

Write short notes on ortho, para directors in aromatic electrophilic substitution reactions.

33. How is propyne prepared from an alkyene dihalide ?
34. An alkylhalide with molecular formula $C_6H_{13}Br$ on dehydro halogenation gave two isomeric alkenes X and Y with molecular formula C_6H_{12} . On reductive ozonolysis, X and Y gave four compounds CH_3COCH_3 , CH_3CHO , CH_3CH_2CHO and $(CH_3)_2CHCHO$. Find the alkylhalide.
35. Describe the mechanism of Nitration of benzene.
36. How does Huckel rule help to decide the aromatic character of a compound.
37. Suggest the route for the preparation of the following from benzene.
- 1) 3 - chloro nitrobenzene
 - 2) 4 - chlorotoluene
 - 3) Bromo benzene
 - 4) m - dinitro benzene
38. Suggest a simple chemical test to distinguish propane and propene.
39. What happens when isobutylene is treated with acidified potassium permanganate ?
40. How will you convert ethyl chloride in to
- i) ethane
 - ii) n - butane
41. Describe the conformers of n - butane.
42. Write the chemical equations for combustion of propane.
43. Explain Markow nikoff's rule with suitable example.
44. What happens when ethylene is passed through cold dilute alkaline potassium permanganate.
45. Write the structures of folowing alkanes.
- 1) 2, 3 - Dimethyl - 6 - (2 - methyl propyl) decane
 - 2) 5 - (2 - Ethyl butyl) - 3, 3 - dimethyldecane
 - 3) 5 - (1, 2 - Dimethyl propyl) - 2 - methylnonane
46. How will you prepare propane from a sodium salt of fatty acid ?
47. $CH_3 - CH(CH_3) - CH(OH) - CH_3$
- $\downarrow$ $H^+/heat$
- (A) major product $\xrightarrow{HBr}$ (B) major product
- Identify A and B
48. Complete the following :
- i) 2 - butyne $\xrightarrow{\text{Lindlar Catalyst}}$
 - ii) $CH_2 = CH_2 \xrightarrow{I_2}$
 - iii) $CH_2 - CH_2 \xrightarrow{Zn/C_2H_5OH}$
- $\begin{array}{cc} | & | \\ Br & Br \end{array}$
- iv) $CaC_2 \xrightarrow{H_2O}$
49. How will you distinguish 1 - butyne and 2 - butyne?