ELECTRONIC EFFECTS

Fission- deavage of bond Homolytic - ASYA → A+A observed in non polar solvents, anditions HELP-R

-NHCOCH3, -OCH3 are-I

> (1/3-1/1) -> (1/3-,-5)-se0,-NROalm+Ielleh

Heterolytic - A+B → A+B

Observed in polar solverts.

1 Inductive effect - permanent effect, sigma bonded es.

1998+999+ AH 8+ 4-

negligible after 3nd (,

-Ieffect: -NB+>-NB+>-SR+>-NO2>-CN>-E++>-E->-E-O+>

- e-cl.> - e-or> - e-NH2>-F>-cl>-BY>-I>OH>-N片>

→ Acidec iterength of R-OH/Ph-OH/R-COOH & - I effect & +Ieffect & Ka & pka

Complete teransfer of TTE's to adjacent bond (on 1. p of e's by TTE's trumper

+ Meffect: -0H> -NH>-NHR>-NR>-OR>-NH-C-R>-F:>

-Meffect: -N>0>-(=N>-3-0H>-2-H>-2-OH>

+ Teffect: -0> -NH> 3C > 20>1C> -CH3>7>D>H

→ Stability of (*, c', c d + I effect a —I effect a L

(I) Mesomeric effect (89) selsonance effect:

-E-c1> -E-OR > -E-NH2

to adjacent atom.

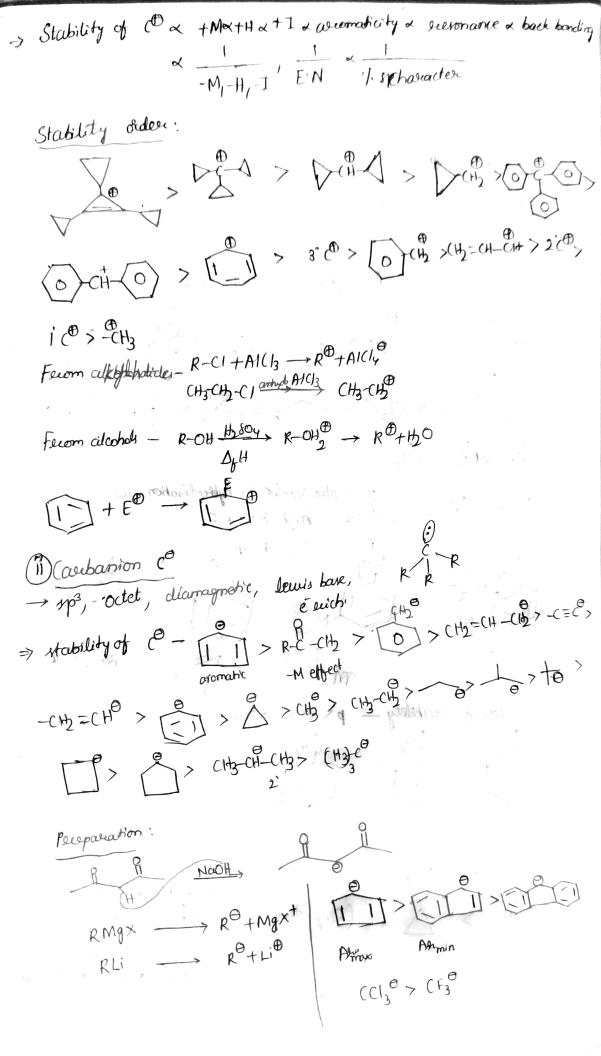
-ci: > -BY: >-I: >R

Lors wie formed.

Electeron d'esplacement:

-CH=CH> -GH5>D>H

-I <-M -I < +M +I < +M -I > +M (III) Electerometric effect: It is temporary effect it involves both conjugation & lone pairy + E effect: complete transfer of TIE's towards attacking reagent Z= 2+H0 = x-2- H0 (albens, allegre) - E effect: complete toanifer of The's away from attacking suggest)= 60 + (N=) (NO (ald (&) Nectores) Hypoteconjugation on IT conjugation No bond everance: - = C = C | H C - C | H C - C | H C - C | X x x $CH_{2} = CH - CH - H \rightarrow H - C = CH - CH_{2}^{\Theta}$ -> No of hyperconjugation bonds & stability + No of Diegonating Neuctures & stability & energy & NOTE: Due to outho effect boricity & acidity decreases. Reaction intermediates! These are of 6 types (1) C® (1) C° (1) Coulere : Ck2 (1) Netere R-N: (V) Benzyme [[]] (1) Casebocation (1): - Sp? sextet config , diamagnetic, lewes acid electerophile



Compounds which contains odd number of es (00) / e (III) true radicals: is known as free radical Feree evadicals are generaled in presence of light, heat & personides. -> Ap2, pasamagnetic, electerophile, Fe. O HITH GO become H, + H. stability: +M & -M effects are stabilized. bh-c. > bp-ch. > cH = cH-cip > (2) > (2) > CHz-CH-CH3> Cl3C'> ->>> +.> CH2F> CHF2 > CH3 > CT2 CH3 ", CF3 mp3 F high EN of F. °CH2 No enzy) ecoch. Seder of stability - p> 0> 15 sed > m (0)-> B.Rad. > P > m>0 (Ring steerin) ohead LEWG2 624

| (IV) Caubene: (:(R))- | | |
|--|------------------------------------|--|
| disendical, sextet config, divalent | | |
| valency 6. (electerophilic in runce) | | |
| Carebone | | |
| 1 | Templet | |
| Singlet | P | |
| OC-R | O PR | |
| | 2+0(10)=280 | |
| -> 2+1(ep)=3 m² cliamagnetic, unitable, triannal darar | paliamagnetic, accepts hindibule | |
| total spin =0, terigonal planar | more stable; linear. | |
| A HUND I LEETE | | |
| -> More electronegative atoms then the causene is ringlet causene. | | |
| Exi DC NO2, DC CN | τ^a | |
| it en low Fine atoms then the causene is templet. | | |
| Ex: 0 -14 DC-CH3 | | |
| teriplet | | |
| Since $\frac{1}{NR_2}$ Since $\frac{1}{$ | -M,-H,-I Ph R | |
| $\Rightarrow : C \xrightarrow{NR_2} > : C \xrightarrow{NR_2} > : C \xrightarrow{OR} > :$ | (-ph > : C ph > : C' -ph > | |
| - H | | |
| $\Rightarrow :(F_2 > :(Cl_2 > :(Br_2 > :(I_2)$ $2p 2p 2p 3p 2p 4p 2p 5p$ | | |
| 4 1 montage | hiles | |
| - (aubenes aue neutreal execteration | R | |
| R-C-O-R \leftrightarrow R-C=O. Relectorphila Nucleo | phile | |
| electrophile Nuclea | (by Hy) & descriptes are benymes. | |
| Benzyne: 1,2 dide hydecobenzene | 2 | |
| abnormal to kond - to the spart of the spart | ip ² | |
| | | |

| Benzyne foundion is only enception of hybrid sebitals to tighty undable, more machine. | form I tong |
|---|-------------|
| Highly undable, more more more more | |
| ringlet R-N-Sp R-N-Sp | |
| -> Less stable, diamagnetic -> More stable, paramagnetic | |
| Pereparation! | |
| $R-\widetilde{N}=\widetilde{C}=0$ $\longrightarrow R-\widetilde{N}:+CO$ alley inocyanike interes | |
| alley isocyanike miteuene | |
| Planauity & linear compounds: | |
| $1p^2 - 1p^2 \rightarrow planae$ | |
| sp²- sp - planar | ÷ ; |
| $sp - sp^3 \rightarrow non planae$ | |
| $1p^2 - 1p^3 \rightarrow non planar$ | |
| $1p^3 - 1p^3 \rightarrow non planaei$ | |
| Ex: H-C-1-1, III due to every Non planare planare planare planare que to H& H. The secondare que publicant | |
| | |