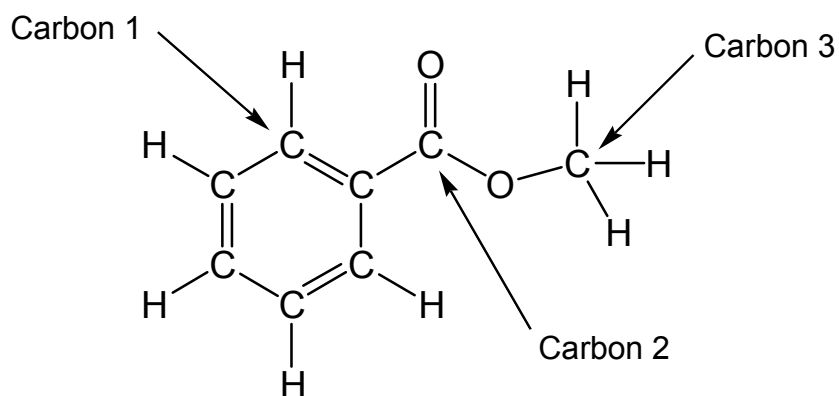


7th Practice Exam

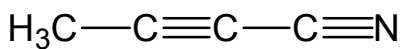
1. Methylbenzoate, called "oil of Niobe," is used in perfumes.

The hybridizations of carbons 1, 2, and 3 in the figure below are described respectively as

- a. sp , sp , sp^2
- b. sp , sp^2 , sp^3
- c. sp^2 , sp^2 , sp^3
- d. sp^2 , sp^2 , sp^2
- e. sp , sp , sp^3

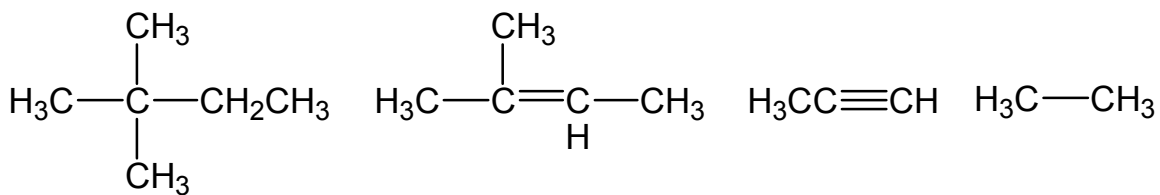


2. How many pi (π) bonds are in the following molecule?



- a. 2
- b. 4
- c. 6
- d. 7
- e. 10

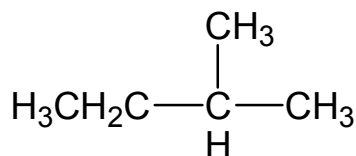
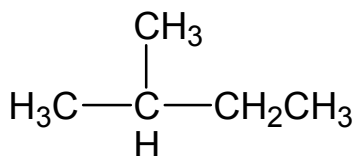
3. How many of the following compounds are unsaturated?



- zero
 - 1
 - 2
 - 3
 - 4
4. Which of the following alcohols is the poisonous "wood alcohol"?
- glycerol
 - ethanol
 - methanol
 - 1-propanol
 - 2-propanol
5. When a primary alcohol is oxidized, the initial product is an
- alkane.
 - alkene.
 - aldehyde.
 - alkyne.
 - isomer.
6. The C = O linkage occurs in molecules with the following functional groups **EXCEPT**
- amines.
 - amides.
 - esters.
 - carboxylic acids.
 - ketones.

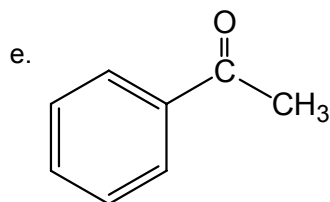
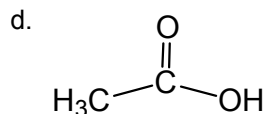
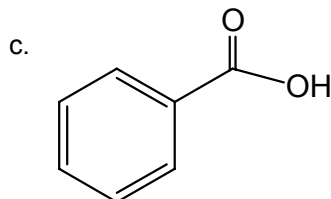
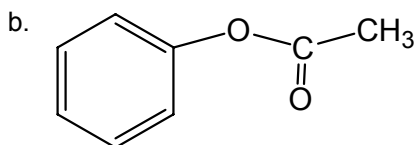
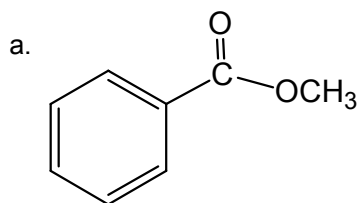
7. Which of the following pairs are isomers?

- a. $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$ and $\text{CH}_3\text{CH}_2\text{CHO}$
- b. $\text{CH}_3\text{CH}_2\text{OCH}_3$ and $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$
- c. CH_3COOH and CH_3CHO
- d.



- e. $\text{CH}_3\text{CH}=\text{CH}_2$ and $\text{CH}_2=\text{CHCH}_3$

8. When methanol is heated with benzoic acid, in the presence of acid, the product is



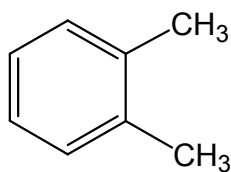
9. The monomer of polystyrene is

- a. $\text{C}_6\text{H}_5\text{CH}=\text{CH}_2$
- b. $\text{C}_6\text{H}_5\text{CH}_3$
- c. $\text{C}_6\text{H}_5\text{CH}_2\text{CH}_3$
- d. $\text{H}_2\text{C}=\text{CH}_2$
- e. $\text{H}_2\text{C}=\text{CHCH}=\text{CH}_2$

10. What are the bonds present in butene, C_4H_8 ?

- a. 9 σ bonds and 3 π bonds
- b. 10 σ bonds and 2 π bonds
- c. 11 σ bonds and 1 π bond
- d. 12 σ bonds and 1 π bond
- e. 12 σ bonds

11. The common name of the following compound is



- a. *o*-dimethylbenzene.
 - b. *p*-dimethylbenzene.
 - c. *m*-dimethylbenzene.
 - d. 2,3-dimethylbenzene.
 - e. toluene.
12. Which group of compounds includes an aldehyde, an acid, and an alcohol (in any order)?
- a. HCO_2H , $CH_3CO_2CH_3$, CH_3CH_2OH
 - b. H_2CO , CH_3CH_2OH , $CH_3CO_2CH_3$
 - c. CH_3CO_2H , CH_3OH , $CH_3CH_2OCH_3$
 - d. H_2CO , CH_3CO_2H , CH_3CHO
 - e. H_2CO , CH_3CO_2H , CH_3CH_2OH