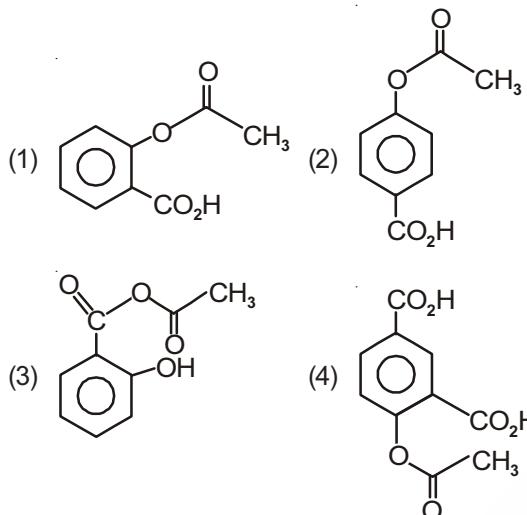


Alcohols, Phenols and Ethers

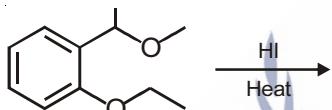
1. The major product obtained on interaction of phenol with sodium hydroxide and carbon dioxide is:
[AIEEE-2009]
- (1) Salicylaldehyde (2) Salicylic acid
 (3) Phthalic acid (4) Benzoic acid
2. From amongst the following alcohols the one that would react fastest with conc. HCl and anhydrous $ZnCl_2$, is
[AIEEE-2010]
- (1) 1-Butanol (2) 2-Butanol
 (3) 2-Methylpropan-2-ol (4) 2-Methylpropanol
3. The correct order of acid strength of the following compounds is
[AIEEE-2011]
- A. Phenol
 B. p-Cresol
 C. m-Nitrophenol
 D. p-Nitrophenol
 (1) A > B > D > C (2) C > B > A > D
 (3) D > C > A > B (4) B > D > A > C
4. Consider the following reaction
 $C_2H_5OH + H_2SO_4 \rightarrow$ Product
 Among the following, which one cannot be formed as a product under any conditions? **[AIEEE-2011]**
- (1) Diethyl ether
 (2) Ethyl-hydrogen sulphate
 (3) Ethylene
 (4) Acetylene
5. Arrange the following compounds in order of decreasing acidity
[JEE (Main)-2013]
- (I)
 (II)
 (III)
 (IV)
- (1) II > IV > I > III (2) I > II > III > IV
 (3) III > I > II > IV (4) IV > III > I > II
6. An unknown alcohol is treated with the "Lucas reagent" to determine whether the alcohol is primary, secondary or tertiary. Which alcohol reacts fastest and by what mechanism?
[JEE (Main)-2013]
- (1) Secondary alcohol by S_N1
 (2) Tertiary alcohol by S_N1
 (3) Secondary alcohol by S_N2
 (4) Tertiary alcohol by S_N2
7. Sodium phenoxide when heated with CO_2 under pressure at $125^\circ C$ yields a product which on acetylation produces C.
-
- The major product C would be **[JEE (Main)-2014]**
- (1)
 (2)
 (3)
 (4)
8. The correct sequence of reagents for the following conversion will be
[JEE (Main)-2017]
-
- (1) CH_3MgBr , $[Ag(NH_3)_2]^+OH^-$, H^+/CH_3OH
 (2) $[Ag(NH_3)_2]^+OH^-$, CH_3MgBr , H^+/CH_3OH
 (3) $[Ag(NH_3)_2]^+OH^-$, H^+/CH_3OH , CH_3MgBr
 (4) CH_3MgBr , H^+/CH_3OH , $[Ag(NH_3)_2]^+OH^-$

9. Phenol on treatment with CO_2 in the presence of NaOH followed by acidification produces compound X as the major product. X on treatment with $(\text{CH}_3\text{CO})_2\text{O}$ in the presence of catalytic amount of H_2SO_4 produces

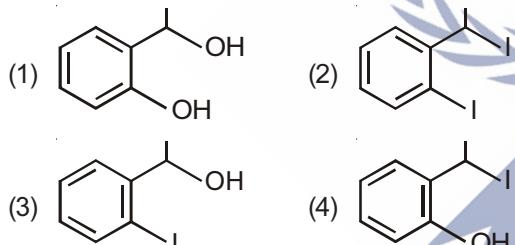
[JEE (Main)-2018]



10. The major product formed in the following reaction is

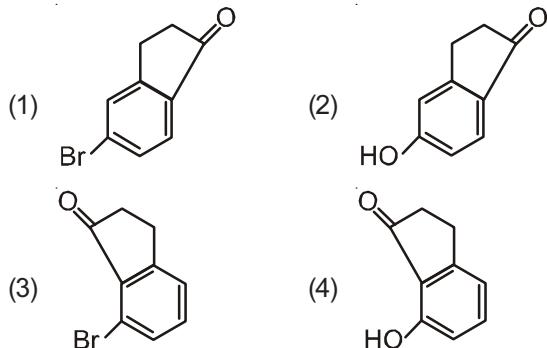
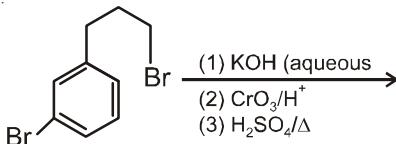


[JEE (Main)-2018]



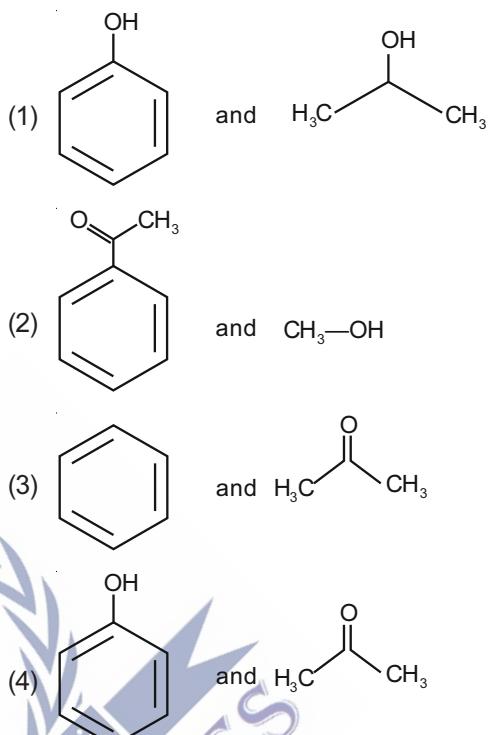
11. The major product of the following reaction is

[JEE (Main)-2019]



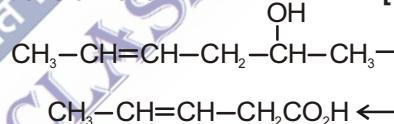
12. The products formed in the reaction of cumene with O_2 followed by treatment with dil. HCl are

[JEE (Main)-2019]



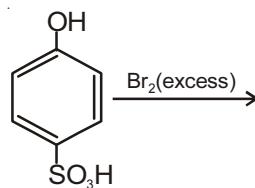
13. Which is the most suitable reagent for the following transformation?

[JEE (Main)-2019]

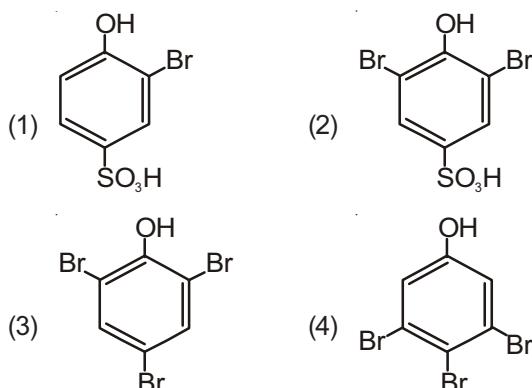


- (1) I_2/NaOH (2) Alkaline KMnO_4
 (3) Tollen's reagent (4) $\text{CrO}_2\text{Cl}_2/\text{CS}_2$

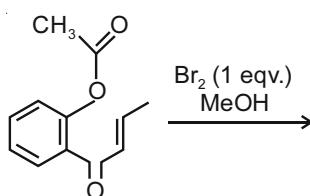
14. The major product of the following reaction is



[JEE (Main)-2019]



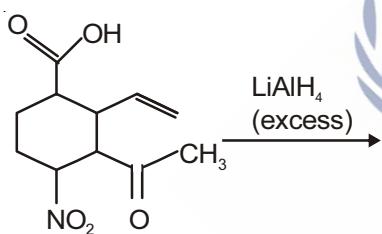
15. The major product obtained in the following conversion is



[JEE (Main)-2019]

- (1) (2) (3) (4)

16. The major product obtained in the following reaction is



[JEE (Main)-2019]

- (1) (2) (3) (4)

17. $\text{CH}_3\text{CH}_2 - \underset{\text{Ph}}{\overset{\text{OH}}{\underset{\mid}{\text{C}}}} - \text{CH}_3$ cannot be prepared by

[JEE (Main)-2019]

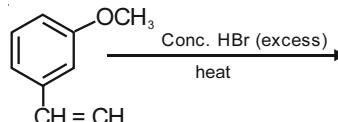
- (1) $\text{PhCOCH}_2\text{CH}_3 + \text{CH}_3\text{MgX}$

- (2) $\text{CH}_3\text{CH}_2\text{COCH}_3 + \text{PhMgX}$

- (3) $\text{HCHO} + \text{PhCH}(\text{CH}_3)\text{CH}_2\text{MgX}$

- (4) $\text{PhCOCH}_3 + \text{CH}_3\text{CH}_2\text{MgX}$

18. The major product of the following reaction is



[JEE (Main)-2019]

- (1) (2) (3) (4)

19. The organic compound that gives following qualitative analysis is

Test	Inference
(a) Dil. HCl	Insoluble
(b) NaOH solution	Soluble
(c) Br_2/water	Decolourization

[JEE (Main)-2019]

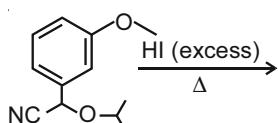
- (1) (2) (3) (4)

20. p-Hydroxybenzophenone upon reaction with bromine in carbon tetrachloride gives

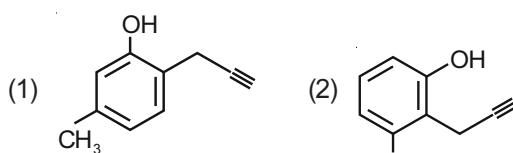
[JEE (Main)-2019]

- (1) (2) (3) (4)

21. The major product of the following reaction is :

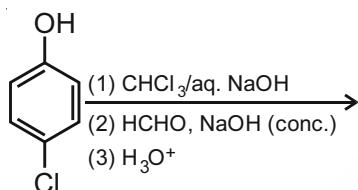


[JEE (Main)-2019]



- (1)
 (2)
 (3)
 (4)

22. The major products of the following reaction are :

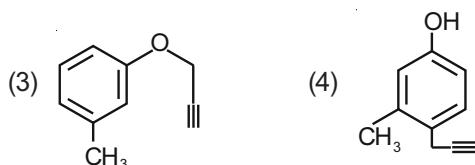


[JEE (Main)-2019]

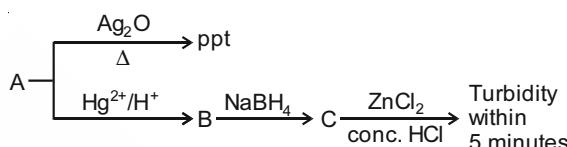
- (1)
 and Methanol
 (2)
 and Formic acid
 (3)
 and Formic acid
 (4)
 and Methanol

23. What will be the major product when m-cresol is reacted with propargyl bromide ($\text{HC} \equiv \text{C}-\text{CH}_2\text{Br}$) in presence of K_2CO_3 in acetone?

[JEE (Main)-2019]



24. Consider the following reactions :



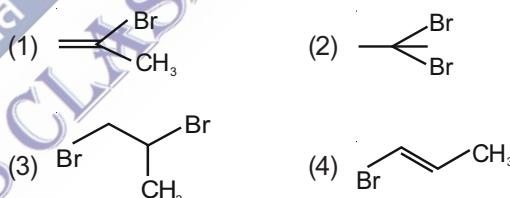
'A' is

[JEE (Main)-2019]

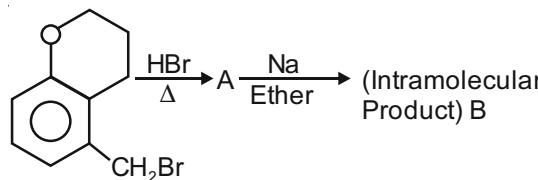
- (1) $\text{CH}_3-\text{C}\equiv\text{CH}$
 (2) $\text{CH}_3-\text{C}\equiv\text{C}-\text{CH}_3$
 (3) $\text{CH}_2=\text{CH}_2$
 (4) $\text{CH}\equiv\text{CH}$

25. 1-methylethylene oxide when treated with an excess of HBr produces:

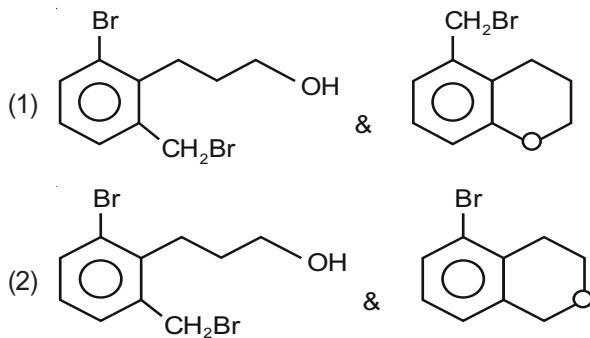
[JEE (Main)-2020]

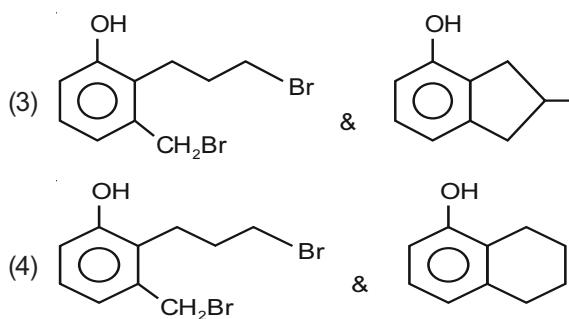


26. In the following reaction sequence, structures of A and B, respectively will be

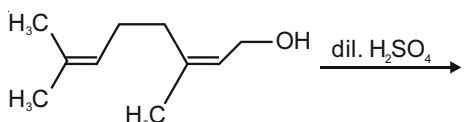


[JEE (Main)-2020]

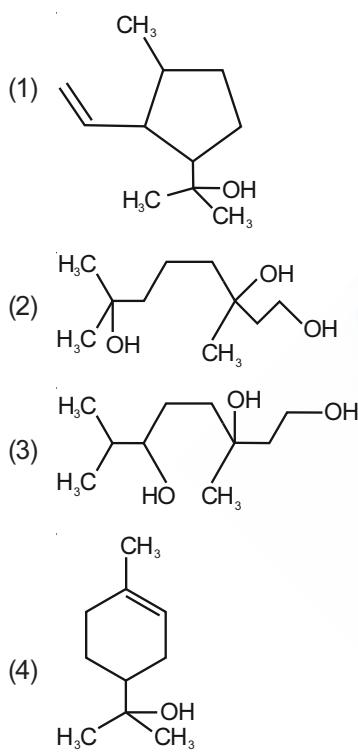




27. The major product of the following reaction is

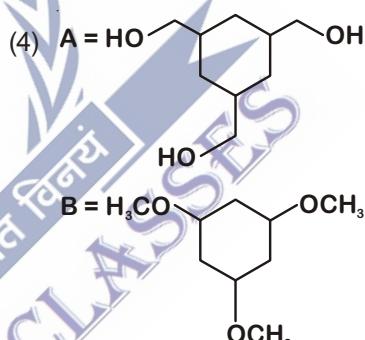
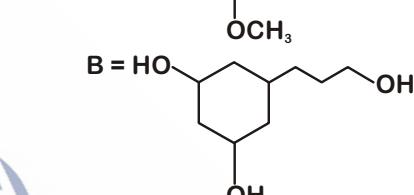
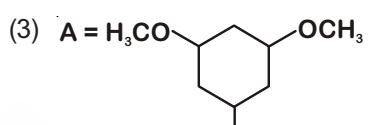
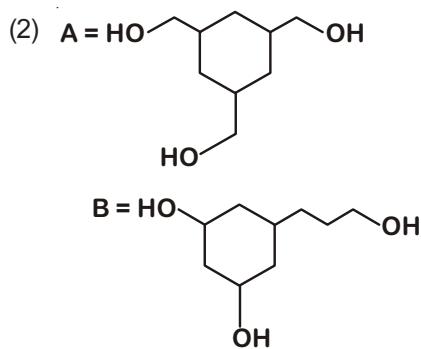
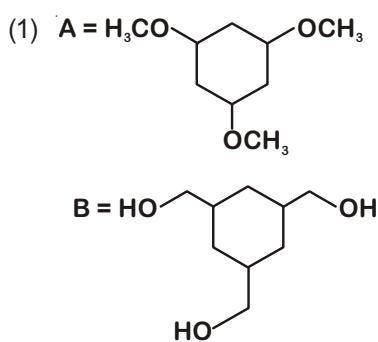


[JEE (Main)-2020]

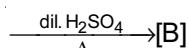
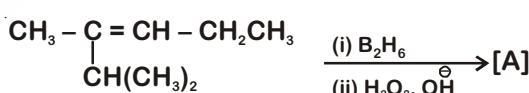


28. Among the compounds A and B with molecular formula $C_9H_{18}O_3$, A is having higher boiling point than B. The possible structures of A and B are

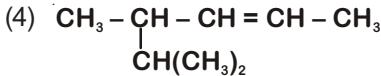
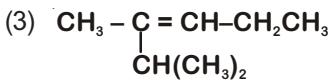
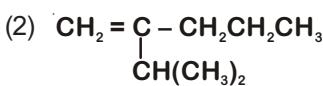
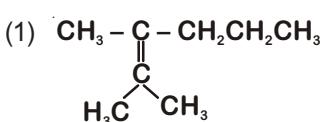
[JEE (Main)-2020]



29. The major product [B] in the following sequence of reactions is



[JEE (Main)-2020]

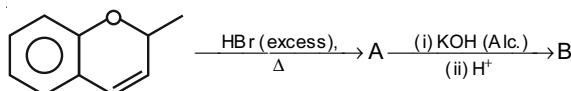


30. Preparation of Bakelite proceeds via reactions

[JEE (Main)-2020]

- (1) Electrophilic substitution and dehydration
- (2) Electrophilic addition and dehydration
- (3) Nucleophilic addition and dehydration
- (4) Condensation and elimination

31. The major aromatic product C in the following reaction sequence will be



[JEE (Main)-2020]

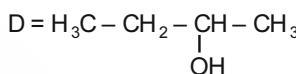
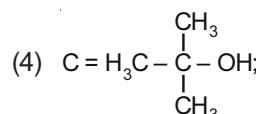
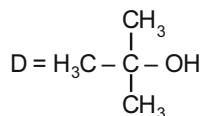
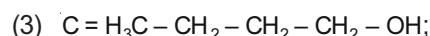
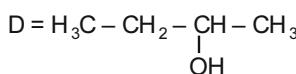
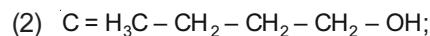
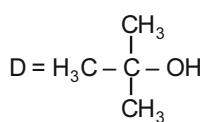
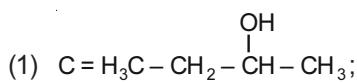
- (1)
- (2)
- (3)
- (4)

32. Two compounds A and B with same molecular formula (C_3H_6O) undergo Grignard's reaction with methylmagnesium bromide to give products C and D. Products C and D show following chemical tests.

Test	C	D
Ceric ammonium nitrate Test	Positive	Positive
Lucas Test	Turbidity obtained after five minutes	Turbidity obtained immediately
Iodoform Test	Positive	Negative

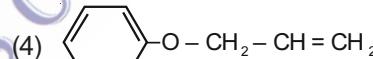
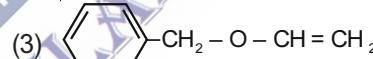
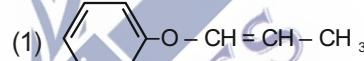
C and D respectively are

[JEE (Main)-2020]

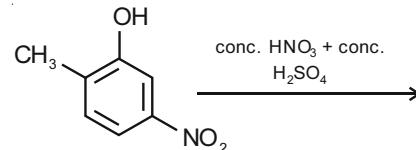


33. An organic compound 'A' ($C_9H_{10}O$) when treated with conc. HI undergoes cleavage to yield compounds 'B' and 'C'. 'B' gives yellow precipitate with $AgNO_3$ where as 'C' tautomerizes to 'D'. 'D' gives positive iodoform test. 'A' could be

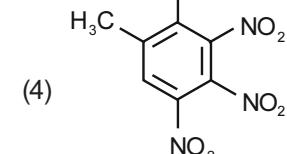
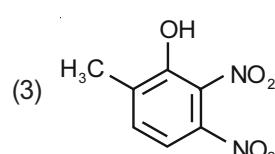
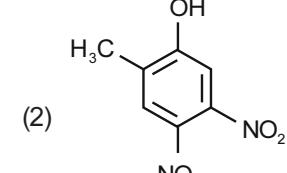
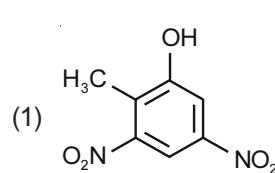
[JEE (Main)-2020]



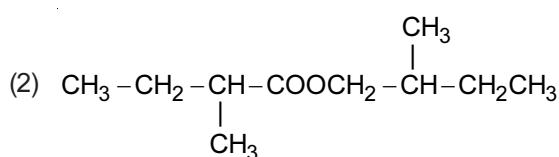
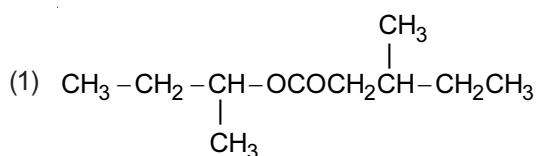
34. The major product of the following reaction is:



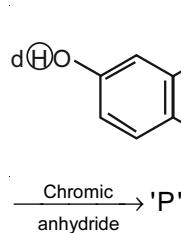
[JEE (Main)-2020]



35. An organic compound [A], molecular formula $C_{10}H_{20}O_2$ was hydrolyzed with dilute sulphuric acid to give a carboxylic acid [B] and an alcohol [C]. Oxidation of [C] with $CrO_3 - H_2SO_4$ produced [B]. Which of the following structures are not possible for [A]? [JEE (Main)-2020]



36. Consider the following reaction :

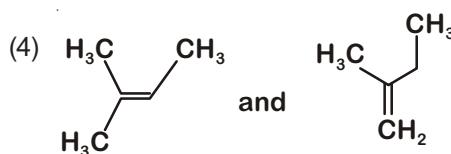
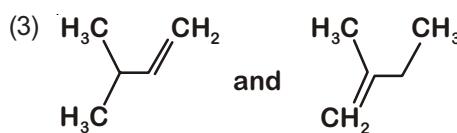
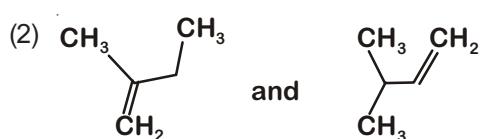
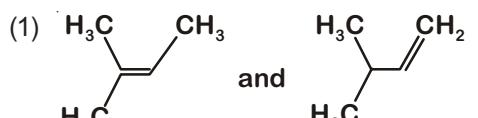


The product 'P' gives positive ceric ammonium nitrate test. This is because of the presence of which of these $-OH$ group(s)? [JEE (Main)-2020]

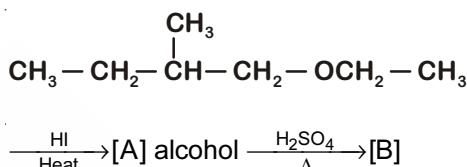
- (1) (d) only
(2) (c) and (d)
(3) (b) only
(4) (b) and (d)

37. When neopentyl alcohol is heated with an acid, it slowly converted into an 85 : 15 mixture of alkenes A and B, respectively. What are these alkenes?

[JEE (Main)-2020]



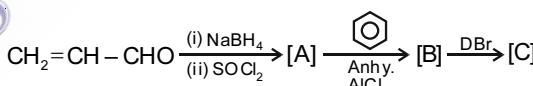
38. The major product [B] in the following reactions is



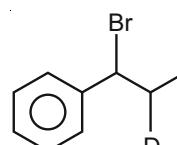
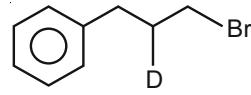
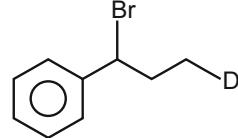
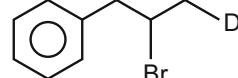
[JEE (Main)-2020]

- (1) $CH_3 - CH_2 - CH = CH - CH_3$
(2) $CH_3 - CH_2 - \begin{array}{c} CH_3 \\ | \\ C = CH_2 \end{array}$
(3) $CH_3 - CH = \begin{array}{c} CH_3 \\ | \\ C - CH_3 \end{array}$
(4) $CH_2 = CH_2$

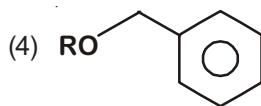
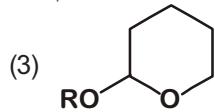
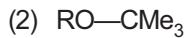
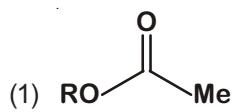
39. The major product [C] of the following reaction sequence will be



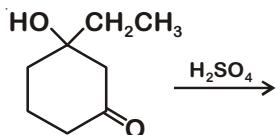
[JEE (Main)-2020]

- (1) 
(2) 
(3) 
(4) 

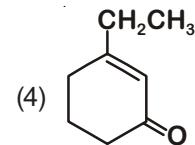
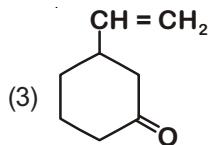
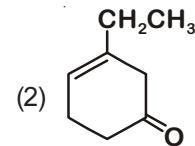
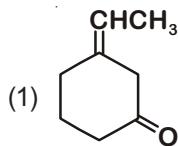
40. Which of the following derivatives of alcohols is unstable in an aqueous base? [JEE (Main)-2020]



41. The major product of the following reaction is



[JEE (Main)-2020]



42. A solution of phenol in chloroform when treated with aqueous NaOH gives compound P as a major product. The mass percentage of carbon in P is _____. (to the nearest integer)

(Atomic mass : C = 12; H = 1; O = 16)

[JEE (Main)-2020]

