



اسم الطالب:

الزمن: ساعتان

الرقم التسلسلي:

رقم الطالب:

نموذج الإجابة:

ملاحظة هامة: تصحيح الامتحان سيكون بناء علي الإجابة المكتوبة في الجدول أسفل (حرف الإجابة الصحيحة) ولن ينظر إلى بقية الأوراق والتي تعتبر مسودة .

رقم السؤال	الإجابة	رقم السؤال	الإجابة
1		21	
2		22	
3		23	
4		24	
5		25	
6		26	
7		27	
8		28	
9		29	
10		30	
11		31	
12		32	
13		33	
14		34	
15		35	
16		36	
17		37	
18		38	
19		39	
20		40	

1. The type of hybridization of carbon of the Acetylene is

- A)  $sp$                       B)  $sp^2$                       C)  $sp^3$                       D)  $sp^3d$
- 

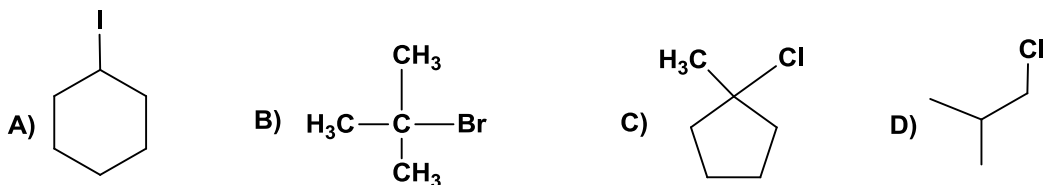
2. The number of structural isomers for the molecular formula  $C_4H_{10}$  is

- A) 4                      B) 3                      C) 2                      D) 1
- 

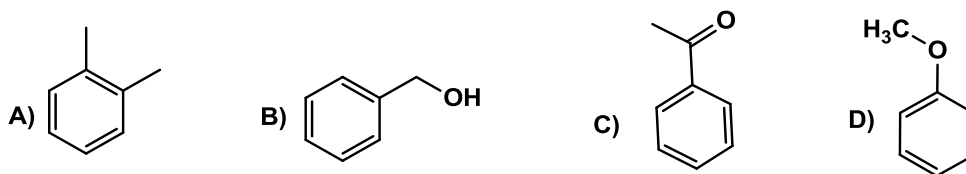
3. The compound with the least boiling point is

- A) *n*-Octane  
B) 2-Methylheptane  
C) 3-Methylheptane  
D) 2,2-Dimethylhexane
- 

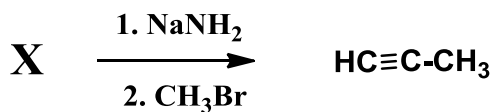
4. Which of the following structure is classified as primary alkyl halides?



5. Which of the following is Xylene?

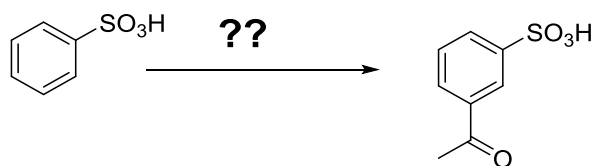


6. The unknown compound **X** is



- A)  $C_2H_2$                       B)  $C_2HBr$                       C)  $C_2H_2Br_2$                       D)  $C_2H_4$
-

7. The reagent needed for the following transformation is



- A)  $\text{CH}_3\text{COCl} + \text{AlCl}_3$
- B)  $\text{CH}_3\text{Cl} + \text{AlCl}_3$
- C)  $\text{CH}_3\text{CH}_2\text{COCl} + \text{AlCl}_3$
- D)  $\text{CH}_3\text{CH}_2\text{Cl} + \text{AlCl}_3$

---

8. Which of the following molecules has a covalent bond?

- A) KCl
- B) NaCl
- C)  $\text{C}_6\text{H}_6$
- D) LiI

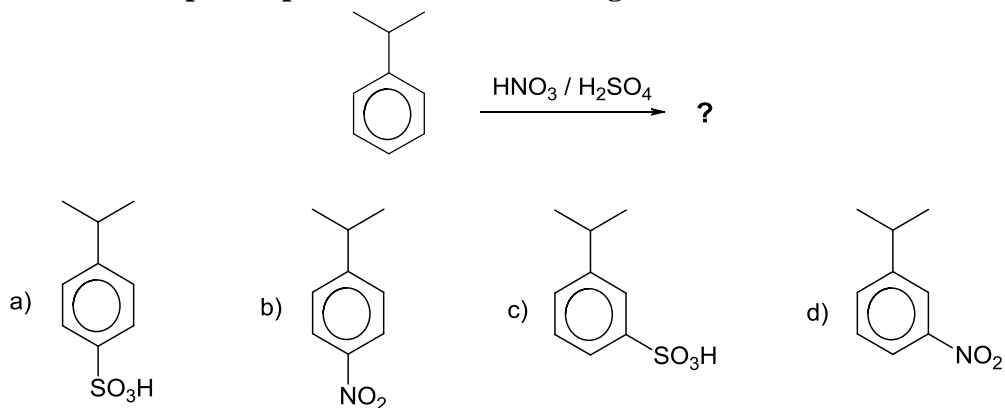
---

9. Which of the following compounds will react with water in presence of  $\text{HgSO}_4/\text{H}_2\text{SO}_4$  to give an acetone?

- A) Propene
- B) Propyne
- C) Ethene
- D) Acetylene

---

10. One of the expected products of the following reaction is



---

11. In benzyl chloride there are

- A) 16  $\sigma$  and 3 $\pi$  bonds
- B) 15  $\sigma$  and 3 $\pi$  bonds
- C) 17  $\sigma$  and 3 $\pi$  bonds
- D) 8  $\sigma$  and one 4 $\pi$  bonds

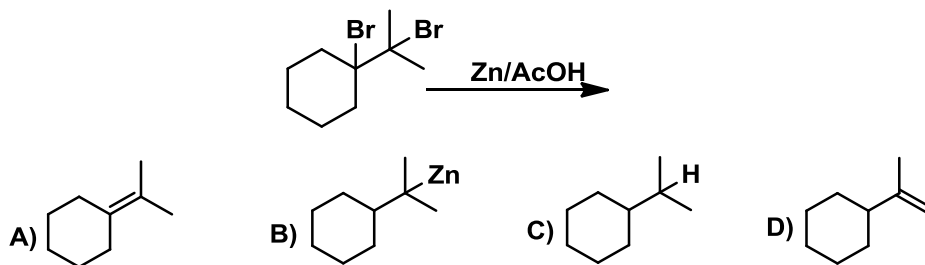
12. What is the electrophile in the electrophilic substitution reaction of benzene using  $\text{HNO}_3/\text{H}_2\text{SO}_4$ ?

- A)  $\text{OH}^-$       B)  $\text{NO}_2^-$       C)  $\text{NO}_2^+$       D)  $\text{SO}_3\text{H}^+$
- 

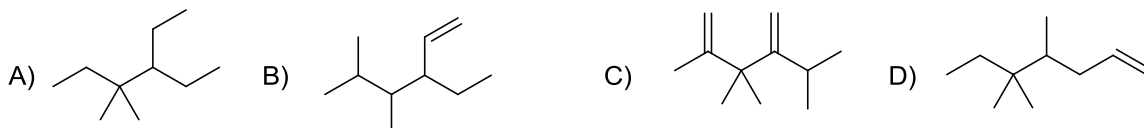
13. The bond angle in alkynes is

- A)  $90^\circ$       B)  $109.5^\circ$       C)  $180^\circ$       D)  $120^\circ$
- 

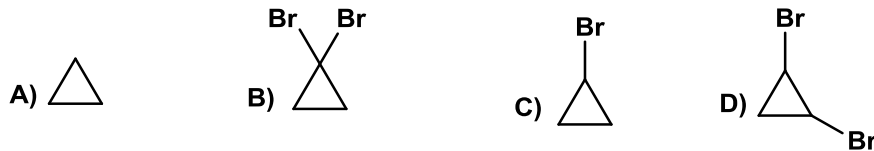
14. The product formed by the following reaction is



15. Which one of the following compounds is 3-ethyl-4,5-dimethyl-1-hexene?



16. Which one of the following compounds can exist as a pair of geometric isomers?



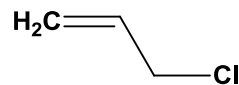
17. Which of the following structures is an aromatic?



18. The reagent can be used for the transformation of isopropyl alcohol to isopropyl chloride is

- A)  $\text{SOCl}_2$       B)  $\text{FeCl}_3$       C)  $\text{CH}_3\text{Cl}$       D)  $\text{AlCl}_3$
- 

19. The common name of the following structure is

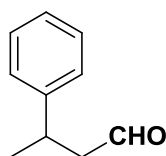


- A) Allyl chloride    B) Vinyl chloride    C) Benzyl chloride    D) Propyl chloride
- 

20. The formation of alkene from alcohol with conc.  $\text{H}_2\text{SO}_4$  is classified as

- A) Substitution reaction  
B) Addition reaction  
C) Elimination reaction  
D) Free radical substitution reaction
- 

21. What is the IUPAC name of the following compound?

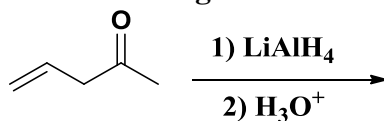


- A) 3-Methyl-3-phenyl-propanal  
B) 3-Methyl-3-phenyl-propanol  
C) 3-Phenyl-butanal  
D) 3-Phenyl-butanol
- 

22. What type of the reaction takes place upon treatment of a ketone with HCN to form a cyanohydrin?

- A) Nucleophilic addition  
B) Electrophilic substitution  
C) Electrophilic addition  
D) Nucleophilic substitution

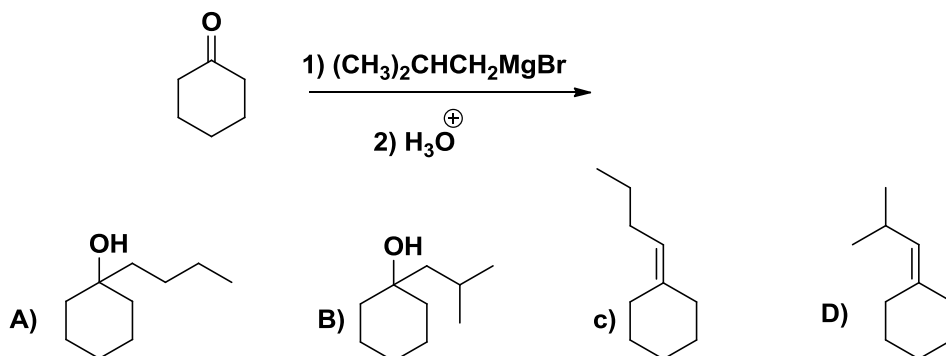
23. What is the product of the following reaction?



- A) 2-Pentanone
- B) 2-Pentanol
- C) 4-Hydroxy-2-pentanone
- D) 4-Penten-2-ol

---

24. What is the product obtained from the following reaction?



---

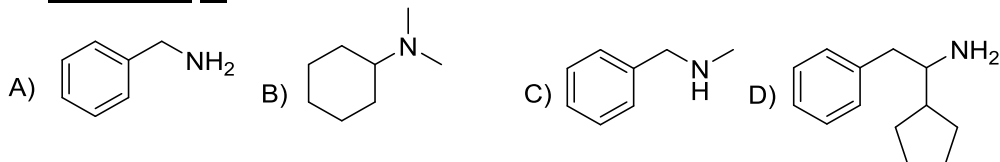
25. What is the product obtained from the following reaction?



- A) 2-Methoxy-cyclopentanol
- B) 1-Methoxy-cyclopentanol
- C) 2-Methyl-cyclopentanol
- D) Cyclopentyl-methanol

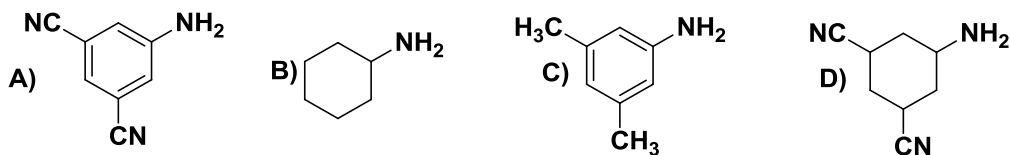
---

26. Secondary 2° amine is

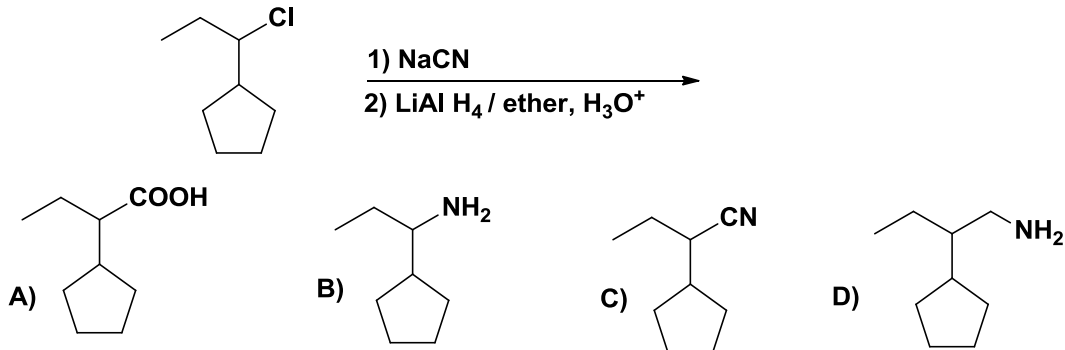


---

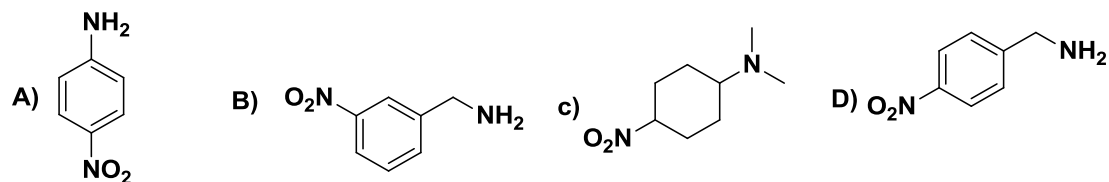
27. Which of these compounds is the lowest Basic?



28. What is the product obtained from the following reaction?



29. The structure of *p*-nitrobenzylamine is



30. The optimum condition to prepare anisole from phenol are:

- A) HCl /CH<sub>3</sub>OH
- B) HCl /CH<sub>3</sub>Br
- C) NaOH /CH<sub>3</sub>Br
- D) NaOH/CH<sub>3</sub>OH

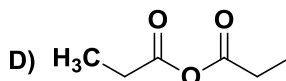
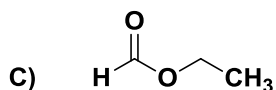
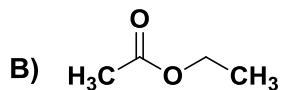
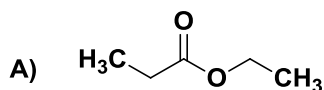
31. The compound which cannot be oxidized by KMnO<sub>4</sub> is

- A) Tertiary alcohol
- B) Secondary alcohol
- C) Aldehyde
- D) Primary alcohol

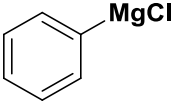
32. Which of the following compounds has the highest boiling point?

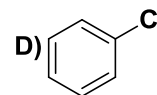
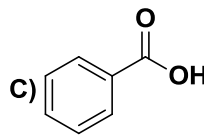
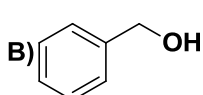
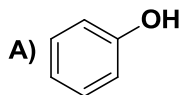


33. Which of the following compounds is ethyl propanoate?



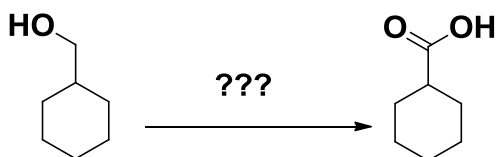
---

34. Reaction of  with  $\text{CO}_2$  followed by the addition of  $\text{H}_3\text{O}^+$  yields is



---

35. What is the reagent needed for the following transformation?



A)  $\text{NaBH}_4$

B)  $\text{KMnO}_4$

C) PCC

D)  $\text{C}_2\text{H}_5\text{OH}$

---

36. Which of the following compounds can be hydrolyzed to give carboxylic acid?

A) Benzaldehyde

B) Benzene

C) Benzyl alcohol

D) Benzoyl chloride

---

37. Which of the following compound is salicylic acid ?

