TERPENOIDS **By: Dr. Manju Kumari**

General Introduction : Originally, the term "terpene" was employed to describe a mixture of isomeric hydrocarbons of the Molecular Formula C10H16 occurring in the turpentine and many essential oils which are obtained from the sap and tissues of plants and trees. The oxygenated derivatives like alcohols, aldehydes, ketones…etc. at that time were called "camphors" The both terms "terpenes" and "camphors" were amalgamated into a single term called "terpenoids". The modern definition is as follow : "It includes hydrocarbons of plant origin of the general formula $(C_5H_8)_n$ as well as their oxygenated, hydrogenated and dehydrogenated derivatives".

1.2 General properties of Terpenoids:

PHYSICAL PROPERTIES:

(1) Most of the terpenoids are colorless liquids.

(2) They are lighter than water and boil between 150 to 180o C.

(3) A few terpenoids are solid which are lighter than water and volatile in steam.

(4) They are insoluble in water but soluble in organic solvents. Many of these are optically active.

CHEMICAL PROPERTIES: (1) They are unsaturated compound having one or more double bonds.

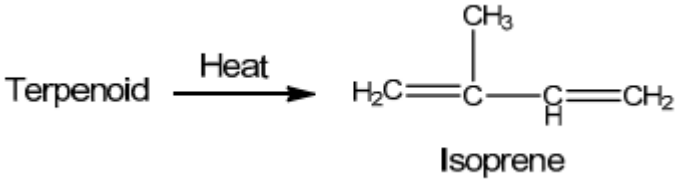
(2) Terpenoids undergo addition reaction with H2, X2, HX etc.

(3) They also form characteristic addition products with NO2, NOCl and NaOBr.

(4) They undergo polymerization, also dehydrogenation in the ring.

(5) As they have olefinic bonds, they are very easily oxidized with all the oxidizing agents.

(6) On thermal decomposition, most of the terpenoids yield isoprene as one the products.



Isoprene