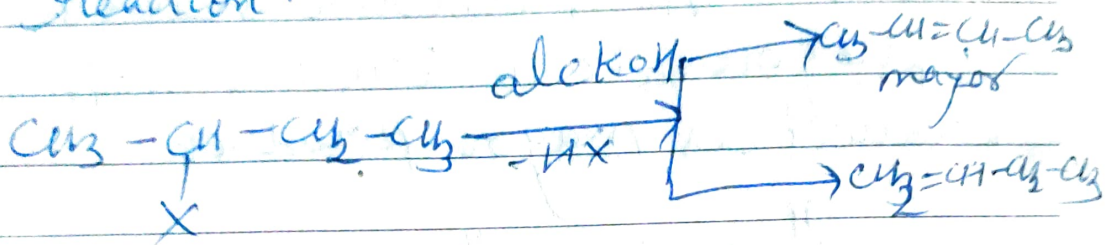




## Alkenes, cycloalkenes, Dienes and Alkynes:-

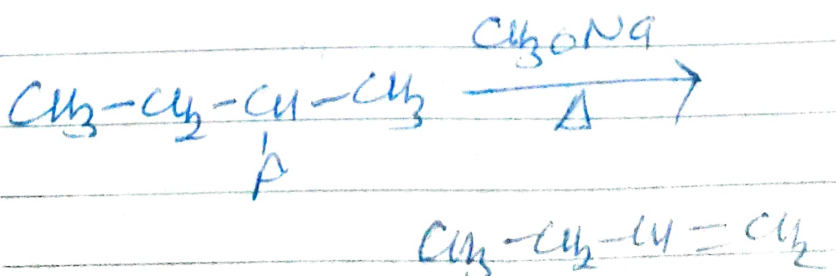
Saytzeff Rule:- A/c to this rule more substituted alkene is more stable and more stable alkene is formed major product in dehydro-halogenation reaction.



## Hofmann elimination Reaction:-

A/c to this rule less substituted alkene is less stable and less stable alkene is formed as major product.

Case I:- If the leaving group is very poor in nature then product formation takes place via Hofmann elimination.

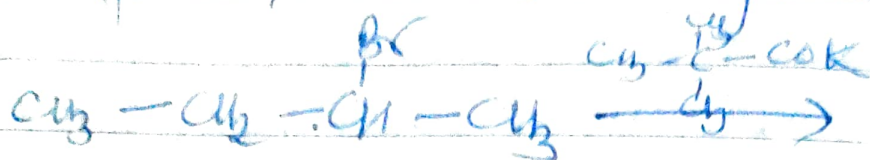


January 2007

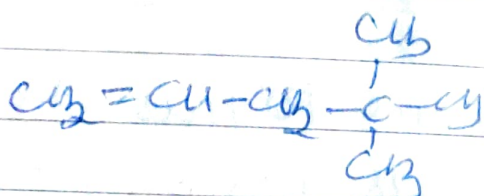
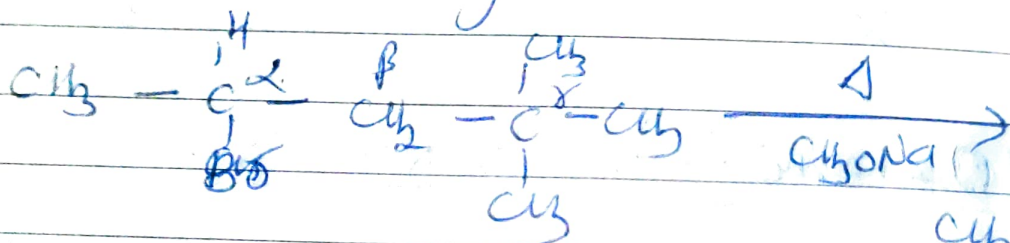
S	M	T	W	T	F	S
1	2	3	4	5	6	
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			



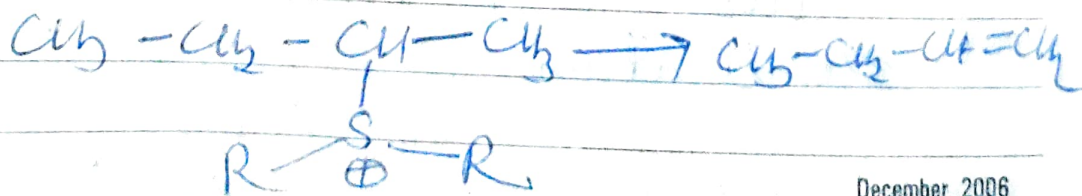
Case II If base (attacking reagent) is bulky in nature then Hoffmann product is major product.



Case III : - If  $\gamma$ -carbon have no hydrogen atom then the Hoffmann product is major product.



Case IV If the leaving group is bulky in nature the product formation takes place via Hoffmann elimination.



December 2006

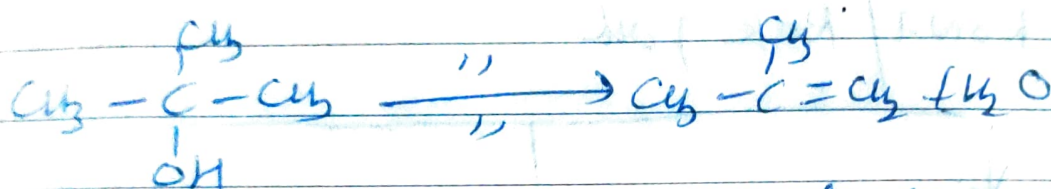
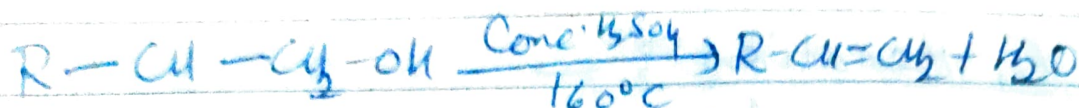
S	M	T	W	T	F	S
31					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30



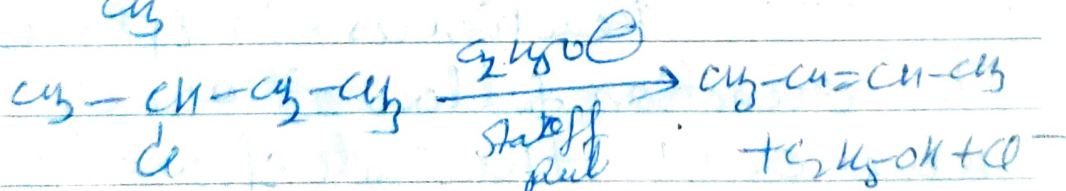
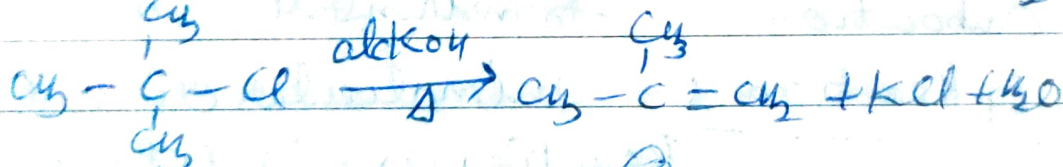
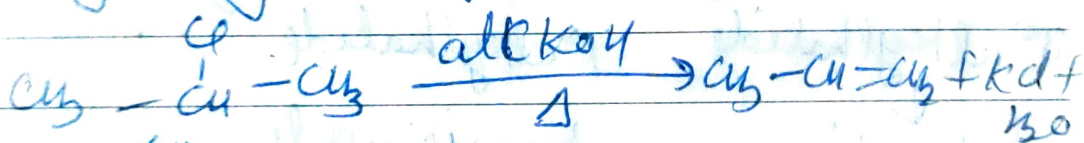
method of formations—

① By dehydration of alcohol

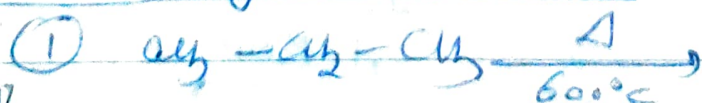
Dehydrating agent — Conc  $H_2SO_4$ ,  $H_3PO_4$   
 $Al_2O_3$ ,  $P_2O_5$  etc



② By dehydrohalogenation of alkyl halide:



③ By cracking of alkane: —



January 2007

S	M	T	W	T	F	S
---	---	---	---	---	---	---

1	2	3	4	5	6	
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

27

Monday  
November

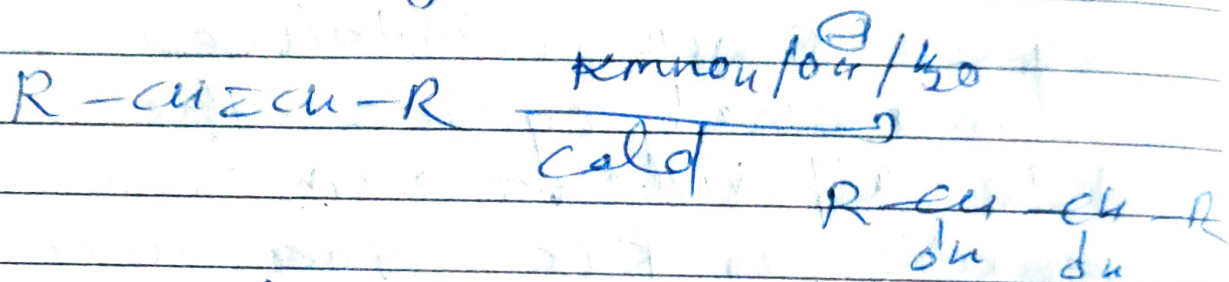
Kimberly | 11/27 | 2006 | (old)

2006

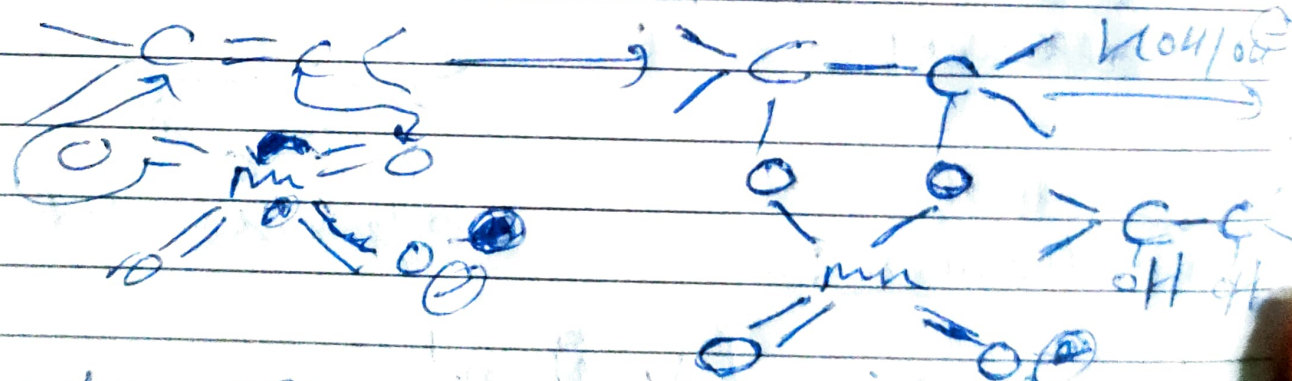
Hydroxylation / Reaction with

Baeyer's Reagent /  $KMnO_4$  :-

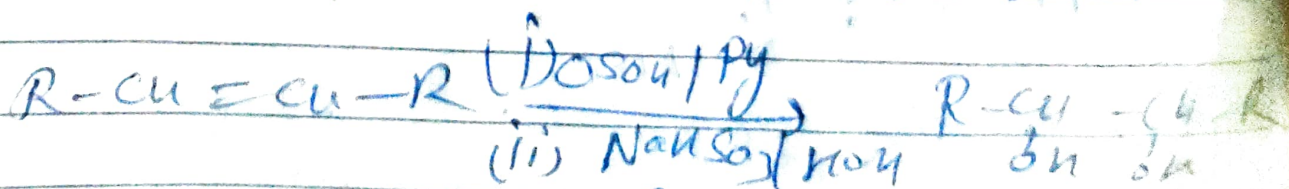
When an alkene is treated with ~~one 1%~~ alkaline cold dilute  $KMnO_4$  sol<sup>n</sup> (Baeyer's Reagent) then it gives diols -



Mechanism :-



When  $OsO_4$  is used then it also gives same product that is diol



Mechanism :-

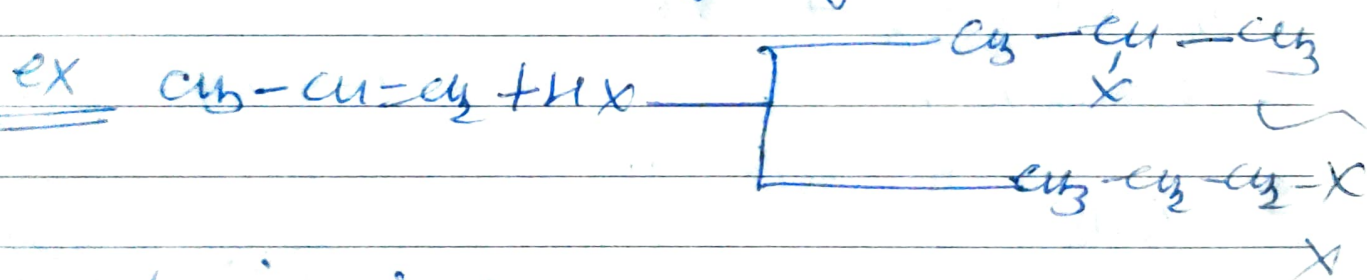


November 2006

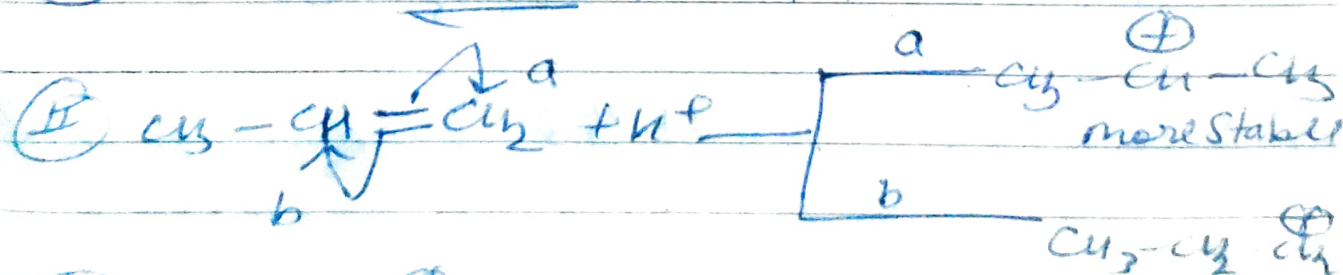
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

Chemical Reaction of alkenes, December

Markownikoff Rule: - In the addition of HX to an unsymmetrical alkene the +ve part of HX molecule is joined with that double bonded carbon atom which is less substituted i.e. other word -ve part joined that double bonded carbon atom with which is more substituted that is contain less number of hydrogen atom.



Mechanism: -



SUNDAY 3

January 2007

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



04

Monday

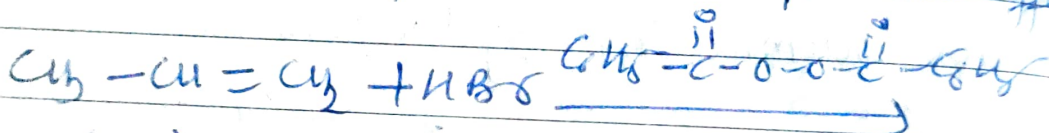
December

2006

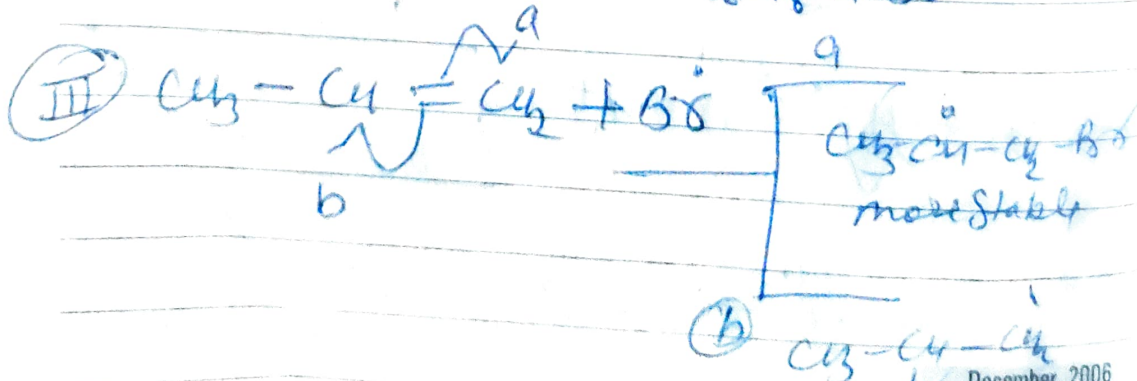
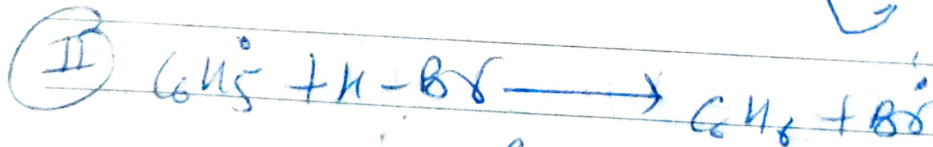
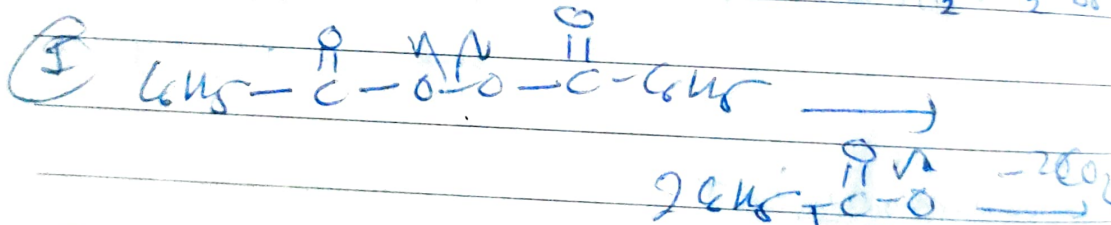
Note: - If I group is attached with C=C bond then anti-Markovnikov product is obtained.



Peroxide effect: - The addition of hydrogen bromide (HBr) in presence of peroxide is not according to Markovnikov's Rule. This effect is known as peroxide effect.



Mechanism: -



December 2006

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