

CHAPTER 12

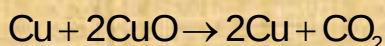
General Organic Chemistry

Qualitative analysis of organic chemistry:

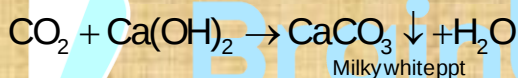
The series of tests used to detect the elements present in unknown substance is called Qualitative analysis.

Test for detection of carbon & hydrogen:

Organic compound is heated with copper (II) oxide. Carbon present in the compound is oxidised to carbon dioxide.



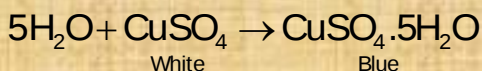
Carbon dioxide is detected by passing gas through lime water, lime water turns milky due to formation of CaCO_3 .



Hydrogen present in the compound is oxidised to water.



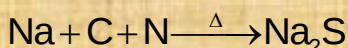
Water can be detected by anhydrous CuSO_4 . Copper sulphate turns blue due to formation of hydrate.



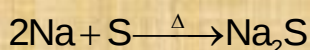
Lassaigne's test:

Organic compound is fused with sodium metal and is extracted with water. The solution is called sodium fusion extract.

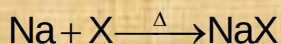
During this process, nitrogen is converted into its cyanide.



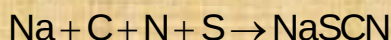
Sulphur is converted into sulphide,



Halogens are converted into halides.



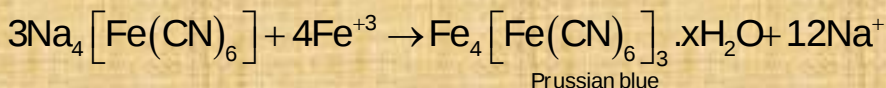
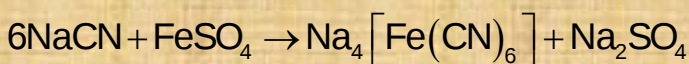
If nitrogen and Sulphur both are present, they are converted into thiocyanate.



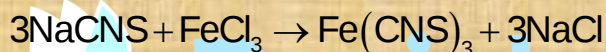
Test for nitrogen:

Sodium fusion extract is boiled with freshly prepared ferrous sulphate and solution is acidified.

Prussian blue colour confirms the presence of nitrogen.



Blood red coloration confirms presence of both Sulphur and nitrogen.



Ferric thiocyanate
(blood red colour)

