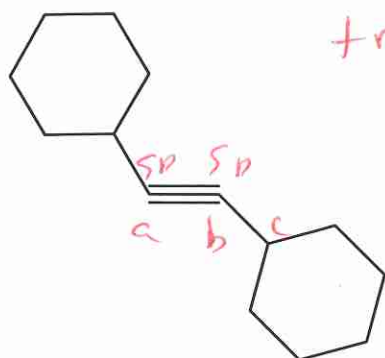


Assignment # 5
Organic 211
Fall 2020

Name: _____

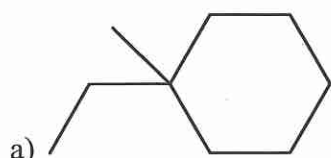
1) Is the drawing below correct? Explain.



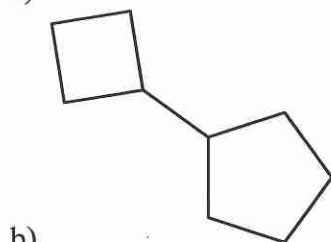
triple bonds are not bent so NOT correct!

sp is 180° so angle of $a \rightarrow b \rightarrow c$ should be 180°

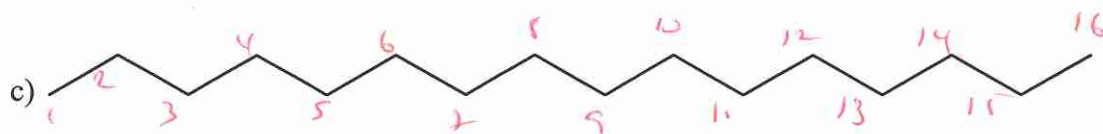
2) Name the following molecules.



1-ethyl-1-methylcyclohexane



cyclobutylcyclopentane



hexadecane

3) Draw the following molecules.

a) Butane



b) Isobutane



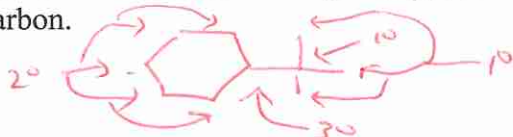
c) Neopentane



e) tert-butylcyclohexane



4) Draw a molecule with a primary, secondary, tertiary, and quaternary carbon labeling each carbon.



5) The general formula for alkanes is C_nH_{2n+2} . What is the general formula for

a) Cycloalkanes

b) Alkenes

c) Alkynes



d) Cyclic hydrocarbons that contain one double bond

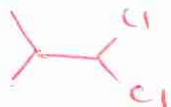


6) Write the structural formula of a compound of molecular formula $C_4H_8Cl_2$ in which

a) All of the carbons belonging to methylene groups (CH_2).



b) None of the carbons belong to methylene groups



7) What is VSEPR?

valence shell electron pair repulsion

electron pairs
repel each
other

8) A water molecule is tetrahedral if the lone pairs are included. However, the angle in water of just the atoms in water is 107° not 109.5 . Why?

electron pairs are repelling each other. This makes hydrogens go closer together (e.g. 107°)

9) What is meant by sweet crude oil?

low sulfur content

10) Give the structure of petroleum ether. (one will do).

alkanes like hexane

