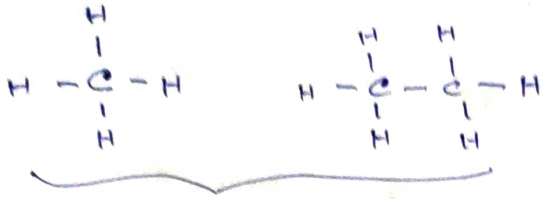
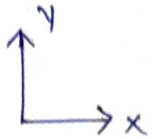
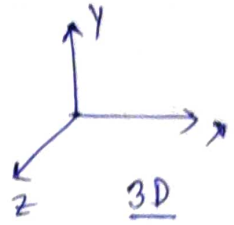
Stereo chemistry
(3D shape)



2D



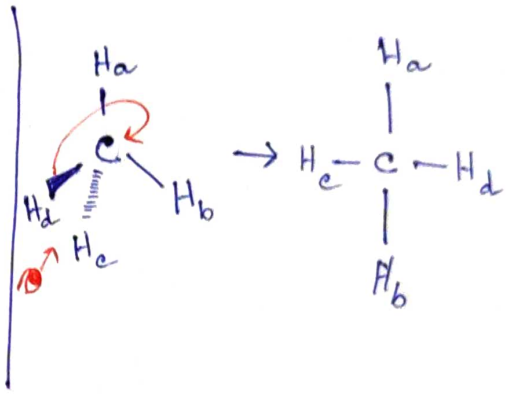
2D



3D

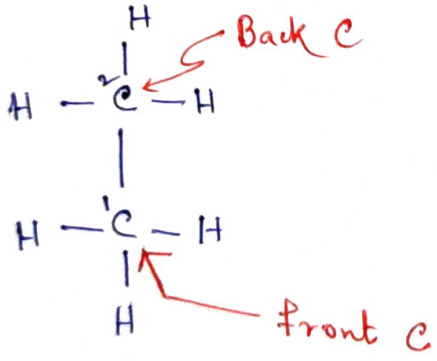
4-projection formula :

1. Fisher Projection formula
2. Sawhorse proj. for.
3. Newman proj. for.
4. Flying Wedge formula.

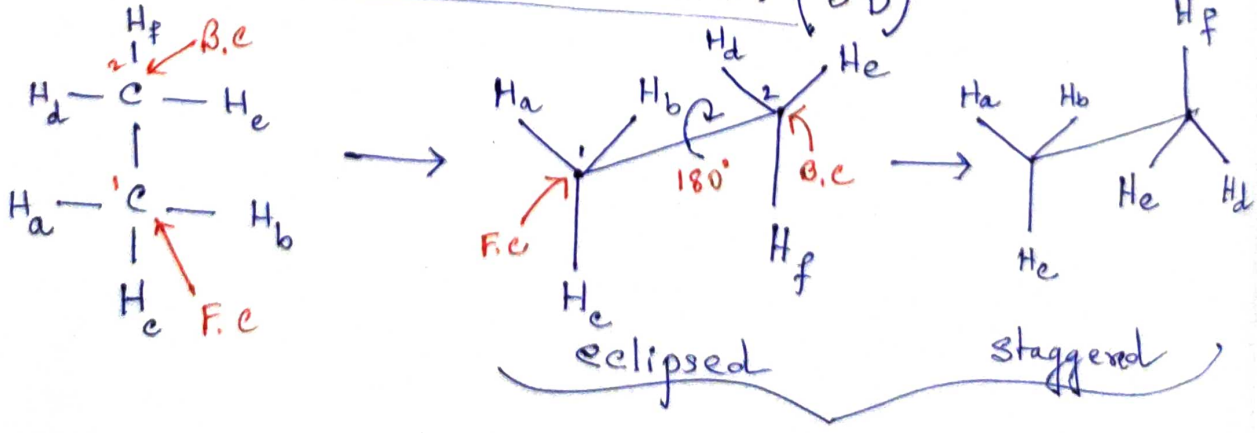


Example : Ethane.

1. Fischer projection formula : (2D)

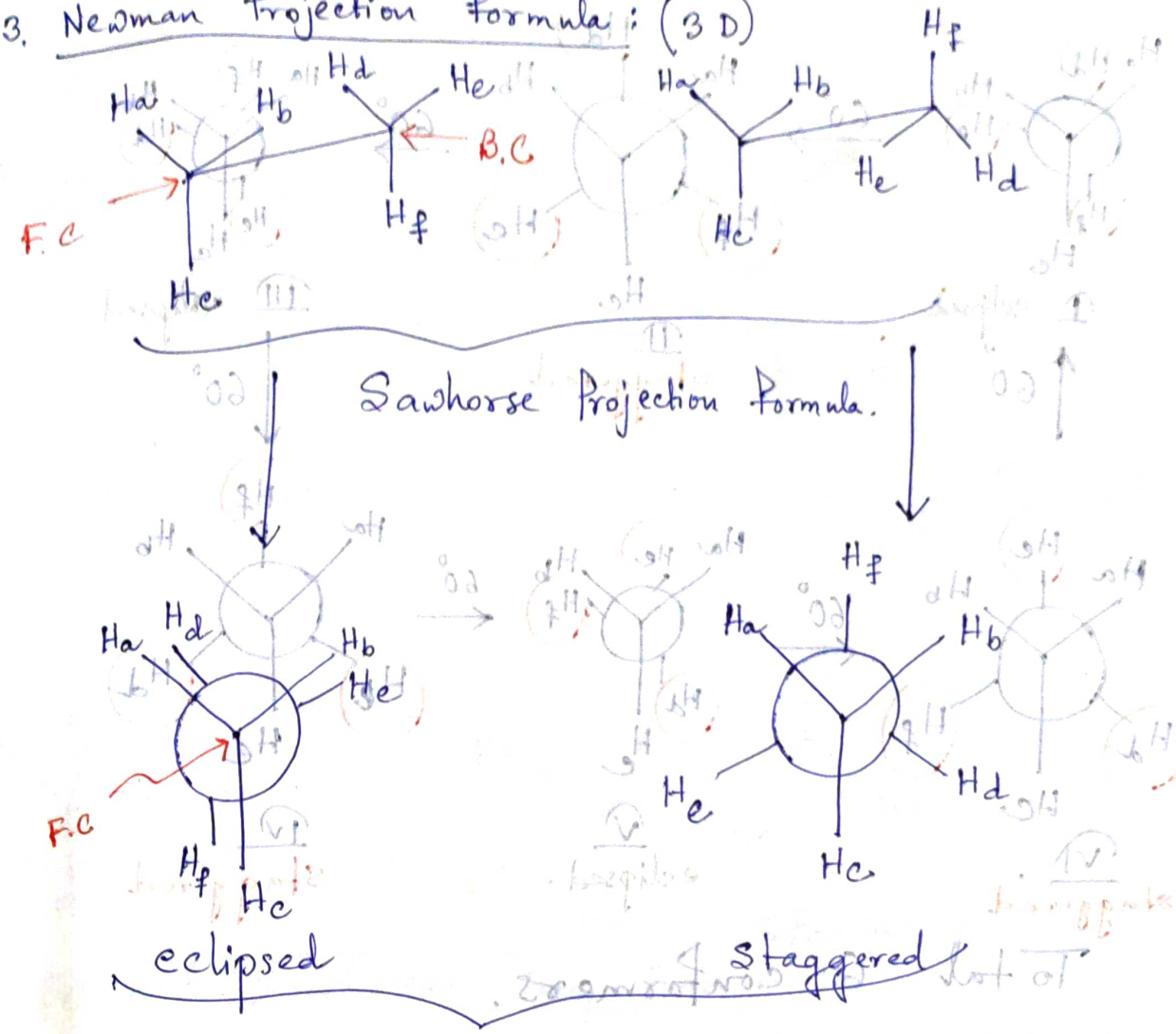


2. Sawhorse projection formula : (3D)



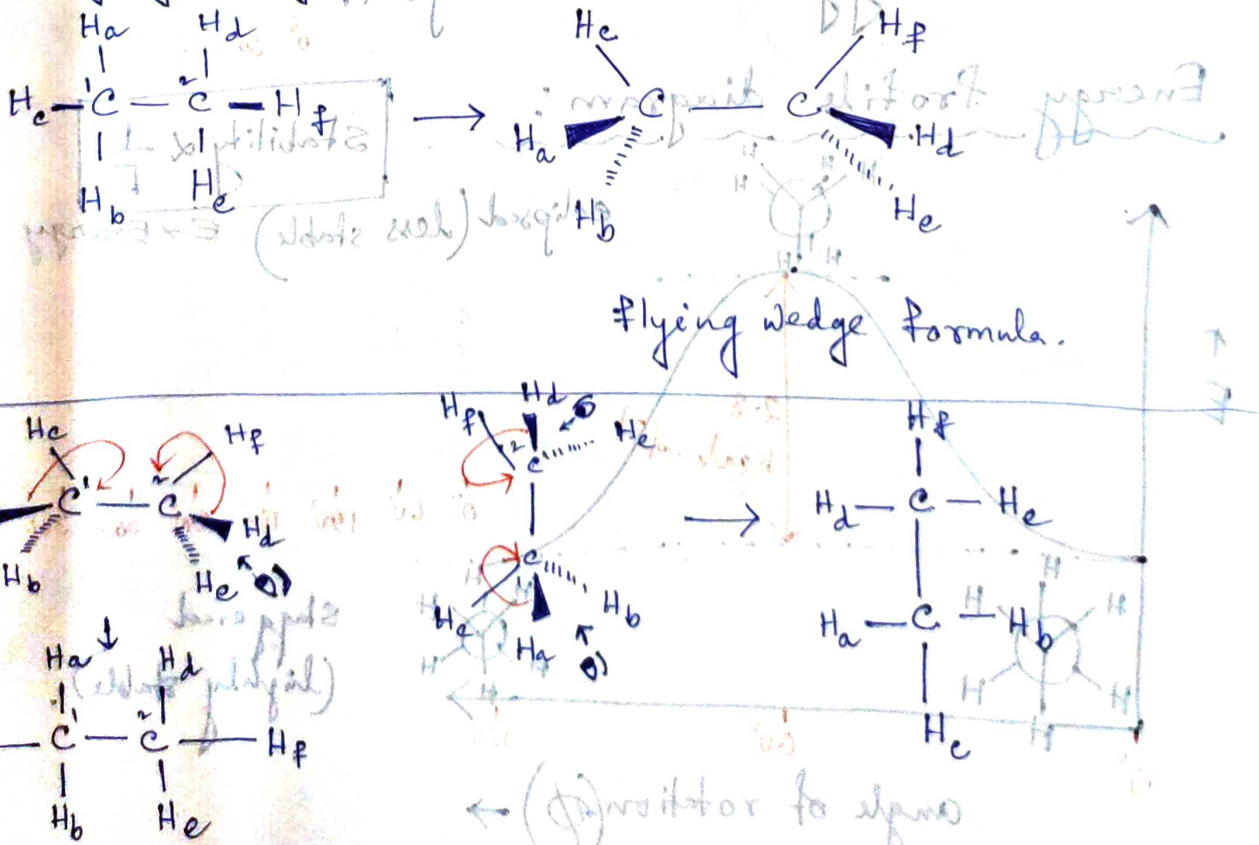
Sawhorse formula

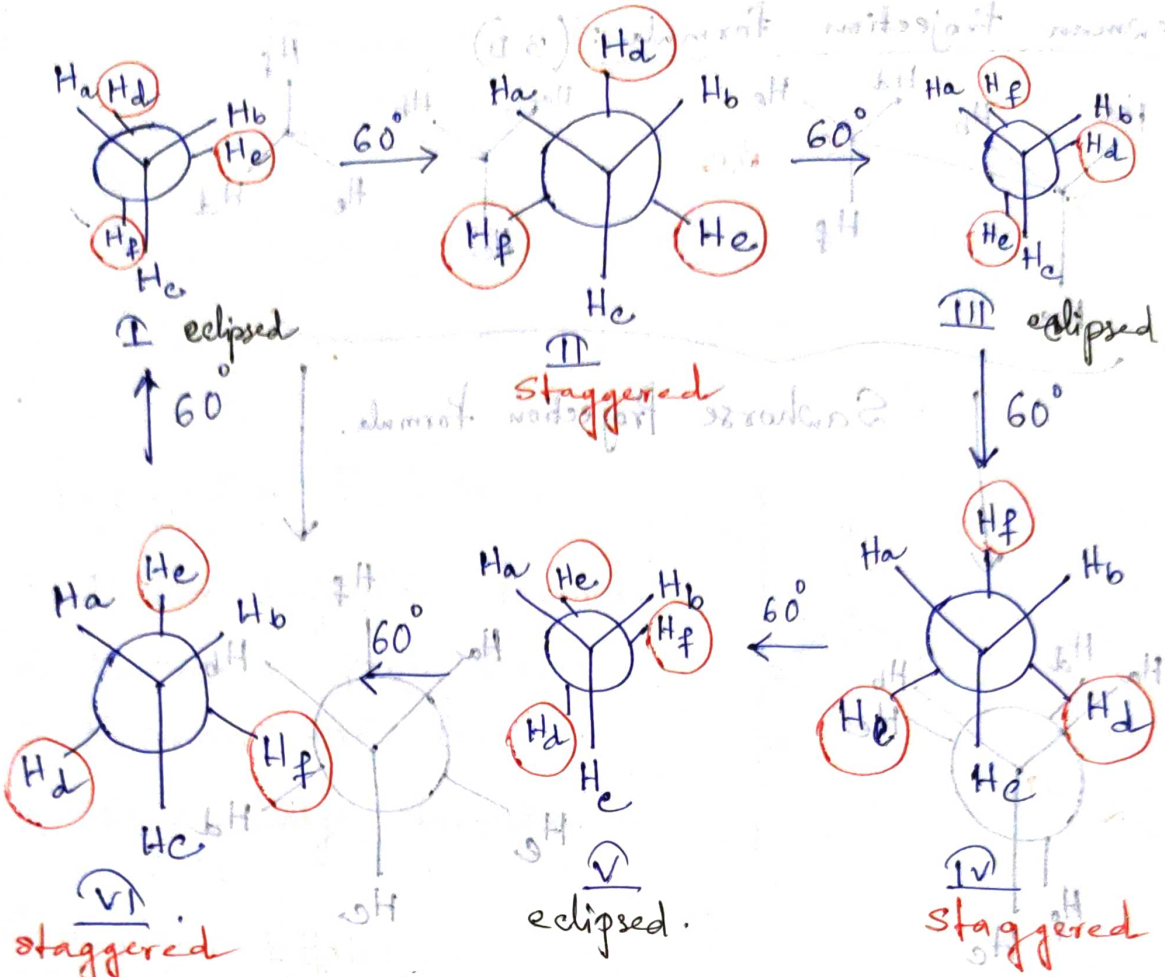
3. Newman Projection Formula: (3D)



V = Newman Projection Formula

4. Flying Wedge formula:

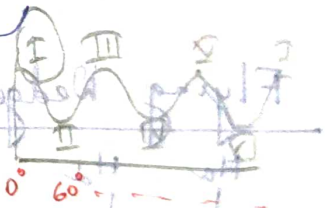




Total 6 conformers.

Stability : II = IV = VI > I = III = V

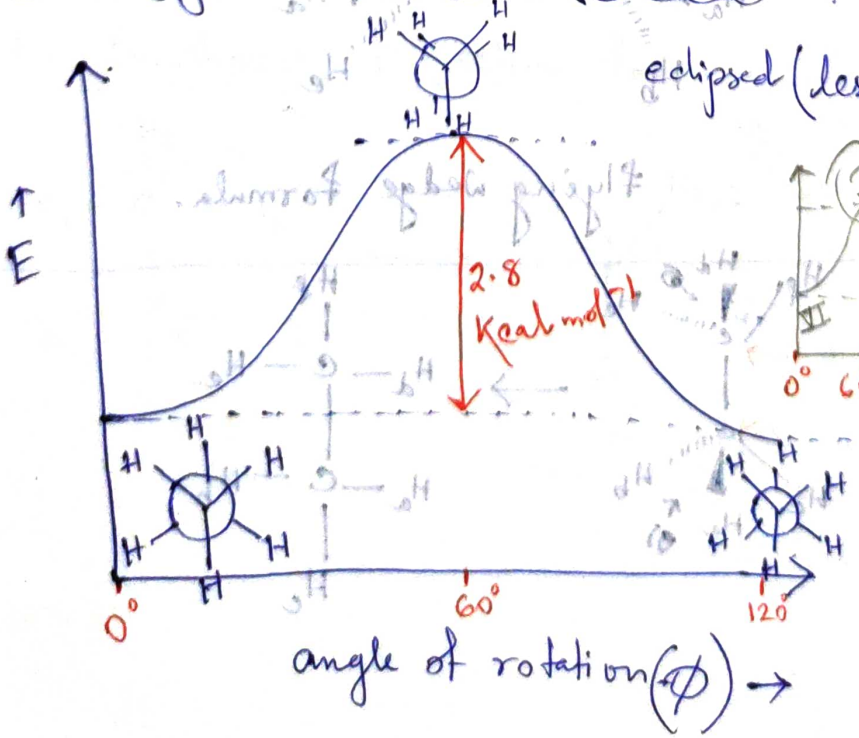
Staggered — eclipsed.

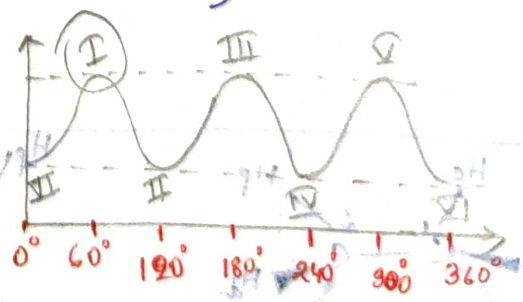


Energy Profile diagram :

Stability $\propto \frac{1}{E}$

eclipsed (less stable) E → Energy

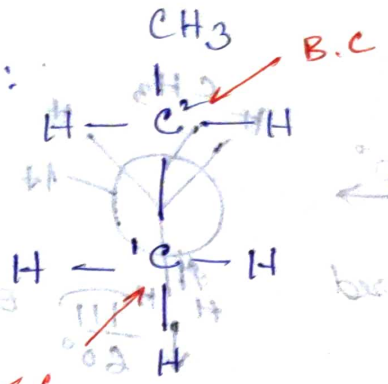


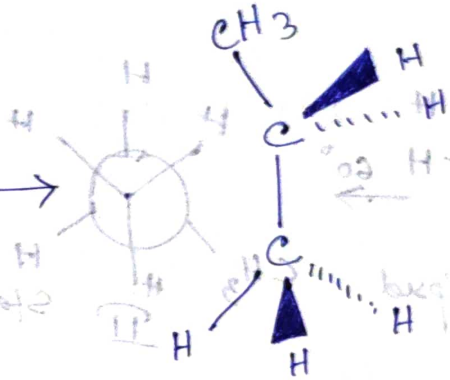


staggered (highly stable).

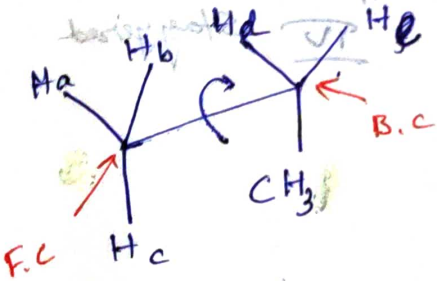
২) ইথেনের: $\overset{1}{C}H_3 - \overset{2}{C}H_2 - CH_3$

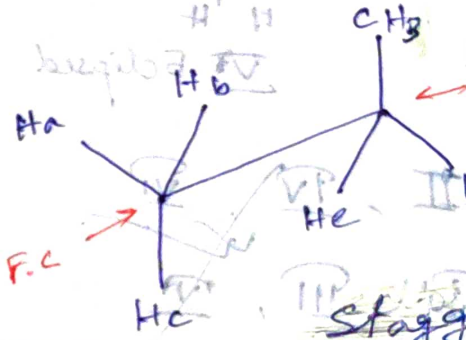
Fischer:





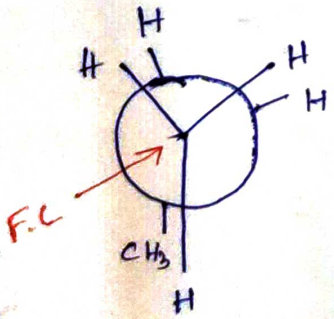
Flying wedge formula

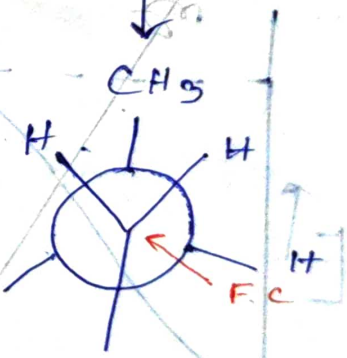




Eclipsed Sawhorse Proj. formula.

Staggered.



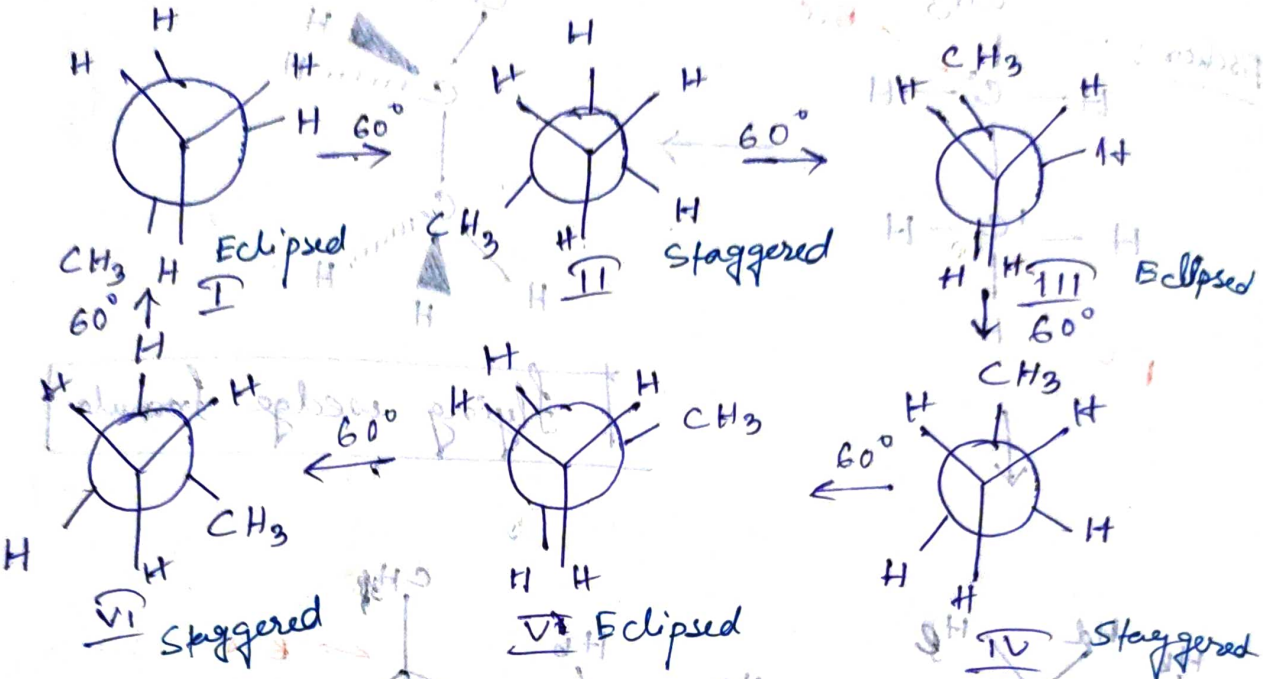


eclipsed

Staggered

Newman Proj. For.

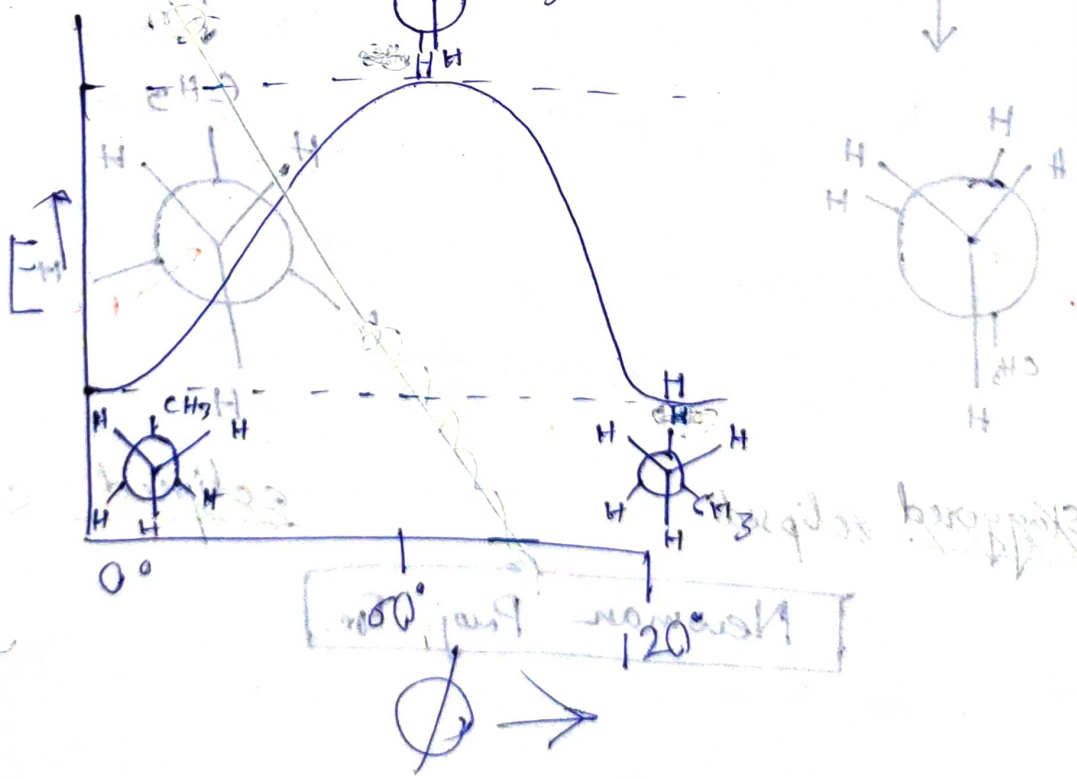
6 conformers



Staggered: II, IV, VI

Eclipsed: I, III, V

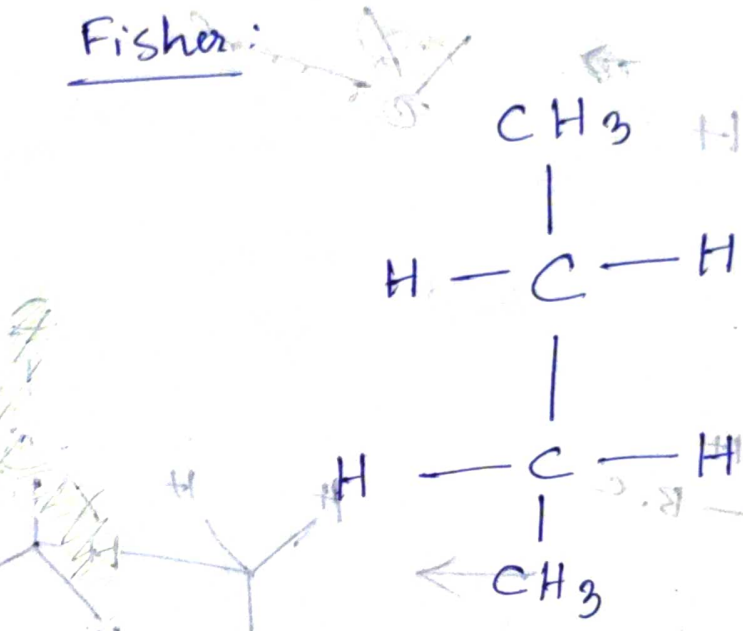
Stability: II = IV = VI > I = III = V



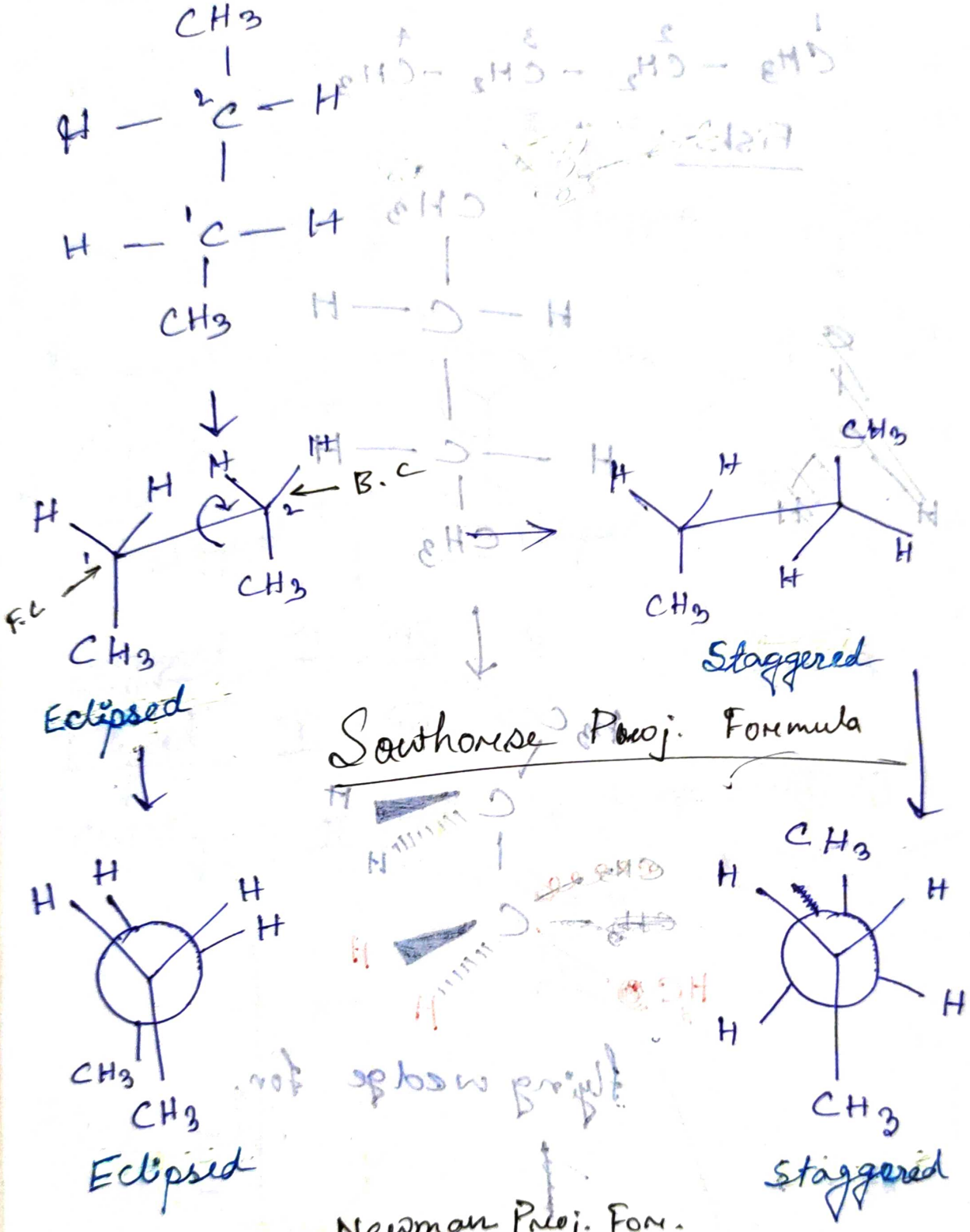
3) বিভিন্ন:

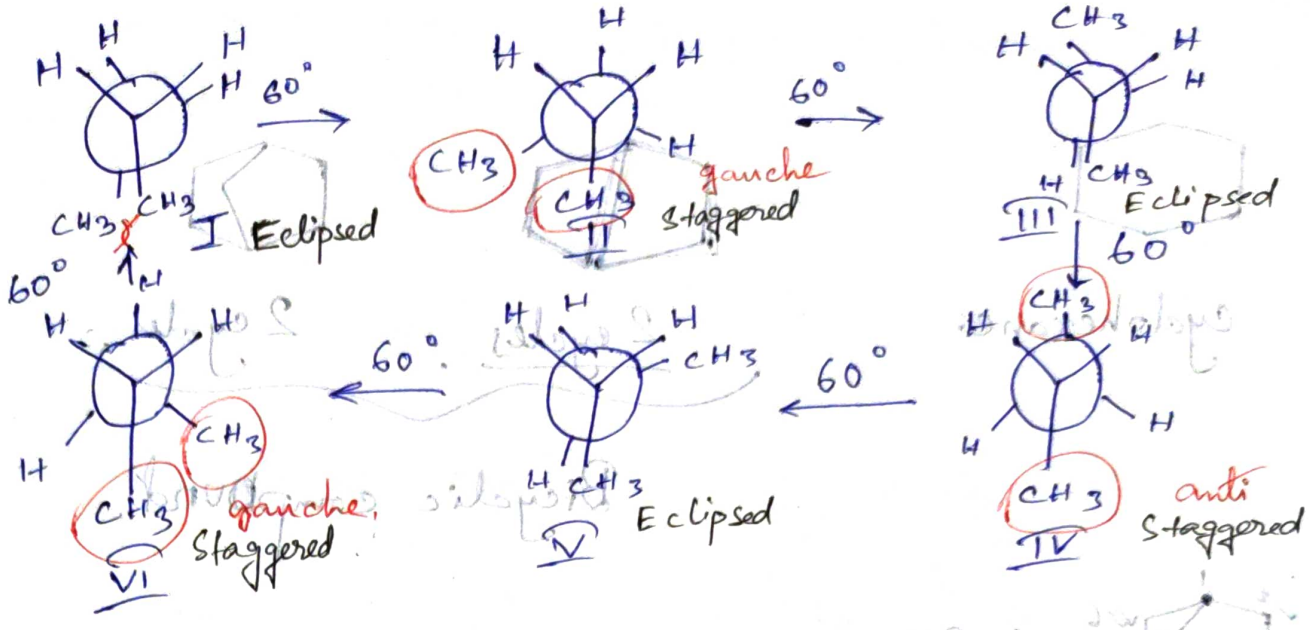
$$\overset{1}{CH_3} - \overset{2}{CH_2} - \overset{3}{CH_2} - \overset{4}{CH_3}$$

Fisher:



flying wedge for.

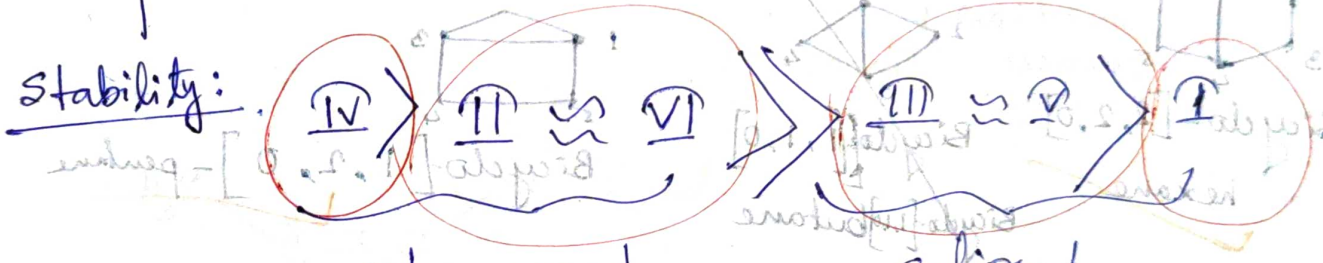

Eclipsed
Staggered
Sawhorse Proj. Formula
Eclipsed
Staggered
Newman Proj. Form.



Staggered : II , IV , VI .

Eclipsed : I , III , V .

Stability :



Staggered. Eclipsed.