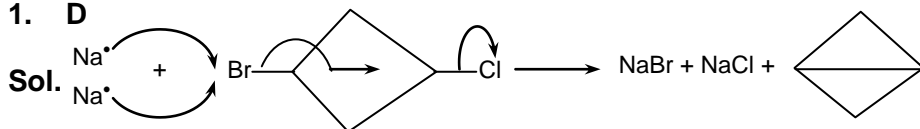


+2

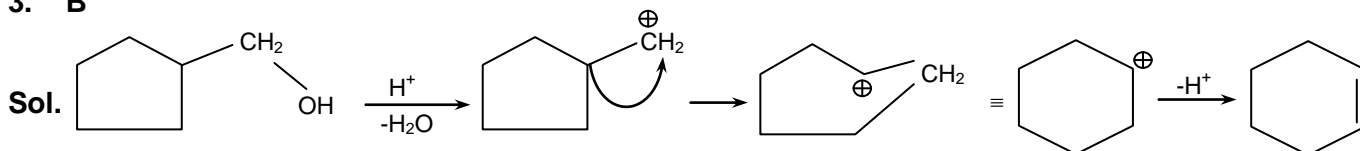
PCB TEST – 1 (31.08.2019) Answer Key

1. D



2. A

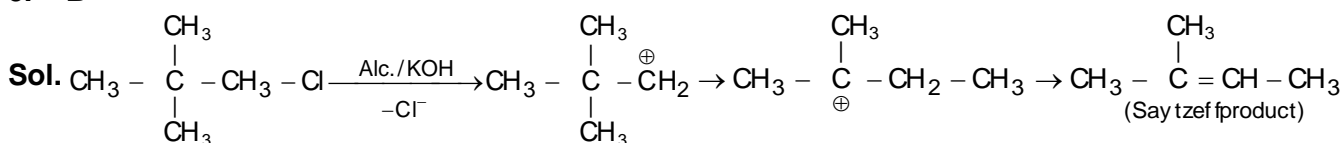
3. B



4. D

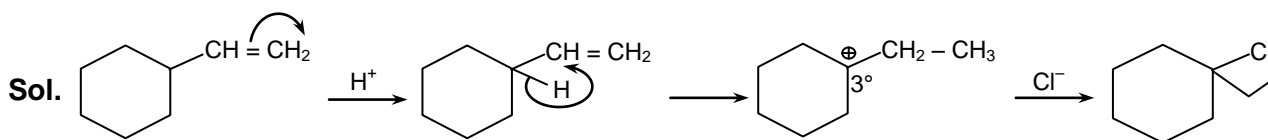
Sol. In choice (d) allene two $\begin{matrix} H \\ | \\ C \\ | \\ H \end{matrix}$ sets are in two different planes perpendicular to each other

5. B



6. A

7. C



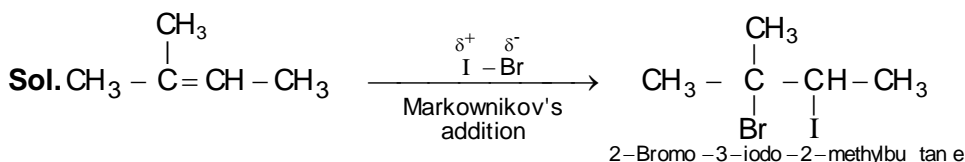
8. Cancelled

9. B

Sol. abd C – C abd has three stereoisomeric forms, i.e., d-form, l-form and meso-form but (only two of these, i.e., d- and l-forms are optically active.

10. A

11. C



12. C

13. A

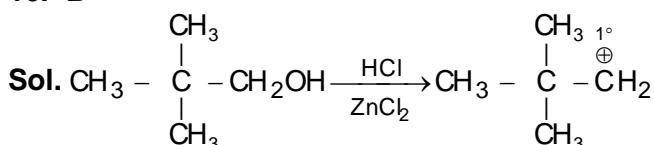
Sol. The presence of an electron withdrawing group (-NO₂) at ortho and para-positions increases the reactivity of haloarenes towards nucleophilic substitution reaction.

14. A

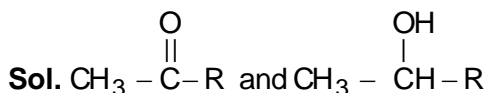
15. B

Sol. Presence of pyridine causes Walden inversion S_N2 mechanism. Absence of pyridine will give it S_N1 mechanism.

16. B

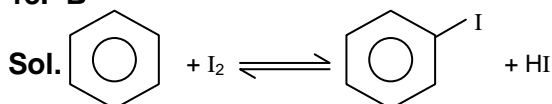


17. D

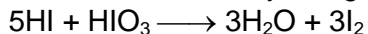


produce yellow coloured iodoform on reaction with I_2/NaOH

18. B



The removal of HI by using HIO_3 or HNO_3 or HgO makes the reaction forward.



19. C

20. D

21. B

22. C

23. A

24. A

25. B

26. D

27. D

Sol. For the same halogen, smaller the size of the alkyl group, weaker the van der Waals forces of attraction and hence lower is the b.p. Therefore, option

28. A

29. A

30. B

Sol. In $\text{CH}_3\overset{\alpha}{\text{C}}\text{OCH}_2\text{CH}_2\text{Br}$, the α -hydrogen is more acidic due to electron-withdrawing effect of the $\text{C}=\text{O}$ 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 $\text{C}=\text{O}$ group. Thus $\text{CH}_3\text{COCH}_2\text{CH}_2\text{Br}$ is most reactive towards alcoholic KOH

31. D

Sol. Carbocation rearrangement as Benzylic carbocation is more stable

32. C

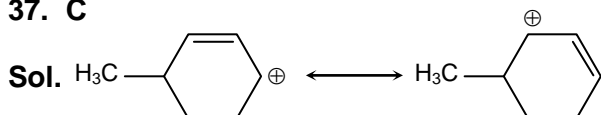
33. B

34. A

35. A

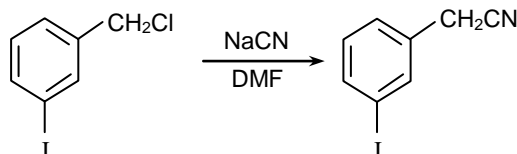
36. D

37. C



38. D

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

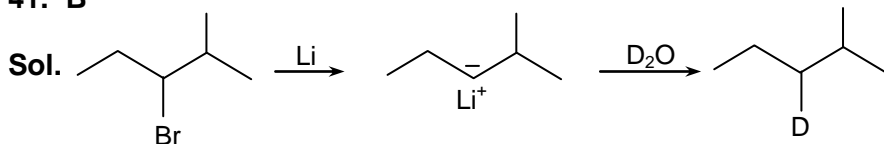


39. D

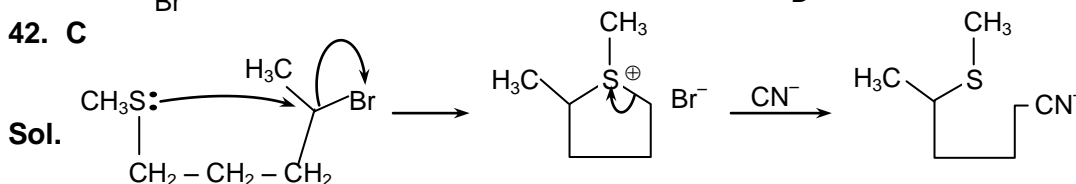
Sol. It is $\text{S}_{\text{N}}2$ & aprotic polar solvent will favour.

40. C

41. B



42. C



43. A

44. A

45. A

