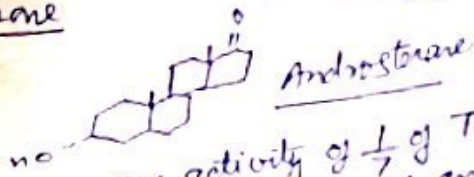
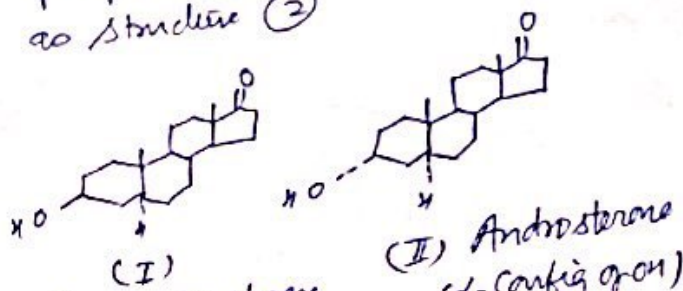


Androsterone



It approaches the activity of $\frac{1}{7}$ of Testosterone. It has been established that urine contains about 1mg of androsterone per litre of urine.

- Constitution (1) molecular formula $C_{19}H_{30}O_2$
- (2) Presence of $C=O$ group. It forms monoamine with hydroxylamine showing the presence of $C=O$ group.
 - (3) Presence of hydroxyl group. It forms monoacetate on acetylation and a diketone compound on oxidation showing the presence of OH group which is secondary alcoholic in nature.
 - (4) Nature of nucleus. on reduction, it gives a diol having mole. formula $C_{19}H_{32}O_2$, showing that androsterone molecule does not contain any double bond. molecular formula of saturated parent hydrocarbon corresponds to $C_n H_{2n+6}$ here $C_{19}H_{32}$ showing tetracyclic nature of the nucleus. Since it is a hydroxy ketone so it may be related to oestrone. Considering above facts Ruzicka proposed structure (1) which later on was corrected by Ruzicka (1932) as structure (2).



finally the structure has been proved from its synthesis given by Ruzicka (1934)

Synthesis: From cholesterol

