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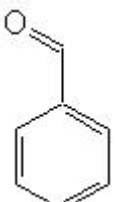
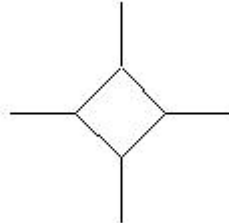
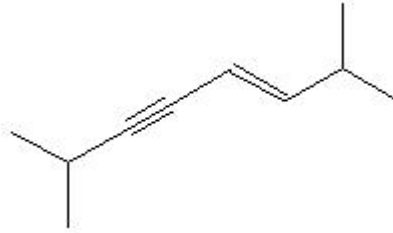
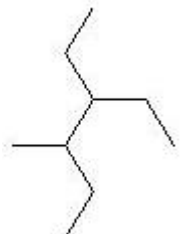
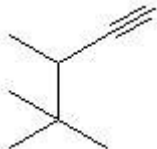
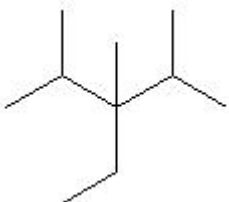
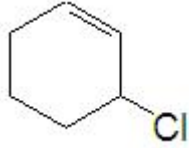
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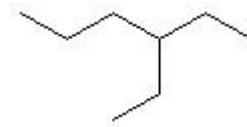
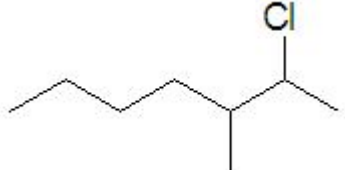
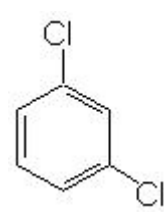
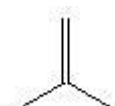
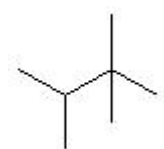
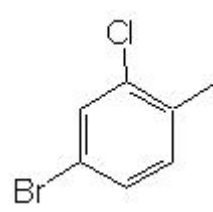
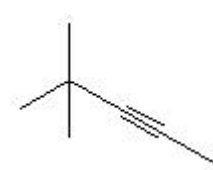
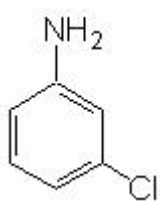
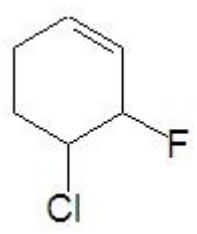
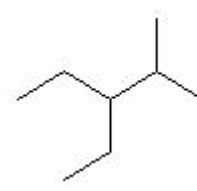
1. Give the IUPAC name of the following molecules

(a)  1(a) \_\_\_\_\_(b)  1(b) \_\_\_\_\_(c)  1(c) \_\_\_\_\_(d)  $\text{CH}_3\text{-CH}_2\text{-C}(\text{CH}_3)_2\text{-CH}_2\text{-CH}_2\text{-CH}_3$  1(d) \_\_\_\_\_(e)  1(e) \_\_\_\_\_(f)  1(f) \_\_\_\_\_(g)  $\text{CH}_3\text{-(CH}_2)_3\text{-CHCl-CH}_3$  1(g) \_\_\_\_\_(h)  1(h) \_\_\_\_\_(i)  1(i) \_\_\_\_\_(j)  1(j) \_\_\_\_\_

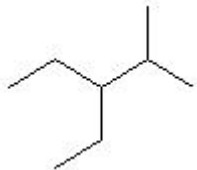
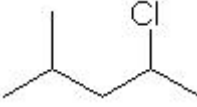
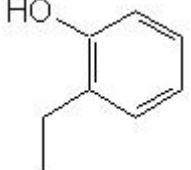
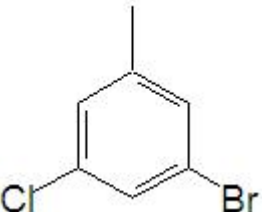

2. Give the IUPAC name of the following molecules

<p>(a)</p> 	<p>(b)</p> 
<p>(c)</p> 	<p>(d)</p> 
<p>(e)</p> 	<p>(f)</p> 
<p>(g)</p> 	<p>(h)</p> 
<p>(i)</p> 	<p>(j)</p> 

3. Give the IUPAC name of the following molecules

(a) 	(b) 
(c) 	(d) 
(e) 	(f) 
(g) 	(h) 
(i) 	(j) 

4. Give the IUPAC name of the following molecules

<p>(k)</p>  <p>A skeletal structure of a branched alkane. The longest continuous carbon chain contains five carbons, making it a pentane derivative. Numbering from the end closest to the most branching (the left side), the substituents are methyl groups at positions 2, 3, and 4.</p>	<p>(l)</p>  <p>A skeletal structure of a branched alkane with a chlorine atom. The longest continuous carbon chain contains five carbons, making it a pentane derivative. Numbering from the end closest to the most branching (the left side), there is a methyl group at position 3 and a chlorine atom at position 2.</p>
<p>(m)</p>  <p>A skeletal structure of a benzene ring with two substituents: a hydroxyl group (-OH) and an ethyl group (-CH<sub>2</sub>CH<sub>3</sub>). The hydroxyl group is at position 1 and the ethyl group is at position 2.</p>	<p>(n)</p>  <p>A skeletal structure of a benzene ring with three substituents: a methyl group (-CH<sub>3</sub>), a chlorine atom (-Cl), and a bromine atom (-Br). The methyl group is at position 1, the chlorine atom is at position 3, and the bromine atom is at position 4.</p>
<p>(o)</p>  <p>A skeletal structure of an alkene. The longest continuous carbon chain containing the double bond has five carbons, making it a pentene derivative. The double bond is between carbons 2 and 3, and there is a methyl group attached to carbon 2.</p>	<p>Freebie!</p>

5. Draw **AND** name the 8 isomers of pentene.

6. Draw the following organic molecules:

(a) cis-2-hexene

(b) m-chloroaniline

(c) 4-octene-2-yne

(d) 3-methylcyclopentene

(e) Benzoic Acid

(f) 2-chloro-3-ethyl-4,5-dimethylnonane

(g) 2-chloro-3-phenylheptane

(h) Toluene

(i) 3-Ethyl-2,2-dimethylpentane

(j) 1,2,4-trichlorobenzene

7. Draw the following organic molecules:

(a) trans-3-heptene

(b) 2-phenylpentane

(c) benzoic acid

(d) cis-2-methyl-3-hexene

(e) 2,3-dichloro-3,4,5-trifluorononane

(f) 3-methylcyclopentene

(g) p-bromochlorobenzene

(h) 2,4-octadiene

(i) 2,2-dimethyl-3-ethylhexane

(j) 3-hexyne

8. Draw the following organic molecules:

(a) cis-2-pentene

(b) trans-2-methyl-3-hexene

(c) m-bromochlorobenzene

(d) 2,4-dichlorobenzoic acid

(e) 4-fluorocyclohexene

(f) 2-chloro-3-ethylpentane

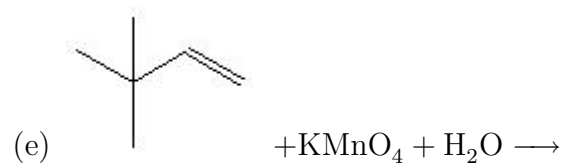
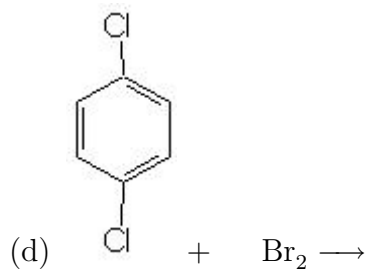
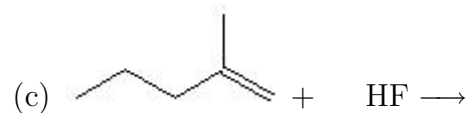
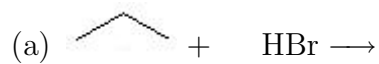
(g) 3-butyl-3-butene-1-yne

(h) 3-methyl-4-phenyl-2-hexene

(i) 1,2,4-trichlorobenzene

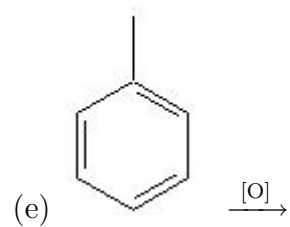
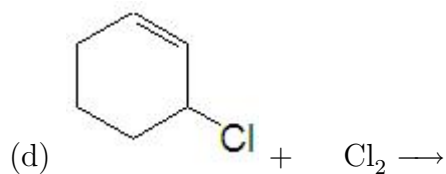
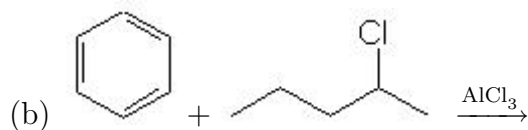
(j) nitrobenzene

9. Complete the following reactions in the format given. If more than one organic product can be made, include only the major one. Be sure to balance any combustion reactions.





10. Complete the following reactions in the format given. If more than one organic product can be made, include only the major one. Be sure to balance any combustion reactions.



Complete the following reactions in the format given.

