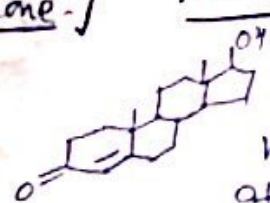


Testosterone

M.Sc. IV Sem. Nat. Products H-4016. 3rd lect by P.K. Sharma



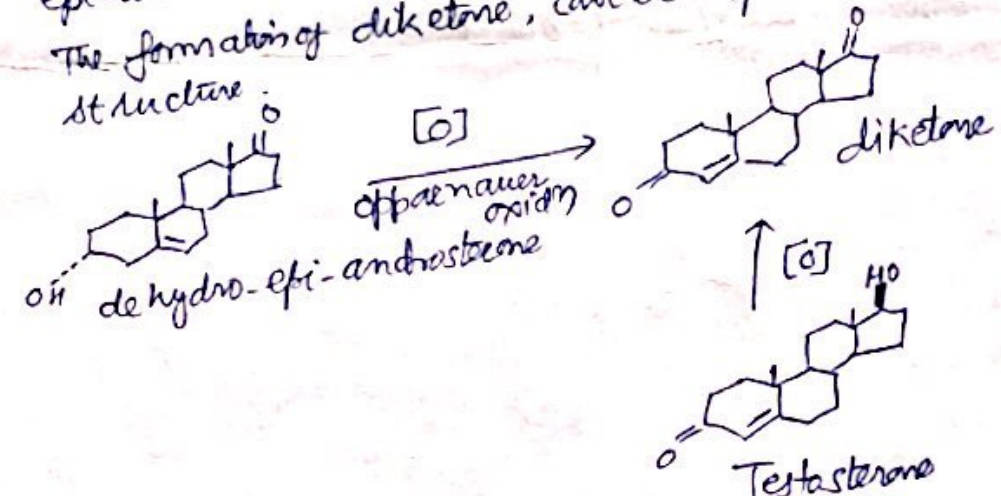
Male Sex hormone

It is the male sex hormone. Other male sex hormones are metabolic products of testosterone. It is secreted by testes in male.

Testosterone

① Molecular Formula. $C_{19}H_{28}O_2$

- ② Usual Tests of analysis suggest the presence of one double bond, a ketonic group and a hydroxyl group.
- ③ molecular formula of saturated parent hydrocarbon comes out to be $C_{19}H_{32}$ corresponding to C_nH_{2n-6} showing tetracyclic nature of the nucleus.
- ④ Hormone has been found very sensitive to alkali, showing the presence of α, β unsaturated ketonic group. $C-CH=CH-C(=O)$
- ⑤ On oxidation it gives the same diketone as obtained from dehydro-epi-androsterone, indicating the presence of androsterone nucleus. The formation of diketone, can be explained if it has following structure:



Finally the structure is confirmed by its synthesis - Ruzicka and Bodenandt 1935

