How are the following conversions carried out?

(i) Propene → Propan-2-ol

Benzyl chloride → Benzyl alcohol

(iii) Ethyl magnesium chloride \rightarrow Propan-1-ol.



(iv) Methyl magnesium bromide \rightarrow 2-Methylpropan-2-ol.

Answer

(i) If propene is allowed to react with water in the presence of an acid as a catalyst, then propan-2-ol is obtained.

$$CH_3 - CH = CH_2 + H_2O \rightleftharpoons H^+ CH_3 - CH - CH_3$$

|
OH
Propene Propan - 2 - ol

(ii) If benzyl chloride is treated with NaOH (followed by acidification) then benzyl alcohol is produced.



Benzyl chloride

Benzyl alcohol

(iii) When ethyl magnesium chloride is treated with methanal, an adduct is the produced which gives propan-1-ol on hydrolysis.



(iv) When methyl magnesium bromide is treated with propane, an adduct is the product which gives 2-methylpropane-2-ol on hydrolysis.

