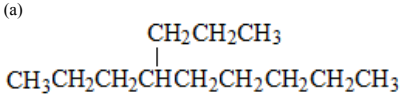
Name: _____

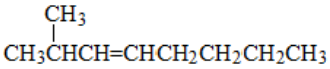
Hydrocarbons Period: ___

(1) Classify each hydrocarbon as an alkane, alkene, or alkyne. Give the name for the molecule.

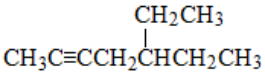
(a)



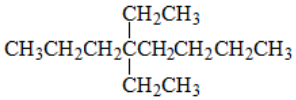
(b)



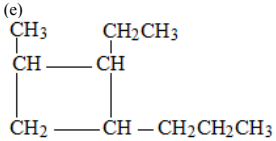
(c)



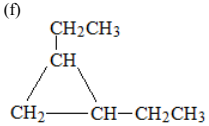
(d)



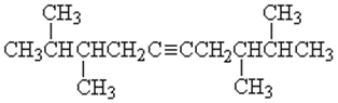
(e)



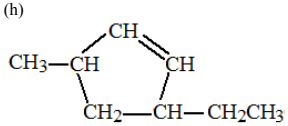
(f)



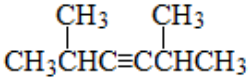
(g)



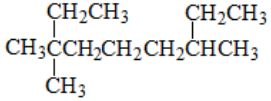
(h)



(i)



(j)



(2) Classify each hydrocarbon as an alkane, alkene, or alkyne. Draw the molecule.

(a) 2,2,4,4–tetramethylpentane

(b) 2–methyl–1–butene

(c) 1–nonyne

(d) 1,2–dipropylcyclohexane

(e) 5–butyldecane

(f) 3–ethyl–4–methyl–1–octene

(g) 3,5–diethylcyclopentene

(h) 1,2,3–trimethylcyclohexane

(i) 4–methyl–2–heptyne

(j) 1,2-dimethylcyclobutene

(3) Give the formula and draw two different structures for the molecule benzene.

(4) (a) The molecule 1–methylbenzene is also called "toluene". Draw the structure for toluene.

(b) The molecule 1–ethylbenzene is also called phenylethane. Draw the structure for this molecule.

(5) A benzene molecule with two methyl groups is called xylene. The molecule is given a name depending on the location of the methyl groups.

(a) The molecule 1,2–dimethylbenzene is also called "ortho–xylene". Draw the structure for ortho–xylene.

(b) The molecule 1,3–dimethylbenzene is also called "meta–xylene". Draw the structure for meta–xylene.

(c) The molecule 1,4–dimethylbenzene is also called "para–xylene". Draw the structure for para–xylene.

(6) Give the name and drawing for the two structural isomers for C_3H_6.