Chemistry 11

Organic Chemistry Unit Review

Name:
Date:
Block:

Answer the questions in the space provided.

1. Of the following molecules, choose 2 that best fit each description.

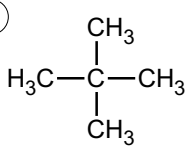
a) Structural Isomers a)_____, _____

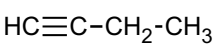
b) Unsaturated Hydrocarbons b)_____, _____

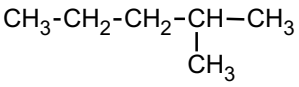
c) Have the general formula $\mathbf{C_nH_{2n+2}}$ c)_____, _____

d) When water is added, forms an alcohol d)_____, _____

e) Contain alkyl groups e)_____, _____

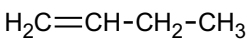
Ⓐ 

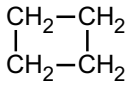
Ⓑ 

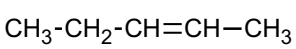
Ⓒ 

Ⓓ 2-butene

Ⓔ pentane

Ⓕ 

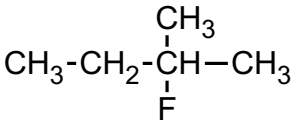
Ⓖ 

Ⓗ 

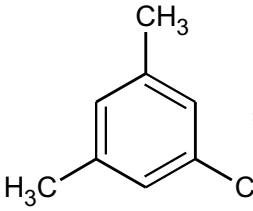
2. Explain what is wrong with each of the following. If a given name is incorrect, provide the correct name.

a) 2-ethylheptane

b) 5-methylhexane

c) 

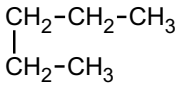
d) 2-fluoro-4-hexyne

e) 

= 2,4,6-trimethylbenzene

3. Name the following molecules.

a)



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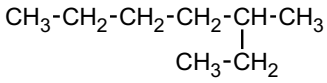

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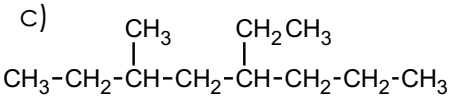
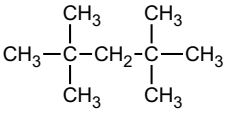


d)



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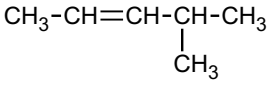

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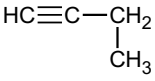

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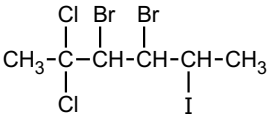
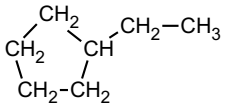
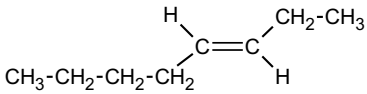


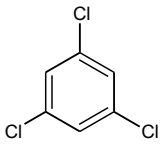
h)



i)



j)



4. Draw the structures of the following compounds.

a) 3-ethyl-4-methyloctane

b) 3-heptyne

c) 3,3-diethylpentane

d) 3-chloro-1-ethylbenzene

e) 2,2,3,3-tetramethylbutane

f) 1-chloro-3,4-dimethylcyclohexane

g) 3-iodo-1-propyne

h) dichloromethane

i) 3-heptene

j) cis-2-pentene

5. **Draw** and **name** all of the structural isomers of **C_5H_{12}.** There are 3!

6. **Draw** and **name** as many structural isomers for **C_4H_9OH**. There are 4!

7. Match the following compounds to their appropriate descriptions.

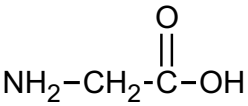
(A) C_2H_2

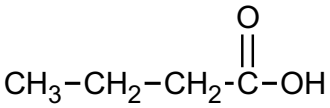
(B) C_2H_4

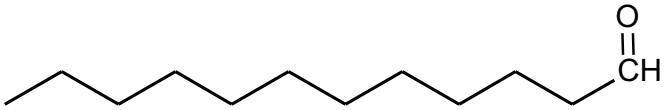
(C) C_2H_6

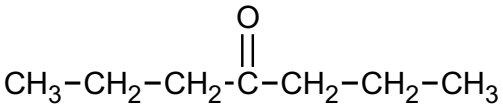
(D) $CH_3\text{-}CH_2\text{-}OH$

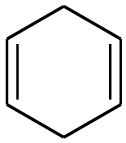
(E) $CH_3\text{-}OH$

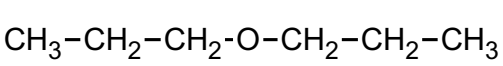
(F) 

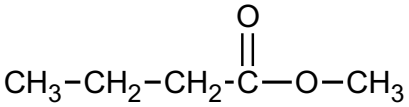
(G) 

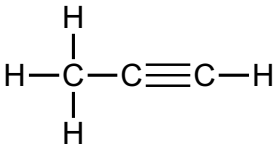
(H) 

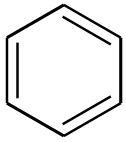
(I) 

(J) 

(K) 

(L) 

(M) 

(N) 

1. _____ Ethanol

2. _____ A carboxylic acid

3. _____ A saturated hydrocarbon

4. _____ A ketone

5. _____ An aromatic ring

6. _____ propyne

7. _____ An ether

8. _____ An ester

9. _____ An aldehyde

10. _____ Benzene

11. _____ Alkane

12. _____ Alkene

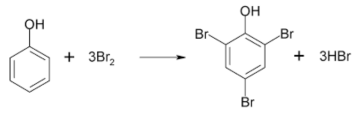
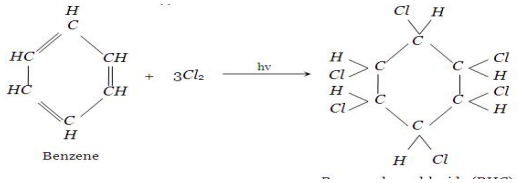
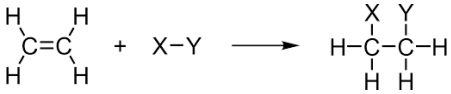
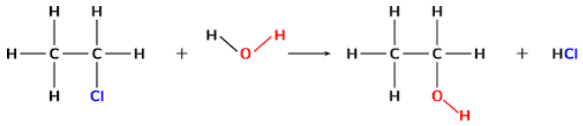
13. _____ Alkyne

14. _____ Methanol

15. _____ C_6H_6

16. _____ C_6H_8

8. Classify the following types of reactions as combustion, substitution, addition, elimination or polymerization:

a) 	
b) 	
c) 	
d) 	
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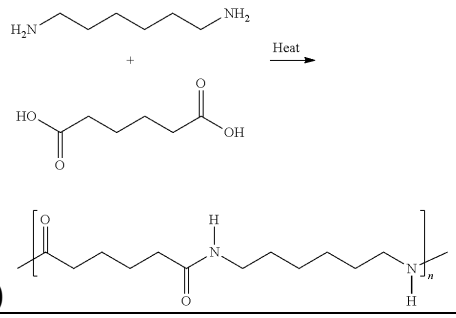
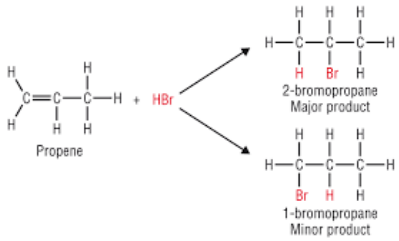
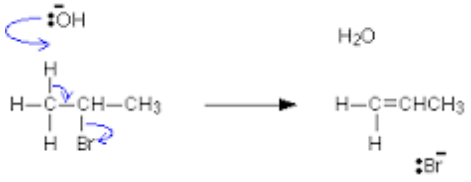
f) 	
g) 	
h) 	

Extra Challenge!

1. Draw this molecule: 4,4,5-triethyl-2,3,5,6,8,8,-hexamethyl-6,7-dipropyldecane

2. Name the following compound: