

CHEMISTRY

1. A

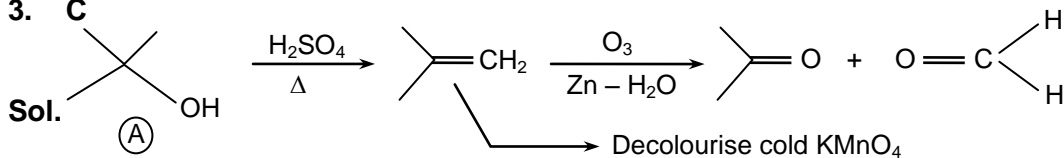
Sol. 2nd step is oxidative ozonolysis which give acid.

2. C

Sol. Heat of hydrogenation $\propto \frac{1}{\text{hyperconjugation}}$

Heat of hydrogenation of cis > trans.

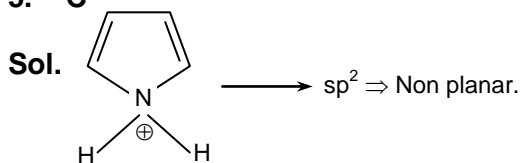
3. C



resist oxidation

4. C

5. C



6. C

7. C

8. B

Sol. It has 3 acidic hydrogen & will produce 1.5 mol H₂

9. B

10. C

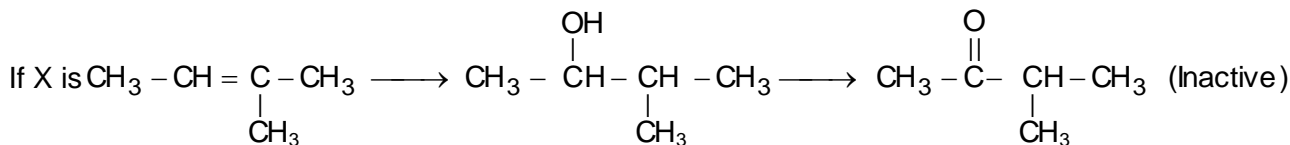
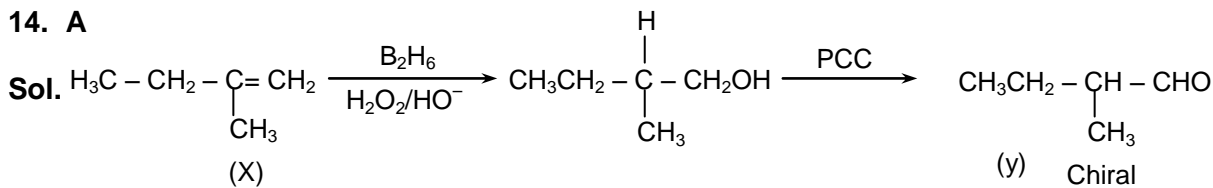
11. B

Sol. Electron withdrawing gp on substrate is excellent substrate for SN²

12. A

13. A

14. A



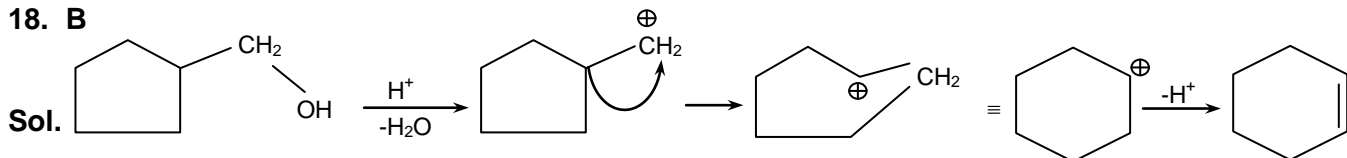
15. B

Sol. sp² hybridisation is very less stable at bridgehead carbon of a bicyclic compound.

16. A

17. A

18. B

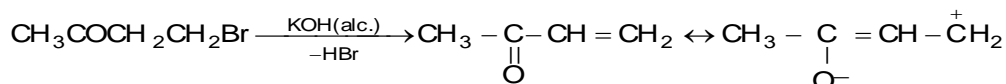


19. C

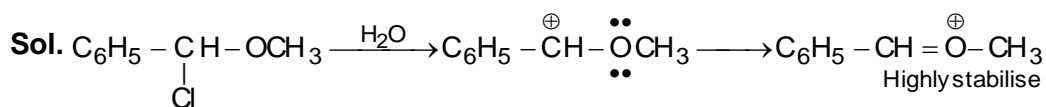
Sol. It is 3° alcohol that gives 3° carbocation which is easily formed.

20. B

Sol. In CH₃COCH₂CH₂Br, the α-hydrogen is more acidic due to electron-withdrawing effect of the C = O group, therefore, it can be easily abstracted by a base. Further, the product formed is stabilized by resonance due to conjugation of the double bond with the C = O group. Thus CH₃COCH₂CH₂Br is most reactive towards alcoholic KOH



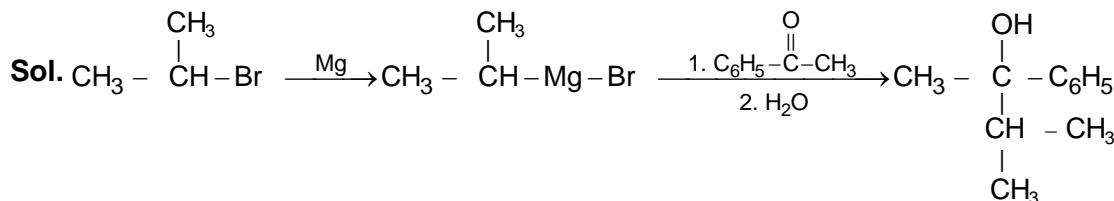
21. A



22. D

Sol. Carbocation rearrangement as Benzylic carbocation is more stable

23. A



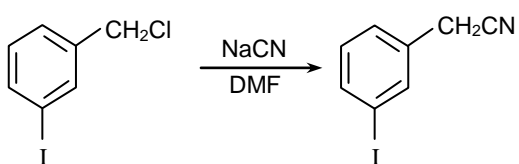
24. B

25. A

26. B

27. D

Sol. Alkyl halides are more reactive than aryl halides, therefore, only the halogen in the side chain is displaced.



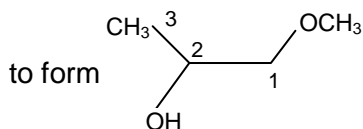
28. D

Sol. It is S_N2 & aprotic polar solvent will favour.

29. B

30. A

Sol. It is S_N2 attack of CH_3O^- , on less hindered side



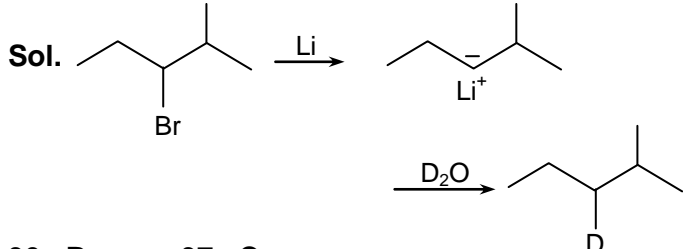
31. B

32. C

33. C

34. A

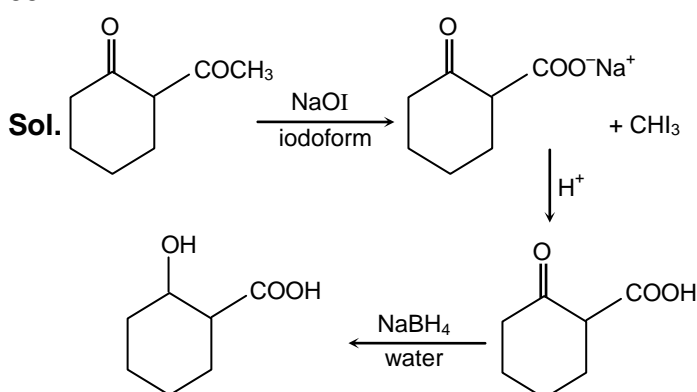
35. B



36. B

37. C

38. A



39. C

40. D

Sol. $NaBH_4$ will not reduce double bond

41. B

Sol. A = CH_3CN ; B = CH_3COOH ; C = CH_3CH_2OH

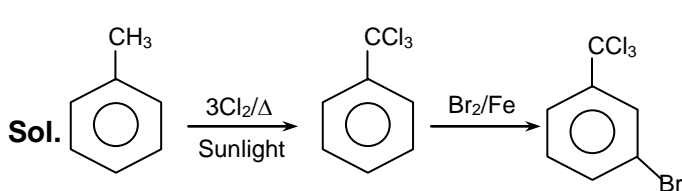
42. A

43. A

Sol. X is cis and Br_2 has anti-attack. The product has to be a racemic mixture

Y is trans and anti-attack of Br_2 gives meso compound i.e., C and D are same compound

44. B



45. C