

1. Which two compounds are isomers of each other?

- A)  $\text{CH}_3\text{OCH}_3$  and  $\text{CH}_3\text{CH}_2\text{OH}$   
 B)  $\text{CH}_3\text{CH}_2\text{Cl}$  and  $\text{C}_6\text{H}_5\text{Cl}$   
 C)  $\text{CH}_3\text{COCH}_3$  and  $\text{CH}_3\text{OCH}_3$   
 D)  $\text{CH}_3(\text{CH})_2\text{CH}_3$  and  $\text{CH}_3(\text{CH})_2\text{CH}_3$

2. Which compound has an isomer?

- A)  $\begin{array}{c} \text{H} \\ | \\ \text{H}-\text{C}-\text{H} \\ | \\ \text{H} \end{array}$       B)  $\begin{array}{c} \text{H} \quad \text{H} \\ | \quad | \\ \text{H}-\text{C}-\text{C}-\text{H} \\ | \quad | \\ \text{H} \quad \text{H} \end{array}$
- C)  $\begin{array}{c} \text{H} \quad \text{H} \quad \text{H} \\ | \quad | \quad | \\ \text{H}-\text{C}-\text{C}-\text{C}-\text{H} \\ | \quad | \quad | \\ \text{H} \quad \text{H} \quad \text{H} \end{array}$
- D)  $\begin{array}{c} \text{H} \quad \text{H} \quad \text{H} \quad \text{H} \\ | \quad | \quad | \quad | \\ \text{H}-\text{C}-\text{C}-\text{C}-\text{C}-\text{H} \\ | \quad | \quad | \quad | \\ \text{H} \quad \text{H} \quad \text{H} \quad \text{H} \end{array}$

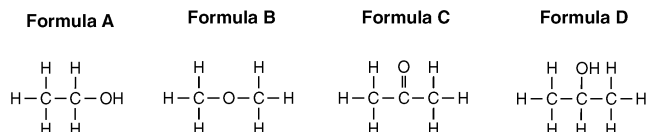
3. Which structural formula represents an isomer of 1-propanol?

- A)  $\begin{array}{c} \text{H} \quad \text{O} \quad \text{H} \\ | \quad || \quad | \\ \text{H}-\text{C}-\text{C}-\text{C}-\text{H} \\ | \quad \quad | \\ \text{H} \quad \quad \text{H} \end{array}$
- B)  $\begin{array}{c} \text{H} \quad \text{H} \\ | \quad | \\ \text{H}-\text{C}-\text{C}-\text{C} \\ | \quad | \quad || \\ \text{H} \quad \text{H} \quad \text{H} \end{array}$
- C)  $\begin{array}{c} \text{H} \quad \text{OH} \quad \text{H} \\ | \quad | \quad | \\ \text{H}-\text{C}-\text{C}-\text{C}-\text{H} \\ | \quad | \quad | \\ \text{H} \quad \text{H} \quad \text{H} \end{array}$
- D)  $\begin{array}{c} \text{H} \quad \text{H} \\ | \quad | \\ \text{H}-\text{C}-\text{C}-\text{C} \\ | \quad | \quad || \\ \text{H} \quad \text{H} \quad \text{OH} \end{array}$

4. The compounds  $\text{CH}_3\text{OCH}_3$  and  $\text{CH}_3\text{CH}_2\text{OH}$  are isomers of each other. These two compounds must have the same

- A) density  
 B) reactivity  
 C) melting point  
 D) molecular formula

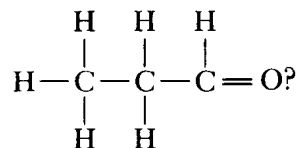
5. Given the structural formulas:



Which two formulas represent compounds that are isomers of each other?

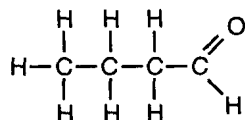
- A) *A* and *B*                      B) *A* and *C*  
 C) *B* and *D*                      D) *C* and *D*

6. Which structural formula represents an isomer of

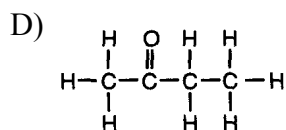
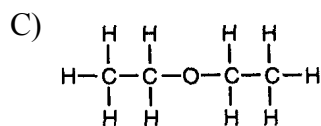
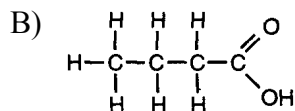
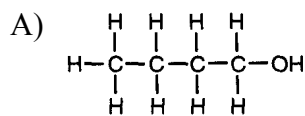


- A)  $\begin{array}{c} \text{H} \quad \text{H} \quad \text{H} \\ | \quad | \quad | \\ \text{H}-\text{C}-\text{C}-\text{O}-\text{C}-\text{H} \\ | \quad | \quad | \\ \text{H} \quad \text{H} \quad \text{H} \end{array}$
- B)  $\begin{array}{c} \text{H} \quad \text{O} \quad \text{H} \\ | \quad || \quad | \\ \text{H}-\text{C}-\text{C}-\text{C}-\text{H} \\ | \quad \quad | \\ \text{H} \quad \quad \text{H} \end{array}$
- C)  $\begin{array}{c} \text{H} \quad \text{H} \quad \text{H} \\ | \quad | \quad | \\ \text{H}-\text{C}-\text{C}-\text{C}-\text{OH} \\ | \quad | \quad | \\ \text{H} \quad \text{H} \quad \text{H} \end{array}$
- D)  $\begin{array}{c} \text{H} \quad \text{H} \\ | \quad | \\ \text{H}-\text{C}-\text{C}-\text{C} \\ | \quad | \quad || \\ \text{H} \quad \text{H} \quad \text{OH} \end{array}$

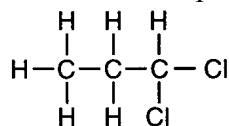
7. Given the compound:



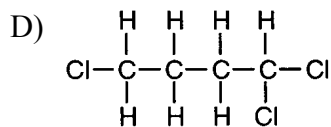
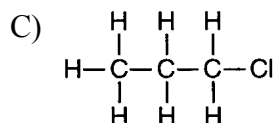
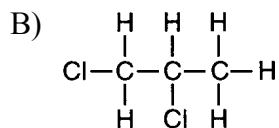
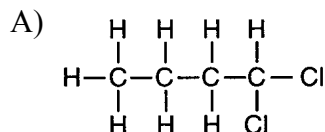
Which structural formula represents an isomer?



8. Given the compound:



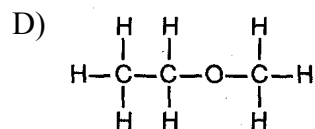
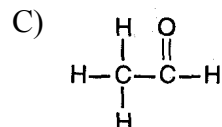
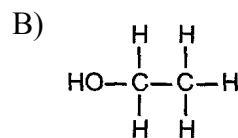
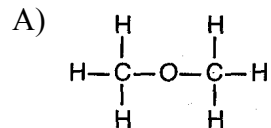
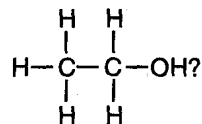
Which structural formula represents an isomer?



9. Which compound is an isomer of propanoic acid ( $\text{CH}_3\text{CH}_2\text{COOH}$ )?

- A)  $\text{CH}_2\text{CHCOOH}$
- B)  $\text{CH}_3\text{CH}_2\text{CH}_2\text{COOH}$
- C)  $\text{CH}_3\text{CH}(\text{OH})\text{CH}_2\text{OH}$
- D)  $\text{HCOOCH}_2\text{CH}_3$

10. Which is an isomer of



11. Which compounds are isomers?

- A)  $\text{CH}_3\text{OH}$  and  $\text{CH}_3\text{CH}_2\text{OH}$
- B)  $\text{CH}_4$  and  $\text{CCl}_4$
- C)  $\text{CH}_3\text{CH}_2\text{CHO}$  and  $\text{CH}_3\text{COCH}_3$
- D)  $\text{CH}_3\text{CH}_2\text{OH}$  and  $\text{CH}_3\text{CH}_2\text{COOH}$

12. Which formula represents an isomer of the compound propanoic acid,  $\text{CH}_3\text{CH}_2\text{COOH}$ ?

- A)  $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$
- B)  $\text{CH}_3\text{CH}_2\text{CH}_2\text{COOH}$
- C)  $\text{CH}_3\text{CH}(\text{OH})\text{CH}_2\text{OH}$
- D)  $\text{CH}_3\text{COOCH}_3$