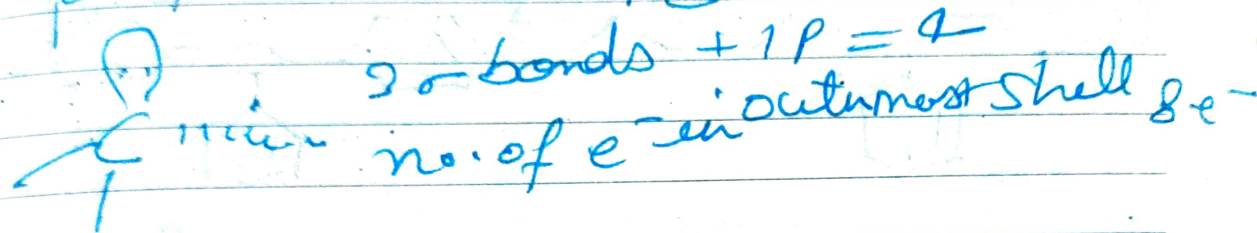
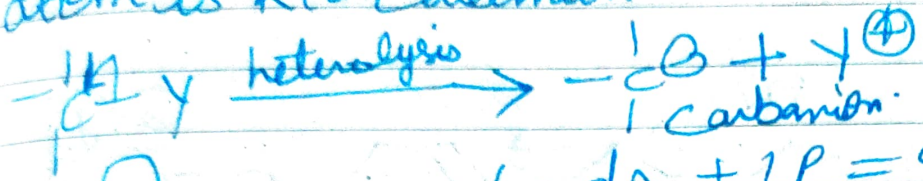
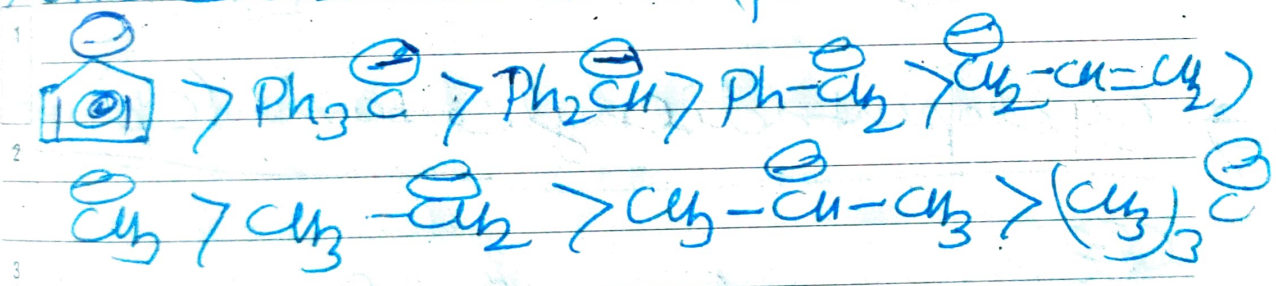


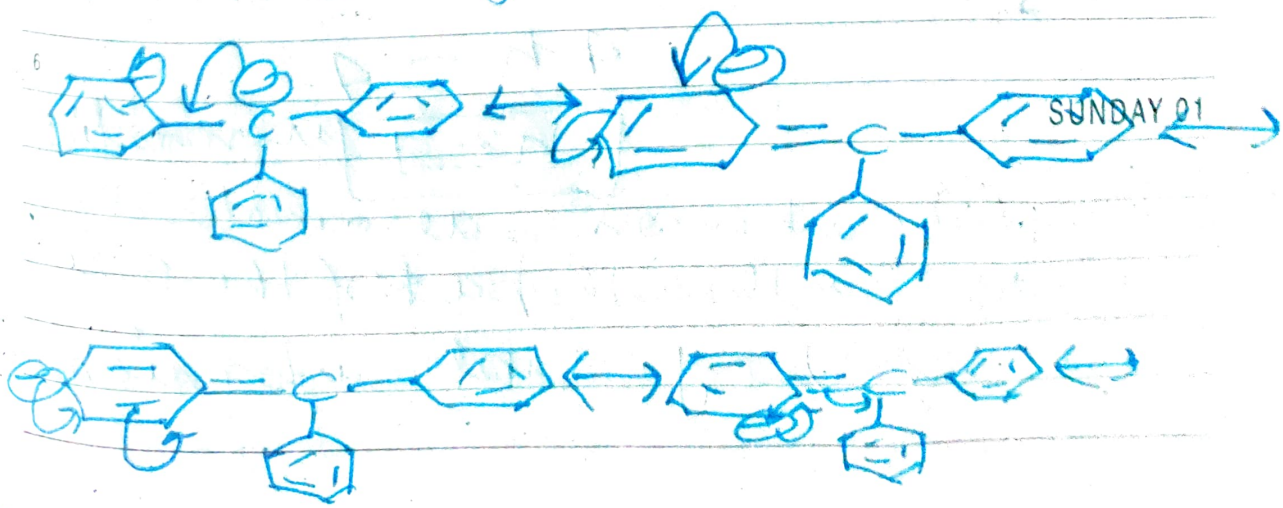
Carbanions: — An organic ion having one $-ve$ charge on the central carbon atom is called Carbanion.



Stability of Carbanion: — The decreasing order of stability of some Carbanion is as follows —



The stability of first five Carbanion are explain on the basis of resonance effect. While rest of the Carbanion are explain on the basis of inductive effect.

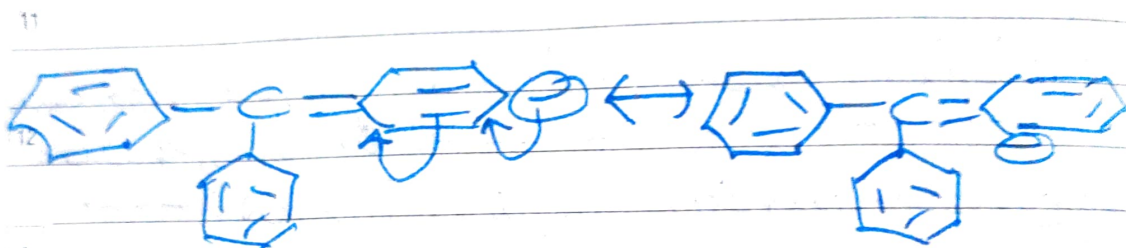
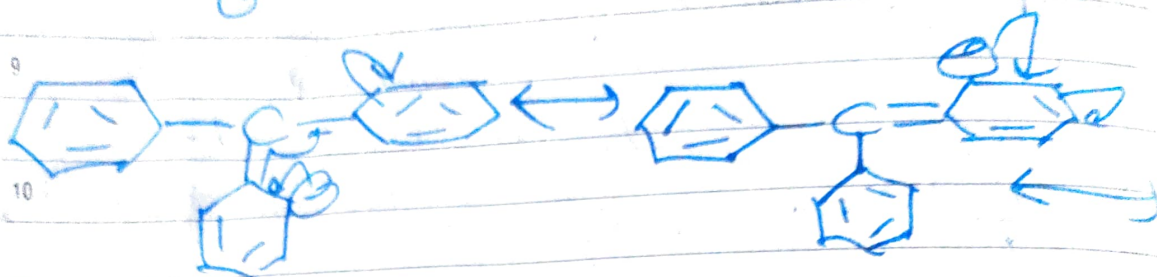
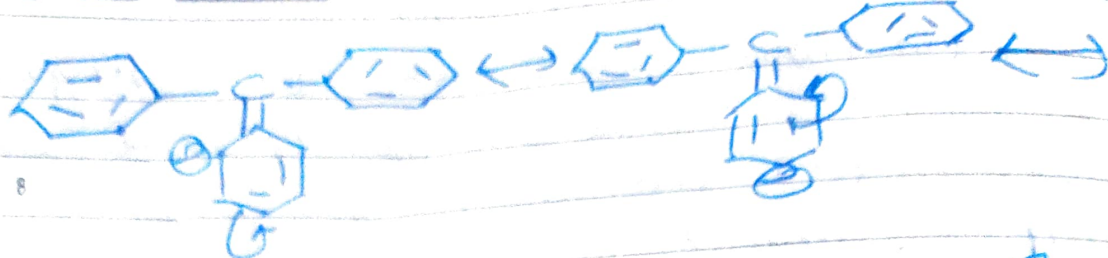


02

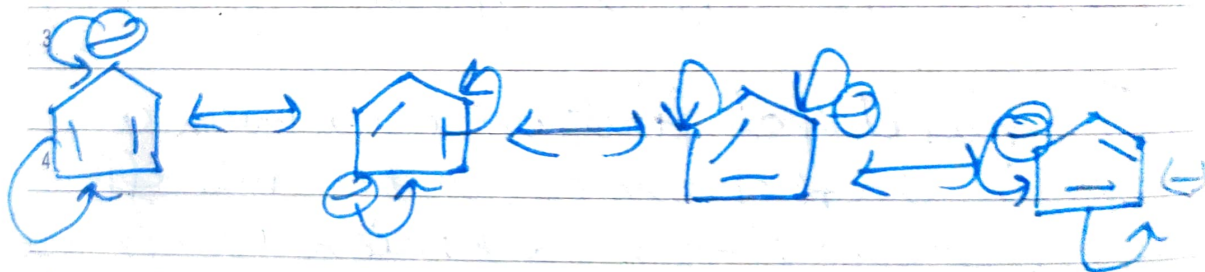
MAR
MONDAY
Wk 10 001-304

2015

03	9/14	30	31	MARCH 2015							1
10	2	3	4	5	6	7	8				9
11	9	10	11	12	13	14	15				16
12	16	17	18	19	20	21	22				23
13	23	24	25	26	27	28	29				30
Wk	M	T	W	T	F	S	S				



⇒ cyclopentadienyl carbanion (Cp)



$$(4h + 2) \pi e^- = 6 \pi e^-$$

$$4h = 4$$

$\boxed{h=1}$ aromatic

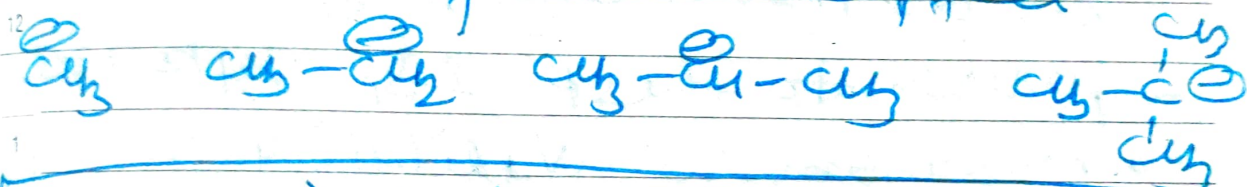
Since this carbanion is aromatic ion and the -ve charge is the part of the ring so it is very stable carbanion.

Allyl Carbanion — This carbanion is resonance stabilised by two resonating str.



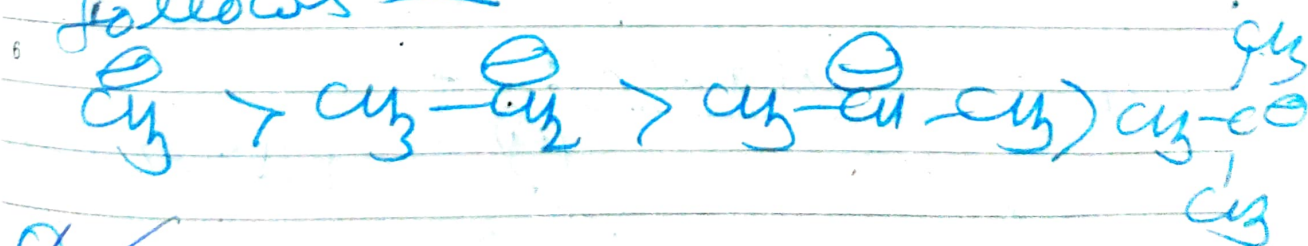
Stability of alkyl carbanion

The stability of alkyl carbanion is explained on the basis of inductive effect.

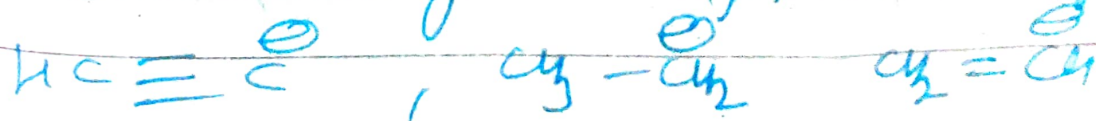


The magnitude of -ve charge & +I power of the gp

so as the +I gp is increases the -ve charge on the central carbon atom is also increases so by increases the -ve charge the stability decreases that's why the stability order of alkyl carbanion is as follows —



Ques — Arrange the following in the increasing order of the stability.

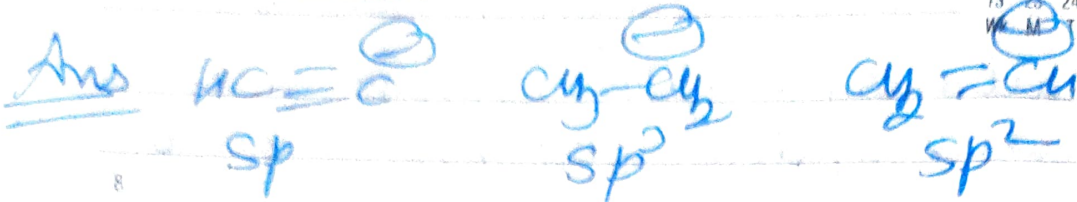


04

MAR
WEDNESDAY
WA 10 063-302

2015

03	MARCH 2015						
9/14	30	31					
10	2	3	4	5	6	7	8
11	9	10	11	12	13	14	15
12	16	17	18	19	20	21	22
13	23	24	25	26	27	28	29
W	M	T	W	T	F	S	S



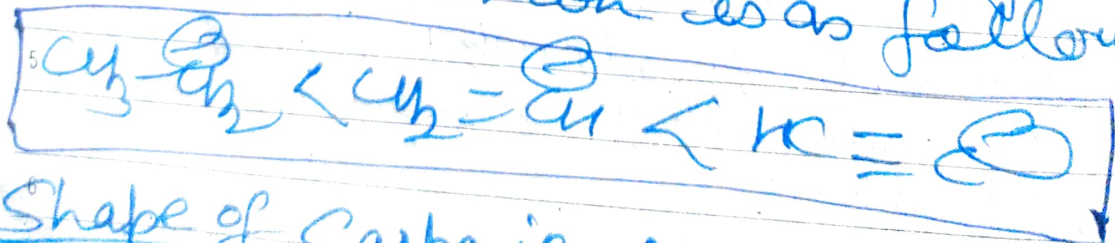
50% s character

25% s character

33.33 % s character

% s character $\propto$ electronegativity

Since by increasing % s character electronegativity increases so sp hybridized carbon is more electronegative in comparison to the sp^2 & sp^3 hybridized carbon atom so availability of e^- on the sp hybridized carbon atom is energetically favourable in comparison to the sp^2 & sp^3 hybridized carbon atom that's why the increasing order of above carbanion is as follows



Shape of Carbanion: —



pyramidal

The shape of carbanion is pyramidal