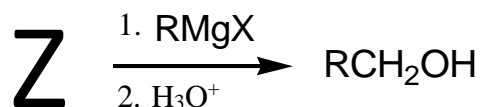


## Notes

1) In the following general equation, the reagent (Z) must be

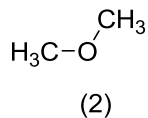
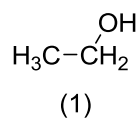


- A) Acetone      B) Methanol      C) Formaldehyde      D) Acetaldehyde

- ✓ Grignard reagents react with *formaldehyde* to produce *primary alcohols*.
- ✓ Grignard reagents react with *any other aldehyde* to produce *secondary alcohols*.
- ✓ Grignard reagents react with *ketones* to produce *tertiary alcohols*.

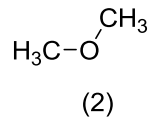
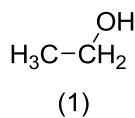
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8) Which of the following statement about compounds (1) and (2) is false?



- A) (1) is less soluble in water than (2)      B) (1) can be easily oxidized than (2)  
C) (1) has higher boiling point than (2)      D) (1) and (2) are isomers

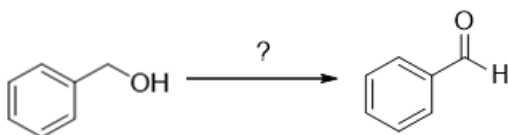
**Isomers. Have same** molecular formula, but different structures.



**Isomers. Example: C<sub>2</sub>H<sub>6</sub>O**

---

10) What reagent is needed to accomplish the following transformation?



- A) K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>      B) LiAlH<sub>4</sub>  
C) KMnO<sub>4</sub>      D) PCC

Strong Oxidizing reagent = A)  $K_2Cr_2O_7$ , C)  $KMnO_4$  weak Oxidizing reagent D) PCC

Reducing reagent = B)  $LiAlH_4$

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11) Ozonolysis of 2-methyl-2-butene results in the formation of

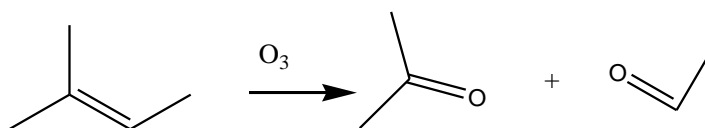
A) Dialdehyde

B) One aldehyde and one ketone

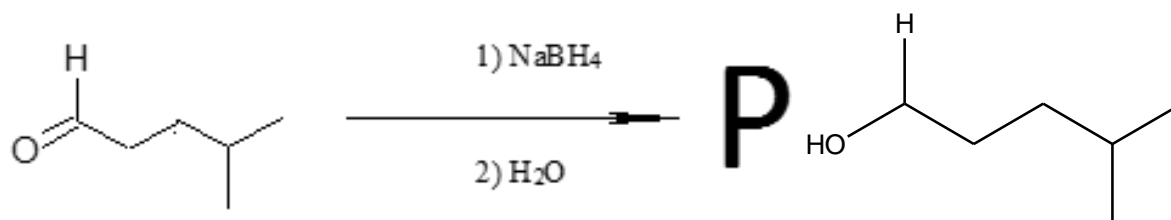
C) Two aldehydes

D) Two ketones

Answer of this reaction



12) What is the product (P) of the following reaction?



A) 4-Methylpentane

B) 2-Methylpentane

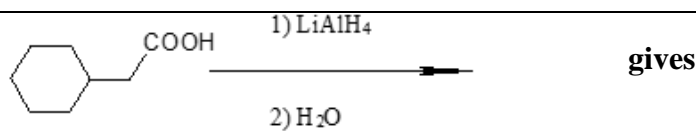
C) 4-Methyl-1-pentanol

D) 4-Methyl-2-pentene

Reducing reagent =  $NaBH_4$

---

13) The reaction



A) C1CCCCC1CO

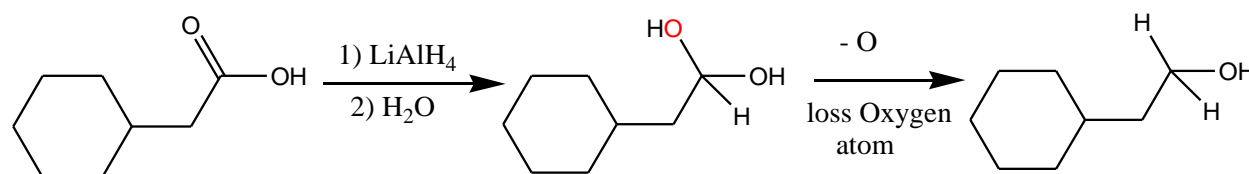
B) C1CCCCC1C=O

C) C1CCCCC1CC=O

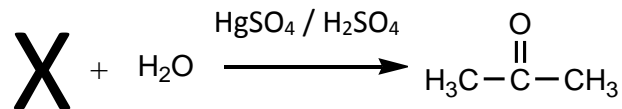
D) C1CCCCC1CCO

Reducing reagent =  $LiAlH_4$

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17) What is the starting material (X) used in the following reaction?

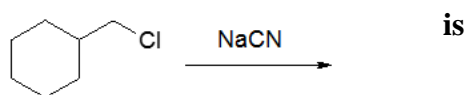


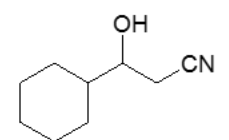
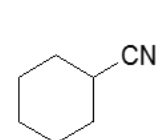
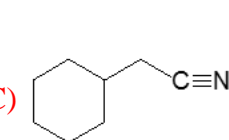
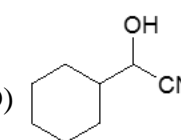
- A) Propene                  B) 2-propanol                  **C) Propyne**                  D) 1-propanol

This reaction refers to **Hydration Of Alkynes**

---

18) The product of the following reaction



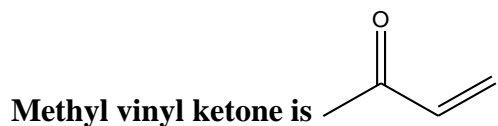
- A)       B)       **C) **      D) 

Cyano group or nitrile is written as **CN or C≡N**

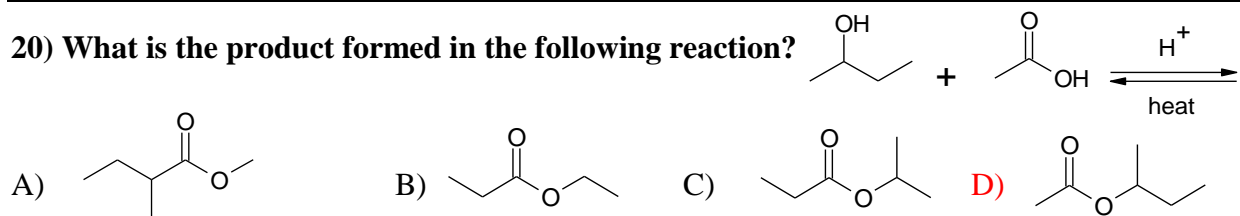
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19) Methyl vinyl ketone is the common name of

- A) 2-Buten-3-one    B) 1-Buten-2-one  
 C) 1-Buten-3-one    **D) 3-Buten-2-one**



20) What is the product formed in the following reaction?



The reaction of **Alcohol + Acid**  $\longrightarrow$  **Ester**

---



O-atom has -ve charge **can be attacked by B) Electrophile**

Some definitions are important

**Electrophile:** Any group has +ve charge

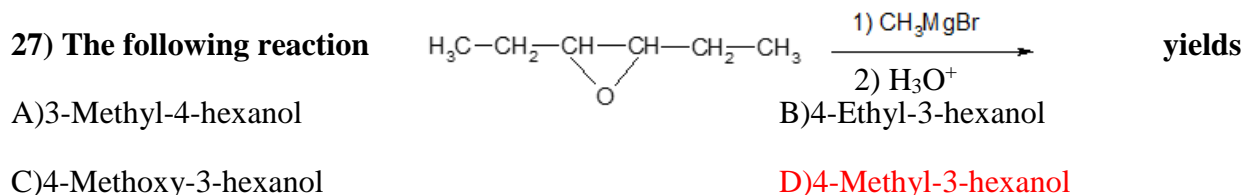
**Nucleophile:** Any group has -ve charge

**Anion:** Any atom has -ve charge

**Cation:** Any atom has +ve charge

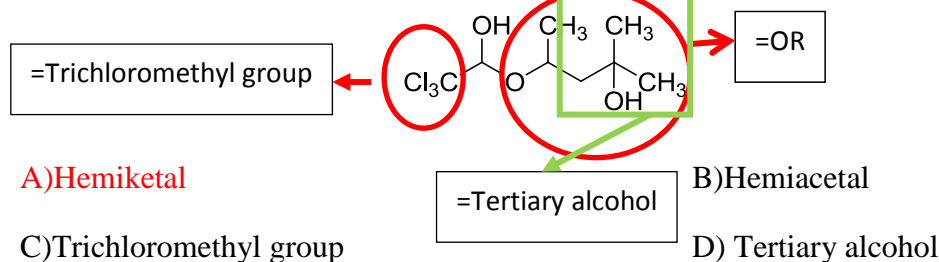
**Carbanion:** carbon atom has -ve charge

**Carbocation:** Carbon atom has +ve charge



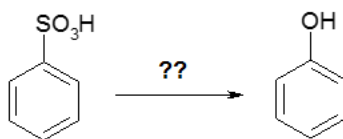
$H_3O^+$  sometimes is written as  $H_2O/H^+$

28) Which functional group is **not present** in the following structure?



**B) Hemiacetal** contains OH, OR, R ( $CCl_3$ ), H

29) What reagent is needed to accomplish the following transformation?



A) Na /heat /  $H_3O^+$

B)  $KMnO_4$  /  $H_3O^+$

**C) NaOH /heat /  $H_3O^+$**

D)  $Na_2Cr_2O_7$ /heat /  $H_3O^+$

This reaction refers to **Synthesis of phenols**

---

**30) Which of the following compounds can not be classified as a secondary halide?**

A) 1-Chloro-1-isopropylcyclopentane

B) 2-Bromobutane

C) Cyclohexyl iodide

D) Isopropyl bromide

A) 1-Chloro-1-isopropylcyclopentane is **tertiary halide**

B) 2-Bromobutane , C) Cyclohexyl iodide and D) Isopropyl bromide **are secondary halides**

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