



# Organic chemistry ...

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*Past papers mid ...*

**2020-2021**

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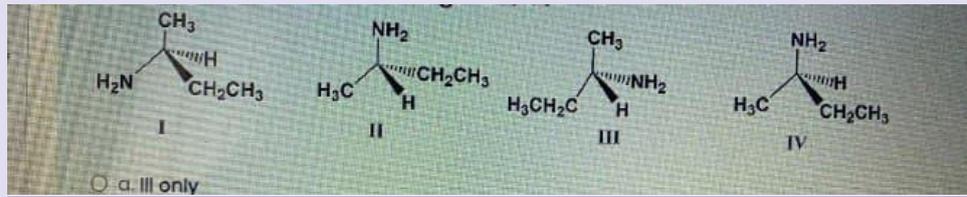
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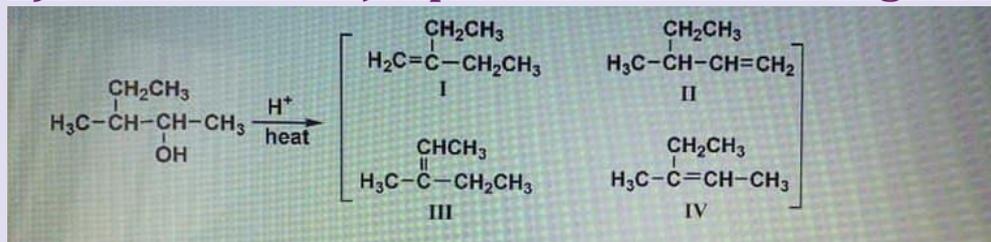
You can do it ...

### 1) Which molecule has (R) - configuration?



- A. III ONLY
- B. I AND III
- C. I ONLY
- D. IV ONLY
- E. II ONLY

### 2) Which is the major product of the following reaction?



- A. III
- B. II
- C. I
- D. IV

في العاصفة وحدها ... يتعرف الطير على قوة جناحيه

**3) Which halide is least reactive towards  $S_N2$  reactions?**

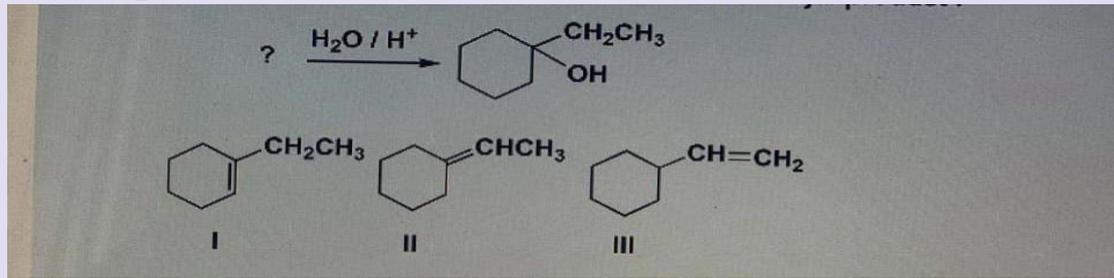
- A. Tert – butyl bromide
- B. Sec – butyl bromide
- C. Isopropyl bromide
- D. Methyl bromide
- E. Cyclohexyl bromide

**4) Which of the following is true about enantiomers?**

- A. They can be converted to each other by rotation about c-c bond.
- B. They can be separated by simple physical methods.
- C. They have different melting and boiling point.
- D. They differ in the direction of rotation of plane polarized light.
- E. They have some chemical behavior towards chiral reagents.

- **The best revenge is massive success ...**

**5) Which starting material will yield the given alcohol as major product?**



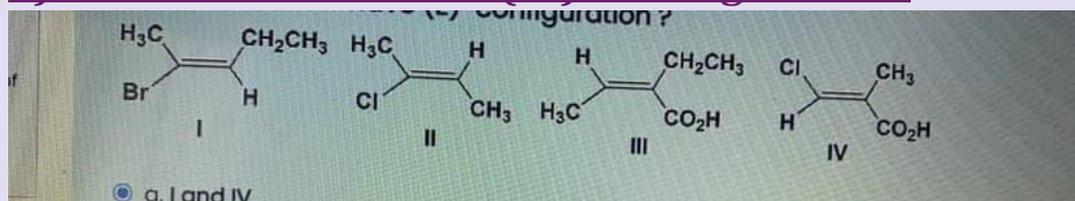
- A. II ONLY
- B. I AND II
- C. II AND III
- D. I ONLY
- E. III ONLY

**6) When 20 g of an unknown substance is dissolved in 100.0 ml water it gives an observed rotation of  $-2.5^\circ$  using a 10 cm sample tube . what is its specific rotation?**

- A. -30
- B. -2.5
- C. -12.5
- D. -25
- E. -50

يَوْمًا مَا سَتَبْدُو فَخُورًا

### 7) Which molecules have ( E ) - Configuration?



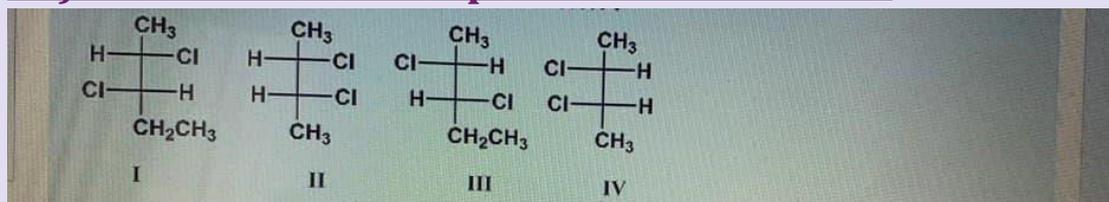
- A. I AND IV
- B. II AND III
- C. I AND III
- D. III AND IV
- E. I AND II

### 8) Which reaction will give a ketone?

- A. Tert - pentyl alcohol +  $\text{CrO}_3 / \text{H}^+$
- B. 1- pentanol + PCC
- C. Phenol + PCC
- D. 2- Methyl-2-pentanol +  $\text{CrO}_3 / \text{H}^+$
- E. 3-Pentanol +  $\text{CrO}_3 / \text{H}^+$

### 9) Which of the following compounds is the weakest acid?

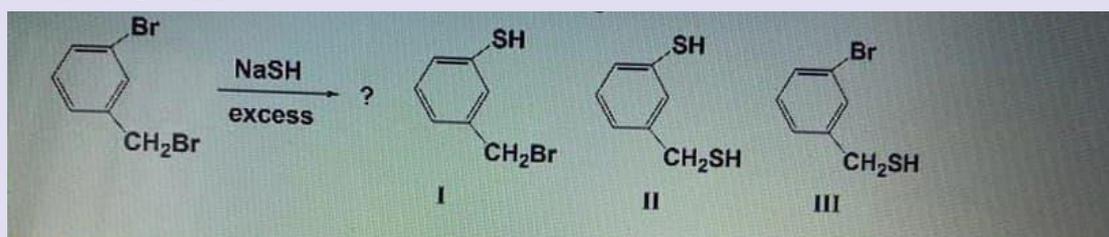
- A. 2-chlorophenol
- B. 2,2-dichloropropanol
- C. n-propyl alcohol
- D. 2,4-dinitrophenol
- E. 2- chloroethanol

**10) Which structures represent a meso form?**

- A. II AND IV  
B. I AND IV  
C. III AND IV  
D. II AND III  
E. I AND II

**11) Which product will be formed from the following reaction?**

- A. III ONLY  
B. II ONLY  
C. I AND III  
D. I ONLY

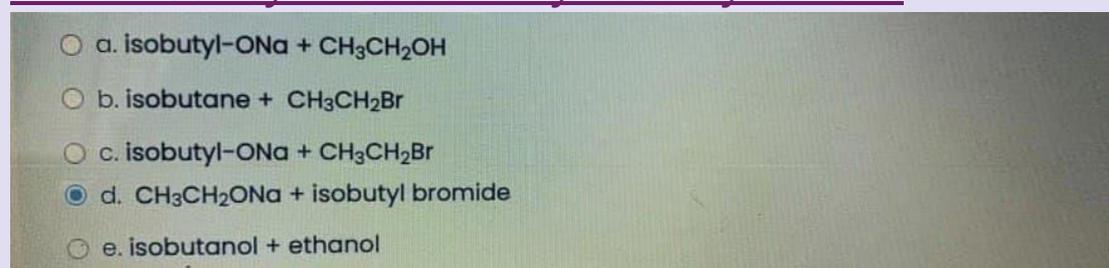


**12) Which alcohol undergoes dehydration fastest?**

- A. Sec-butyl alcohol
- B. Cyclohexanol
- C. Cyclopentanol
- D. Tert-butyl alcohol
- E. n-butyl alcohol

**13) What are the major products of the following reaction****(Cyclohexyl ethyl ether + one mole HI)?**

- A. Cyclohexanol +  $\text{CH}_3\text{CH}_2\text{I}$
- B. Cyclohexanol + ethanol
- C.  $\text{CH}_3\text{CH}_2\text{OH}$  + iodocyclohexane
- D. Iodocyclohexane +  $\text{CH}_3\text{CH}_2\text{I}$
- E. Cyclohexene +  $\text{CH}_3\text{CH}_2\text{I}$

**14) What starting materials are best to use for Williamson synthesis of ethyl isobutyl ether ?**

**15) Which statement is not true for SN2 reaction?**

- A. It is preferred for less crowded substrates.
- B. It occurs with inversion of configuration.
- C. It is faster with strongest nucleophiles
- D. It occurs in two steps.
- E. Rate depends on the concentration of both reactants.

**16) What products are formed from reaction of one mole HCL with this ether?**

(Hint: Cl<sup>-</sup> is a weak nucleophile)

a. *tert*-butyl chloride + chloroethane

b. *tert*-butyl chloride + ethanol

c. *tert*-butyl alcohol + chloroethane

d. *tert*-butyl alcohol + ethanol

e. *tert*-butyl alcohol + *tert*-butyl chloride

**17)**

Which is the major product of the following reaction?

I: 1-ethylcyclohexene

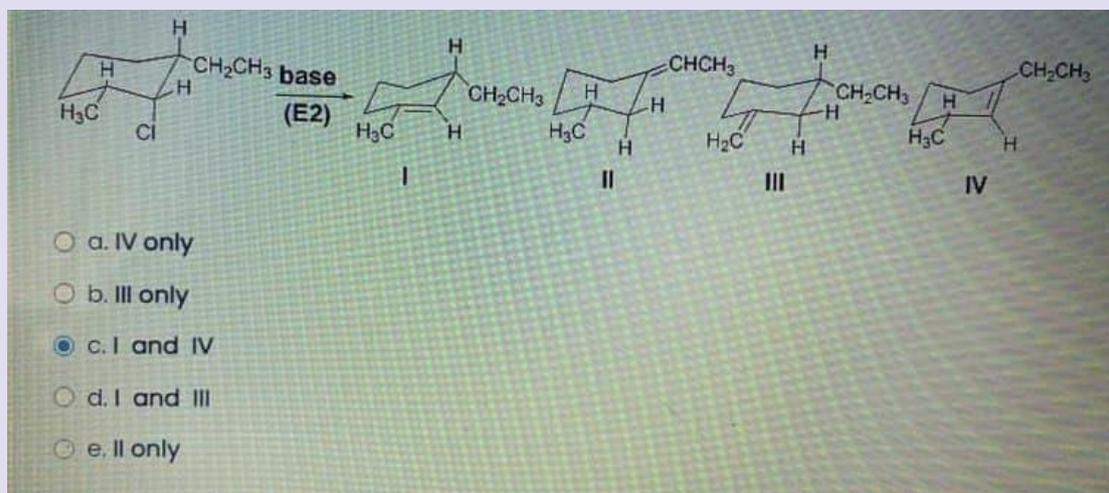
II: 1-(2-ethyl-2-propoxy)cyclohexane

III: 1-(2-propenyl)cyclohexane

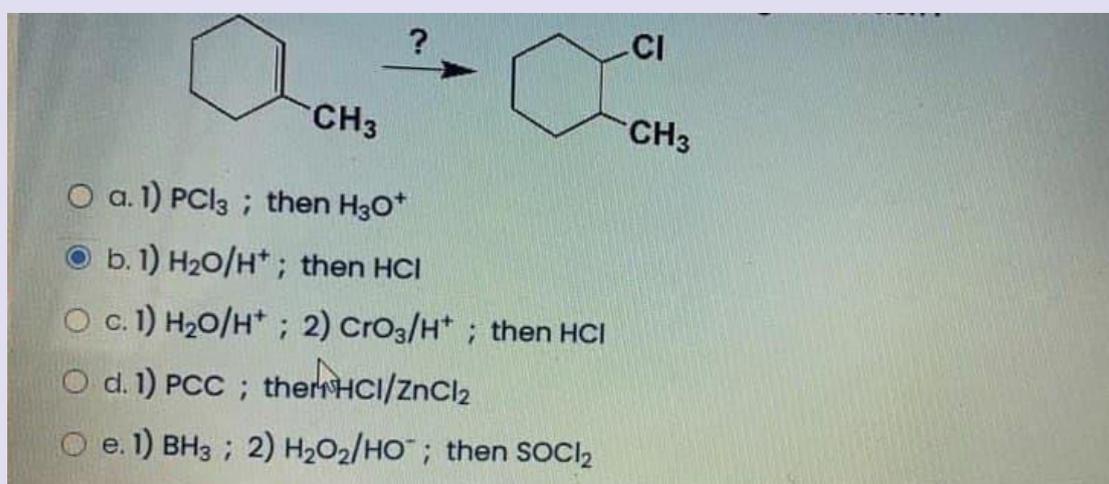
IV: 1-(2-propenyl)cyclohexane

- A. IV
- B. III
- C. II + III
- D. I
- E. II

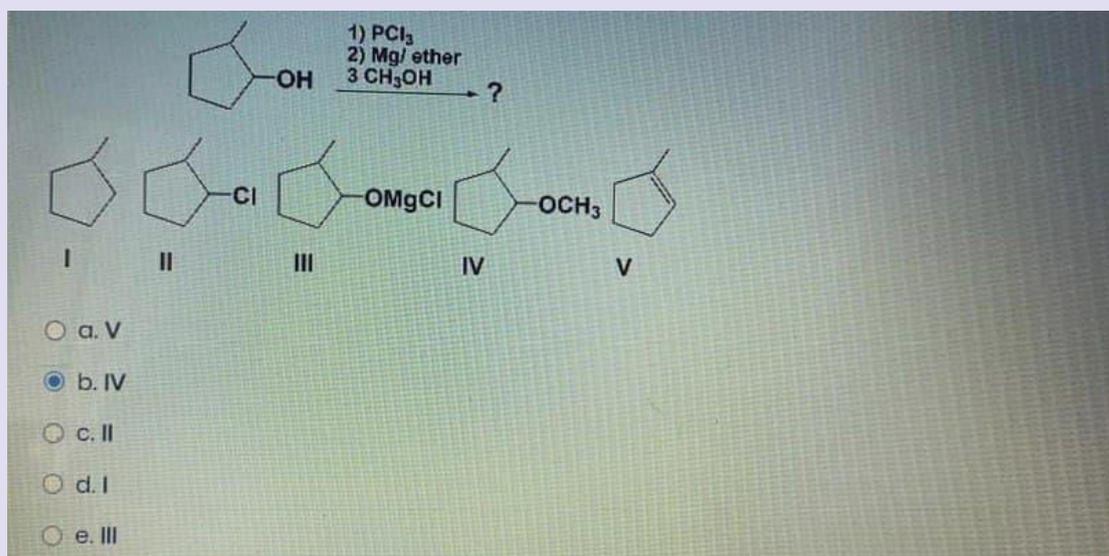
**18) Which product will be formed from this E2 reaction?**



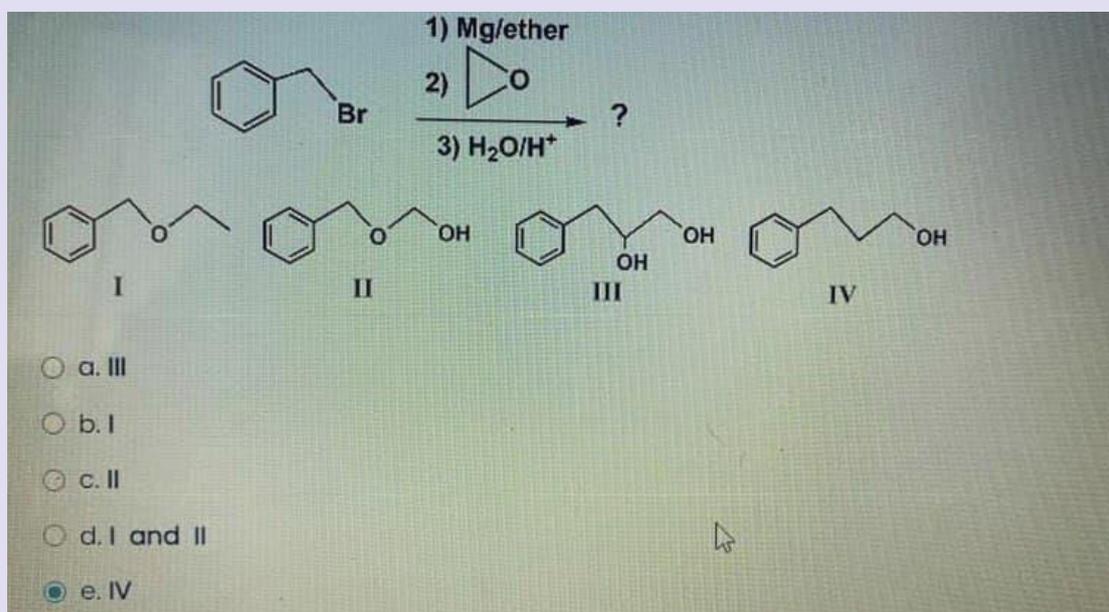
**19) Which reaction conditions will achieve the following conversion ?**



## 20) what is the product of the following reaction?



## 21) Which product is obtained from the following reaction?



Smile ... وکمل

22)

What is the correct name of this compound ?

$$\text{H}_3\text{C}-\underset{\text{O}}{\underset{\text{C}_6\text{H}_5}{\text{C}}}-\text{CH}=\text{CH}-\underset{\text{OH}}{\text{CH}}-\text{CH}_2-\text{CH}_3$$

a. 5-phenoxy-4-hexen-3-ol

b. 2-phenoxy-2-hexen-4-ol

c. 4-hexen-3-ol phenyl ether

d. 4-hydroxy-2-phenoxy-2-hexene

**23) (s) -2- chlorobutane gave an optically inactive substitution product . what is the reagent and mechanism of this reaction?**

a.  $\text{CH}_3\text{ONa}$  ;  $\text{S}_{\text{N}}2$

b.  $\text{NaOCH}_3$  ;  $\text{S}_{\text{N}}2$

c.  $\text{CH}_3\text{OH}$  ;  $\text{S}_{\text{N}}1$

d.  $\text{NaOH}$  ;  $\text{S}_{\text{N}}1 + \text{S}_{\text{N}}2$

e. Sodium *tert*-butoxide ; E2

**24) Which of the following is the strongest nucleophile?**

a.  $\text{CH}_3\text{CH}_2\text{O}^-$

b.  $\text{H}_2\text{O}$

c.  $\text{CH}_3\text{CH}_2\text{OH}$

d.  $\text{HO}^-$

e.  $\text{CH}_3\text{CH}_2\text{S}^-$

دعواتي معاكم...

1	D	9	C	17	D		
2	D	10	A	18	C		
3	A	11	A	19	E		
4	D	12	D	20	D		
5	B	13	A	21	E		
6	C	14	C	22	A		
7	A	15	D	23	C		
8	E	16	B	24	E		

ANSWERS