* Conformation

Page No.
Date

The arrangement of molecules compd. tetrahedraly (sp^3 hybrid bond length 1.54 A°, shape an structure tetrahedral and bon angle is 109° in 3D structure. To stability & reactivity of a compd.

- Only saturated compd. show conformation due to free rotat of σ bond (10^6 times / sec)
- Unsaturated compd. (=, ≡ bond does not show conformat= du to presence of π-bond which check rotation.
- It is a type of stereo isomeris
- It is of following types:-

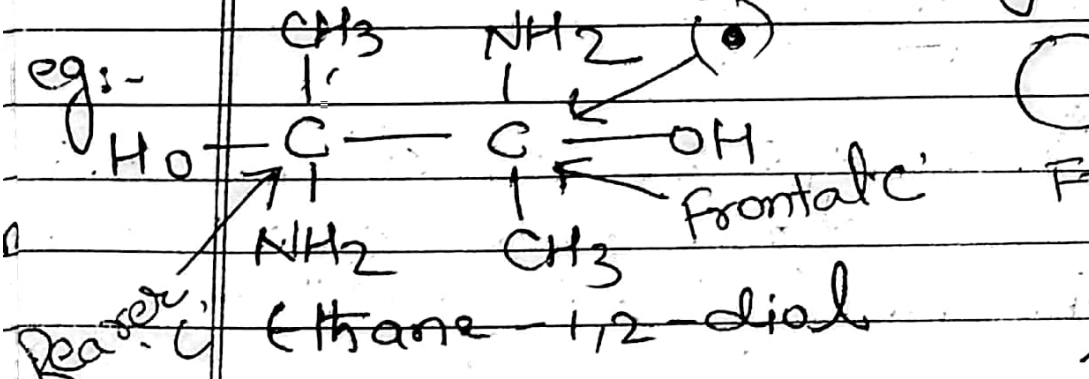
i) Antiform / staggered
ii) Gauch / Skew form
iii) Eclipse form

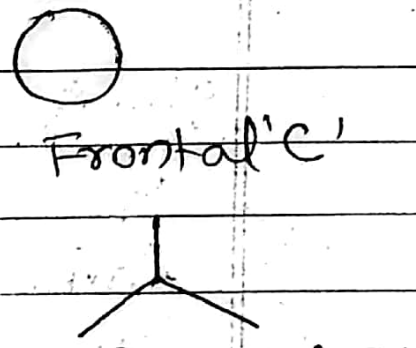
Partial eclipse Fully eclipse

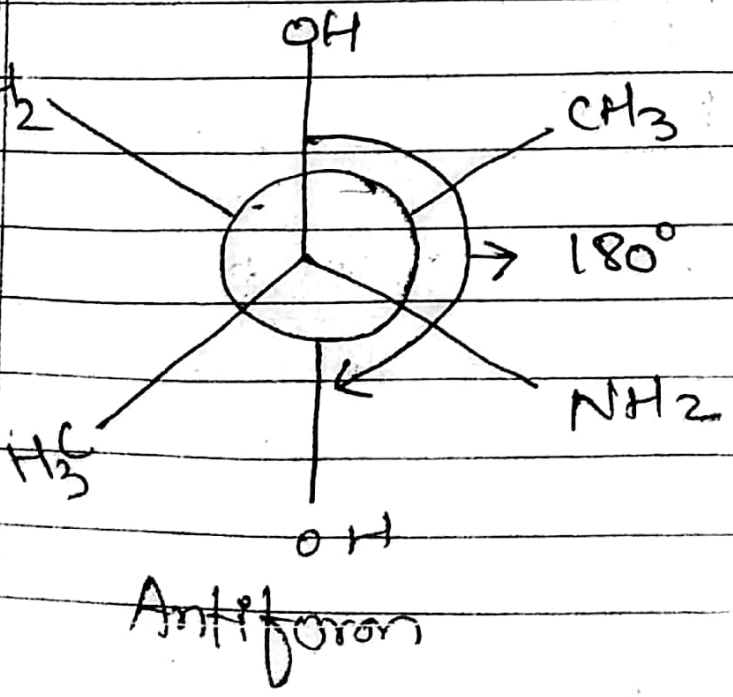
i) Antiform :-

- When same nature (main functional group) compound present at 180° then having less potential energy and more stable due to absence of repulsion between functional group.
- Frontal carbon (near to eye) indicated by a circles (O)
- Rearer carbon (away from eye) indicated by a trigonal (Δ)

eg:-





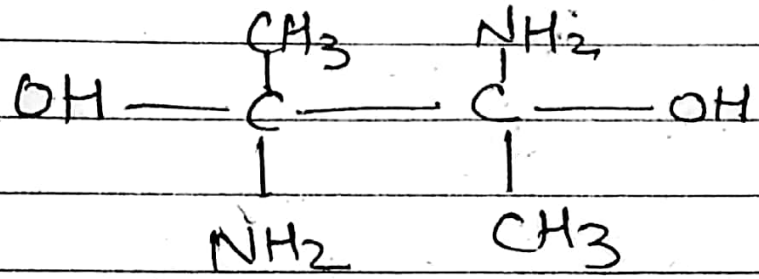


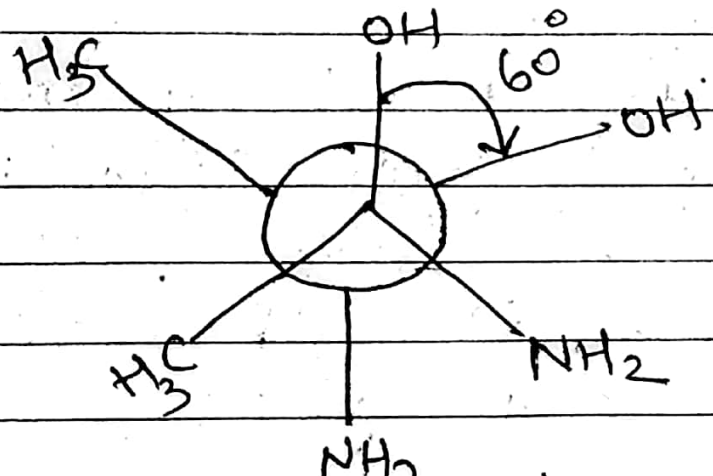
Antiform

(ii) Skew form

When main functional group present at 60° hence less repulsion occurs between functional group, increase potential energy and decrease stability.

eg:-





(iii) Eclipse

Fully eclipse:-

When same functional group present at 0° then maximum repulsion occurs and ↑ potential energy therefor, ↓ stability.