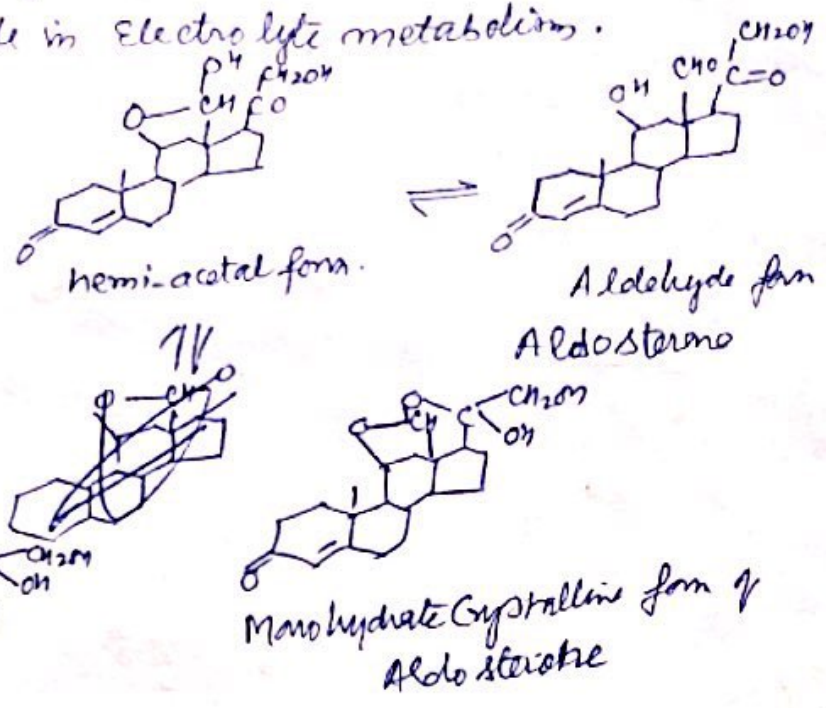


Aldosterone M.Sc. IV Sem. Natural Products H-4016 by P.K. Sharma
 Corticoid (13)

It is an important constituent of adrenocortical hormones (Group). It is a mineralocorticoid which was first isolated in crystalline form by Mason et al. in 1953. Only 45 mg of hormone was obtained from 939 Kg of gland. This hormone plays an important role in electrolyte metabolism.

Constitution



Relation of structure to physiological activity For all the naturally occurring adrenal cortical hormones two structural features are essential for their biological actions: ① Presence of α, β unsaturated ketonic group (i.e. a double bond between C4 and C5 and a ketonic group at C3) and ② Presence of a ketonic group at C-20.

They perform many physiological functions but main functions are protein and carbohydrate metabolism and control of balance of water and electrolyte. Deficiency results in muscular weakness, decrease in resistance to

Constitution ① molecular formula - $C_{22}H_{29}O_5$

- ② It is very sensitive to alkali, showing the presence of α, β unsaturated ketonic group.
- ③ Usual tests of analysis suggest the presence of 2 ketonic gr, one double bond, one aldehydic group, one sec. alcoholic and one primary alcoholic group.

It reduces alk. AgNO₃ and Fehling's soln, indicating the presence of α -ketol (CO-CHO) group.

It has been found to contain cortisone type of nucleus. Consistent with the above facts we can suggest following structure to aldosterone

