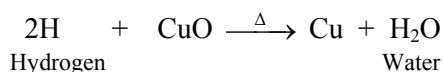
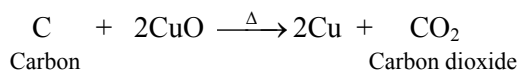


12 Basic Principles and Techniques in Organic Chemistry

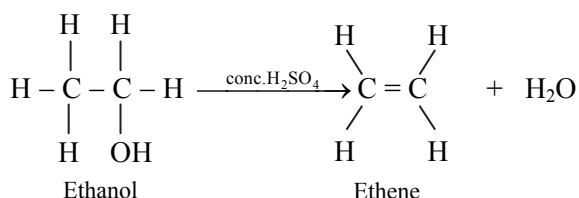
- When organic compound 'A' containing carbon and hydrogen is heated with dry cupric oxide (CuO) in a tube, carbon is oxidised to carbon dioxide and hydrogen is oxidised to H₂O.



When the organic compound 'A' is heated with Na₂O₂, followed by boiling with HNO₃ and ammonium molybdate gives yellow precipitate, this confirms the presence of phosphorus.

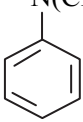
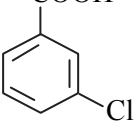
Thus, the elements present in compound 'A' are C, H and P.

- When one molecule is split into two fragment molecules, the reaction is known as an elimination reaction.



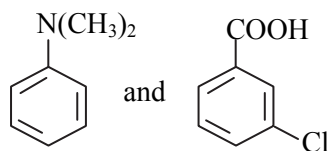
In dehydration of ethanol, ethene is formed along with the elimination of H₂O. Hence, it is an example of elimination reaction.

- Fractionating columns are used to separate the components of liquid mixture having small difference in their boiling points (less than 30 K) more efficiently. The difference in boiling points of liquid A and liquid C is less than 30 K and so, a fractionating column is required for their separation.
- In Lassaigne's test, blue colouration/precipitate indicates presence of nitrogen and white precipitate indicates presence of chlorine.

Compound	Lassaigne's test result for nitrogen	Compound	Lassaigne's test result for chlorine
NH ₂ CH ₂ COOH	N and C present, so test is positive.	NH ₂ CONH ₂	Cl is absent, so test is negative.
	N and C present, so test is positive.		Cl is present, so test is positive.
CH ₃ COOH	N is absent, so test is negative.	ClCH ₂ COOH	Cl is present, so test is positive.
CH ₃ CH ₂ NH ₂	N and C present, so test is positive.	CH ₃ CH ₂ I	Cl is absent, so test is negative.



Thus, the correct pair of compounds which gives blue colouration/precipitate and white precipitate, respectively, when their Lassaigne's tests are separately done is:



5. Molecular mass of AgBr = $108 + 80$
= 188

Mass of Br in 188 g of AgBr = 80 g

\therefore Mass of Br in 0.188 g of AgBr = $\frac{80}{188} \times 0.188$
= 0.08 g

\therefore % of Br = $\frac{0.08}{0.4} \times 100 = 20\%$