Least Stable

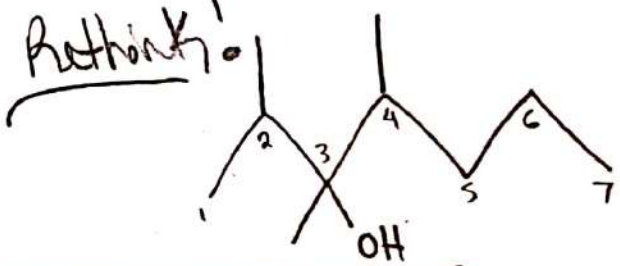


largest groups eclipsing!

⑦ Draw the Newman projection into a bond-line structure, use wedges & dashes too!



Rethink!



b) Name it!

1,3,4-trimethylheptan-3-ol