

- Which is the most suitable reagent among the following to distinguish compound (III) from rest of the compounds?
 I. $\text{CH}_3\text{-C}\equiv\text{C-CH}_3$
 II. $\text{CH}_3\text{-CH}_2\text{-CH}_2\text{-CH}_3$
 III. $\text{CH}_3\text{-CH}_2\text{-C}\equiv\text{CH}$
 IV. $\text{CH}_3\text{-CH=CH}_2$
 (a) Br_2/CCl_4 (b) $\text{Br}_2/\text{CH}_3\text{COOH}$
 (c) Alk.KMnO_4 (d) Ammonical AgNO_3
- Which of the following reagents will be able to distinguish between 1-butyne and 2-butyne?
 (a) NaNH_2 (b) HCl (c) O_2 (d) Br_2
- A compound is treated with NaNH_2 to give sodium salt. Identify the compound.
 (a) C_2H_2 (b) C_6H_6
 (c) C_2H_6 (d) C_2H_4
- Propene, $\text{CH}_3\text{-CH=CH}_2$ can be converted into 1-propanol by oxidation. Indicate which set of reagents amongst the following is ideal to affect the above conversion?
 (a) KMnO_4 (alkaline)
 (b) Osmium tetroxide ($\text{OsO}_4/\text{CH}_2\text{Cl}_2$)
 (c) B_2H_6 and alk H_2O_2
 (d) O_3/Zn
- In Friedel-Craft's synthesis of toluene, the reactants in addition to anhydrous AlCl_3 are
 (a) $\text{C}_6\text{H}_5\text{Cl} + \text{CH}_4$
 (b) $\text{C}_6\text{H}_5\text{Cl} + \text{CH}_3\text{Cl}$
 (c) $\text{C}_6\text{H}_6 + \text{CH}_4$
 (d) $\text{C}_6\text{H}_6 + \text{CH}_3\text{Cl}$
- Which one of the following has the shortest carbon-carbon bond length?
 (a) Benzene (b) Ethene
 (c) Ethyne (d) Ethane
- Reaction of HBr with propene in the presence of peroxide gives
 (a) iso-propyl bromide
 (b) 3-bromo propane
 (c) allyl bromide
 (d) n-propyl bromide
- The reaction of toluene with Cl_2 in the presence of FeCl_3 gives 'X' and reaction in presence of light gives 'Y'. Thus, 'X' and 'Y' are
 (a) X = benzal chloride, Y = o-chlorotoluene
 (b) X = m-chlorotoluene, Y = p-chlorotoluene
 (c) X = o and p-chlorotoluene, Y = trichloromethyl benzene
 (d) X = benzal chloride, Y = m-chlorotoluene
- The reaction,

$$\text{C}_6\text{H}_6 + \text{CH}_3\text{Cl} \xrightarrow[\text{AlCl}_3]{\text{Anhydrous}} \text{C}_6\text{H}_5\text{CH}_3 + \text{HCl}$$
 is an example of:
 (a) Friedel-Crafts reaction (b) Kolbe's synthesis
 (c) Wurtz's reaction (d) Grignard synthesis
- Acetylene reacts with 42% H_2SO_4 containing 1% HgSO_4 to give:
 (a) $\text{C}_2\text{H}_5\text{HSO}_4$ (b) CH_3CHO
 (c) HCHO (d) $\text{CH}_2 = \text{CH}_2$
- $$\text{CH}_3 - \underset{\text{CH}_3}{\text{CH}} - \text{C} \equiv \text{C} - \text{CH}_3$$
 Ozonolysis ($\text{O}_3, \text{H}_2\text{O}$) of, gives :
 (a) CH_3CHCOOH + CH_3COOH

$$\text{CH}_3$$

 (b) CH_3CHCHO + CH_3CHO

$$\text{CH}_3$$

 (c) CH_3CHCHO

$$\text{CH}_3$$

+ CH₃ COOH

(d) none of the above

12.

$R - CH_2 - CCl_2 - R \xrightarrow{\text{Reagent}} R - C \equiv C - R$. The reagent is

(a) Na

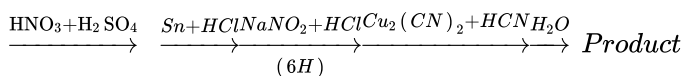
(b) HCl in H₂O

(c) KOH in C₂H₅ OH

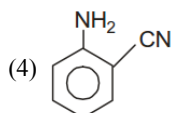
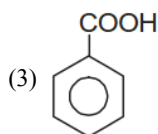
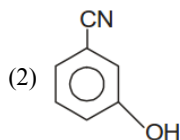
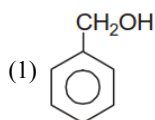
(d) Zn in alcohol

13.

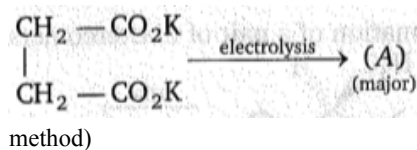
Consider the following reaction sequence



Product is



14.



Product (A) of the reaction is :

(a) CH₃-CH₃

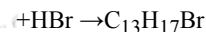
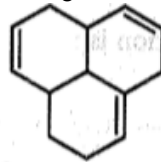
(b) CH₂=CH₂

(c) CH₃-CH=CH₂

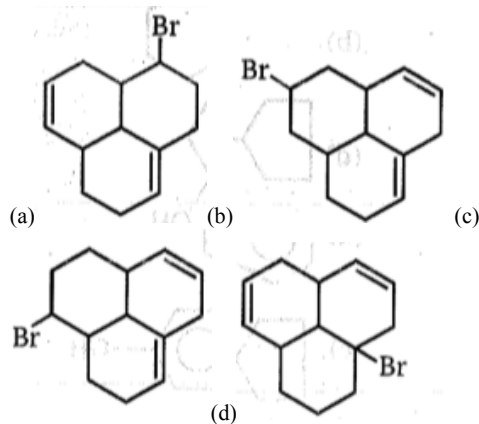
(d) none of these

15.

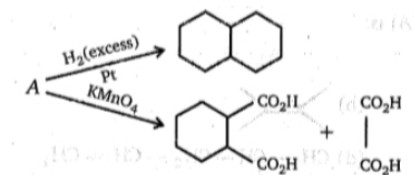
Which of the following bromides is the major product of the reaction shown below, assuming that there are no carbocation rearrangement?



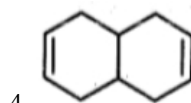
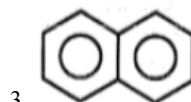
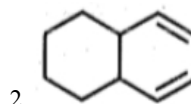
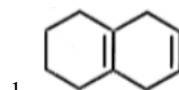
(1 equivalent)



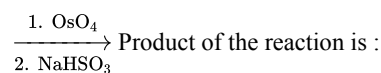
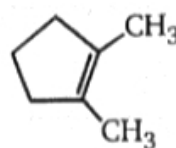
16.

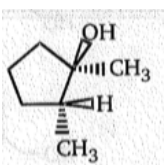
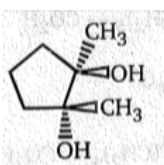
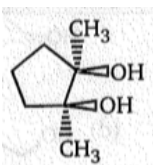
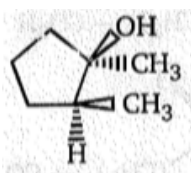


Compound (A) is :

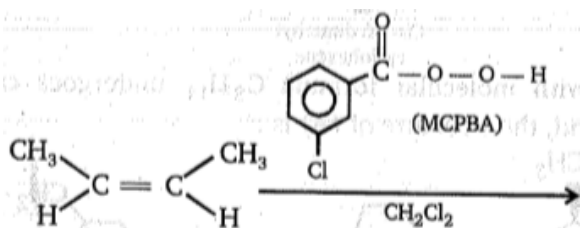


17.



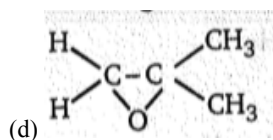
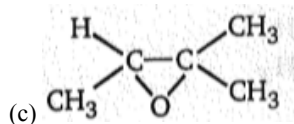
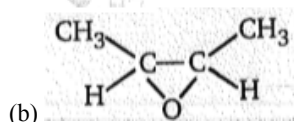
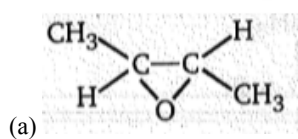


18.



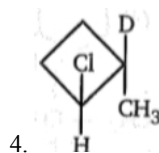
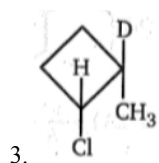
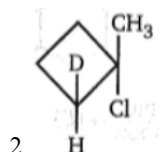
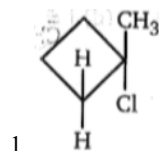
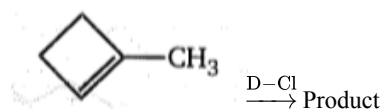
Product; Product is:

MCPBA → Metachloroperbenzoic acid

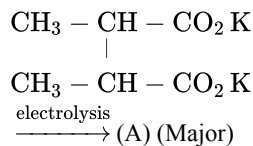


19.

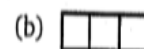
What is the major product expected from the following reaction?



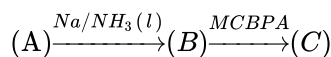
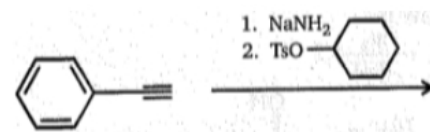
20.



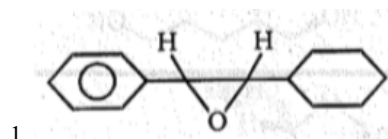
Major product (A) of the above reaction:

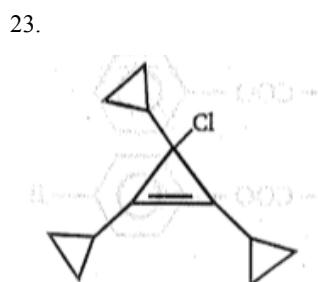
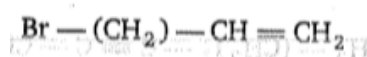
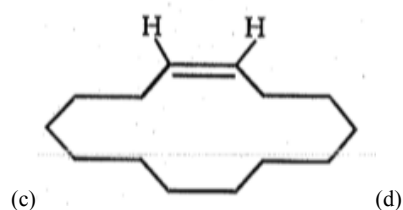
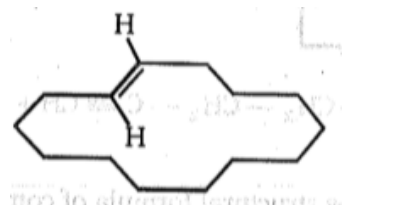
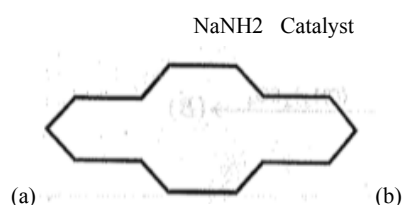
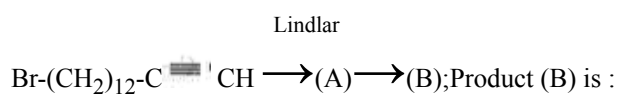
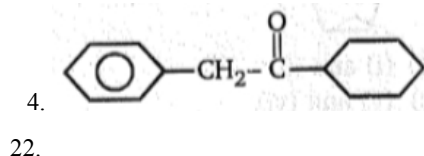
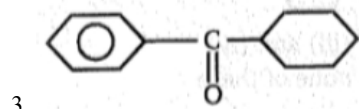
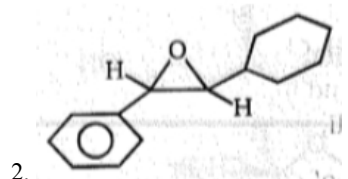


21.



Compound (C) in above sequence of reaction is:



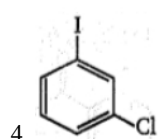
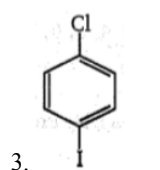
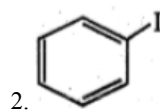
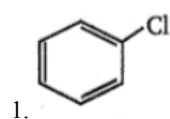
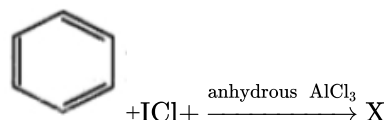


In the above compound Cl will be liberated easily in the form of:

- (a) Cl^+
(b) Cl^-
(c) Cl^0
(d) Cl^{2+}

24.

The compound X in the reaction.

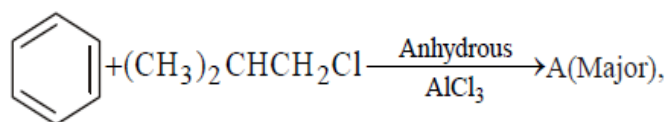


25.

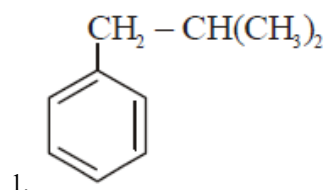
Benzene reacts with CH_3Cl in the presence of anhydrous AlCl_3 to form.

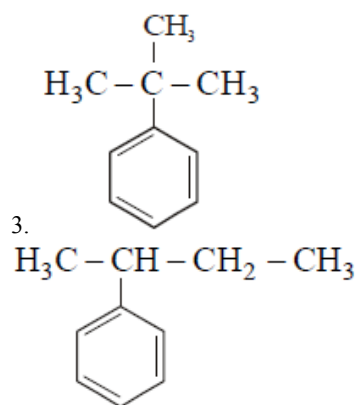
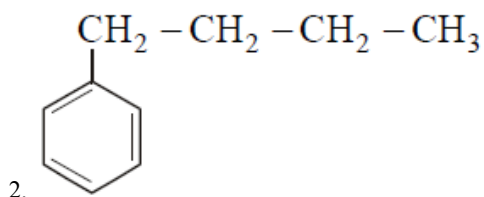
- (a) toluene
(b) chlorobenzene
(c) benzylchloride
(d) xylene

26.

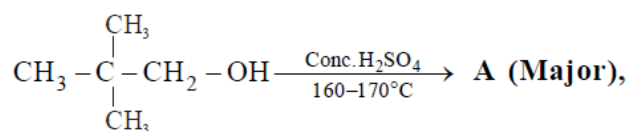


the compound 'A' is

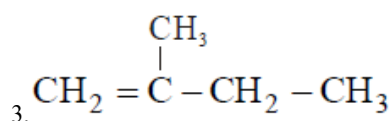
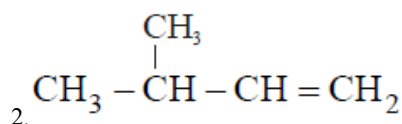
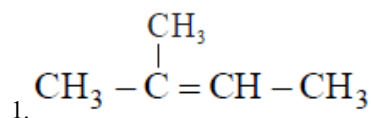




27.

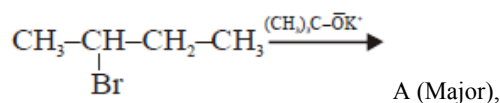


the compound 'A' is

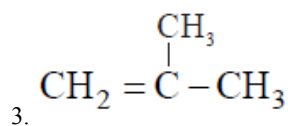
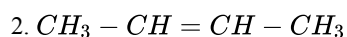
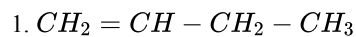


4. No Reaction

28.



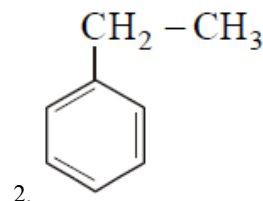
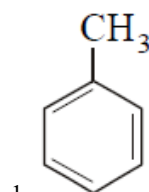
the compound 'A' is



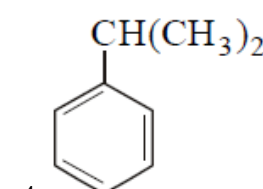
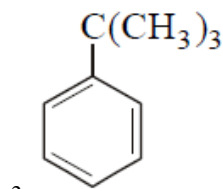
4. No Reaction

29.

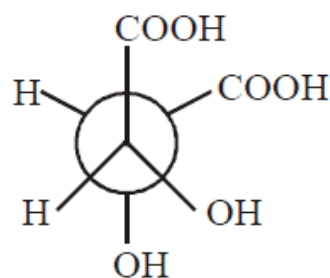
Which compound is most reactive towards electrophilic substitution reaction?



4.



30.



has the configuration

1. R,R

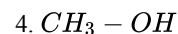
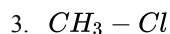
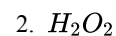
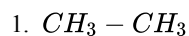
2. S,S

3. R,S

4. May be (1) or (2)

31.

Which compound cannot show conformational isomerism?



32.

Total number of optical isomers obtained after monohalogenation of 3-Methyl pentane are:

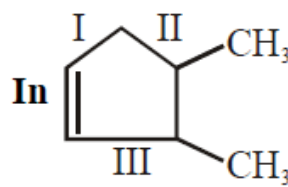
1. 2

2. 4

3. 6

4. 8

33.



will be

1. I>II>III

2. II>III>I

3. III>II>I

4. II>I>III

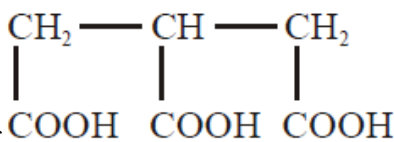
34.



The IUPAC name of is

1. Bicyclo [0,1,2] pentane
2. Bicyclo [2,1,0] hexane
3. Bicyclo [2,1,0] pentane
4. Bicyclo [2,2,1] pentane

35.



The IUPAC name of is

1. 3-Carboxy Pentan-1,5- dioic acid
2. Propane- 1,2,3- tricarboxylic acid
3. 1,2,3- tricarboxylic propane
4. All of these

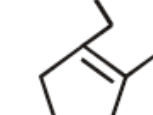
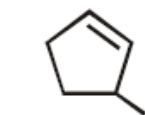
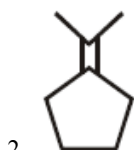
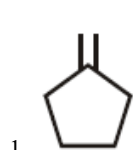
36.

Which conformational form of 2-Fluoro ethanol is most stable?

1. Anti
2. Partially eclipsed
3. Full eclipsed
4. Gauche

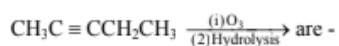
37.

Which alkene has smallest heat of hydrogenation?



38.

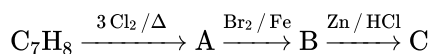
Products of the following reaction :



1. $\text{CH}_3\text{COOH} + \text{CH}_3\text{COCH}_3$
2. $\text{CH}_3\text{COOH} + \text{HOOC} \cdot \text{CH}_2\text{CH}_3$
3. $\text{CH}_3\text{CHO} + \text{CH}_3\text{CH}_2\text{CHO}$
4. $\text{CH}_3\text{COOH} + \text{CO}_2$

39.

In the following reaction:



The end product is

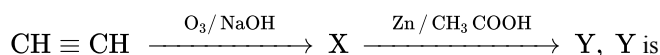
1. m-bromotoluene
2. o-bromotoluene
3. 3-bromo-2, 4, 6-trichlorotoluene
4. p-bromotoluene

40.

Reaction of alkene and peracid gives oxyrane. This reaction is named as-

- (A) Peroxydation
- (B) Oxidation
- (C) epoxydation
- (D) None

41.



1. $\begin{array}{c} \text{CH}_2\text{OH} \\ | \\ \text{CH}_2\text{OH} \end{array}$
2. $\text{CH}_3\text{CH}_2\text{OH}$
3. CH_3COOH
4. CH_3OH

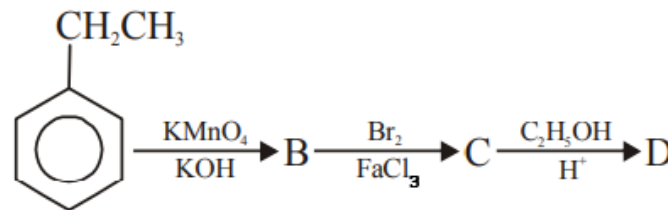
42.

Ozonolysis of 2,3-dimethylbut-1-ene followed by reduction with zinc and water gives

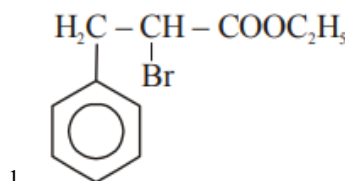
1. methanoic acid and 3-methyl-2-butanone
2. methanal and 3-methyl-2-butanone
3. methanal and 2-methyl-3-butanone
4. methanoic acid and 2-methyl-3-butanone

43.

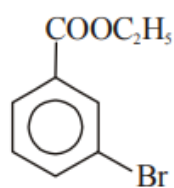
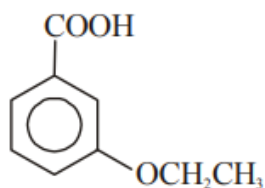
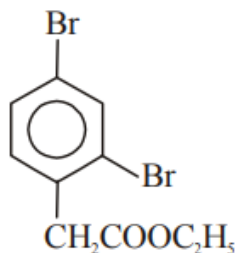
In a set of reactions ethyl benzene yield a product D.



D would be

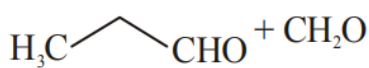
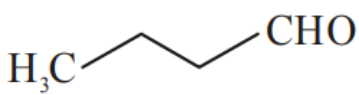
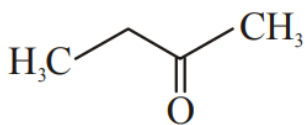


[Fill OMR Sheet](#)



44.

The product (s) obtained via oxymercuration-demercuration of butyne would be



45.

