

08 Semester IV
Wednesday

Jan 2020 Week-2 (008-358)

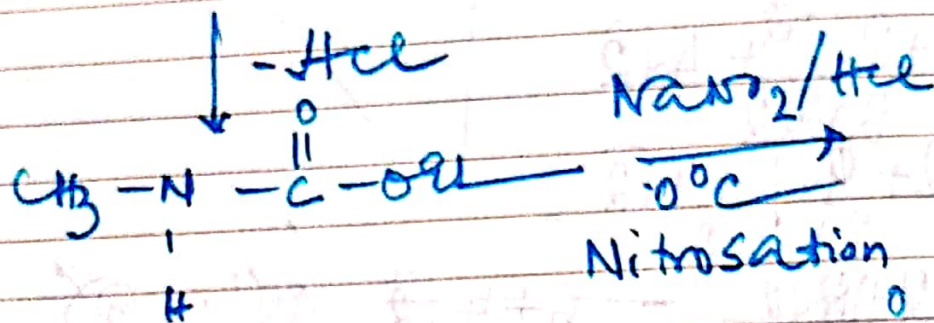
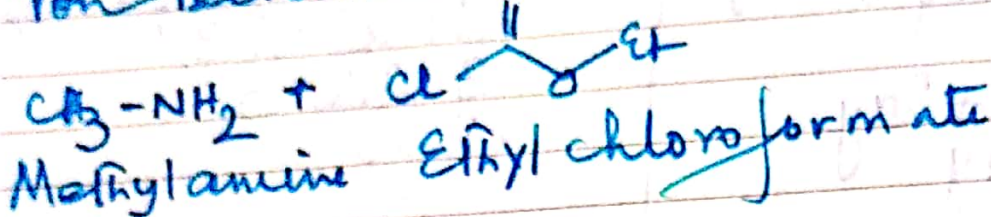
January

S	M	T	W	T	F	S	S	M	T	W	T	F	S
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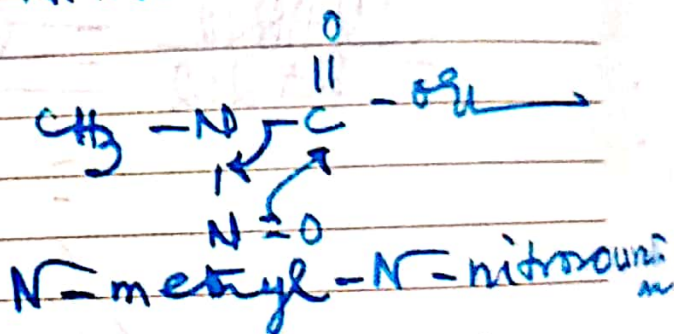
Aliphatic diazo compounds:

Preparation of Diazomethane ($\text{CH}_2=\text{N}^+\equiv\text{N}^-$)

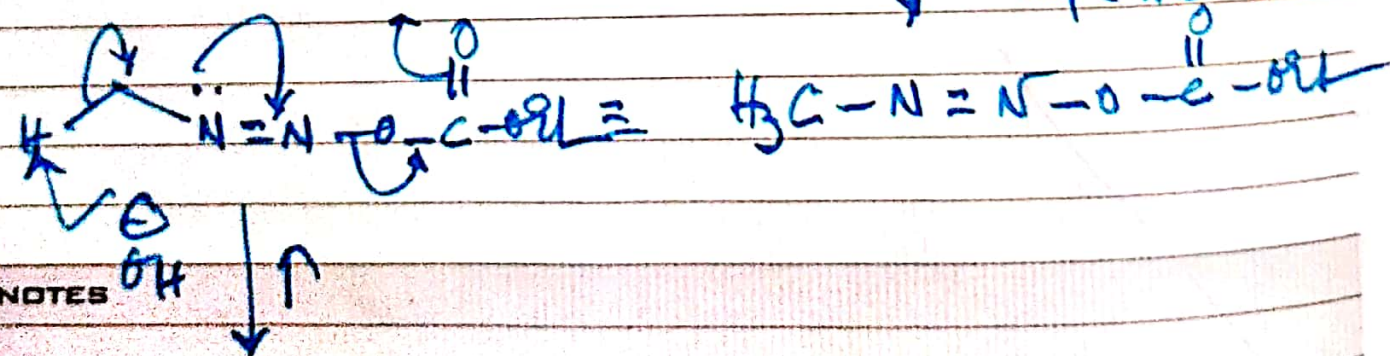
Von Pechmann's method:



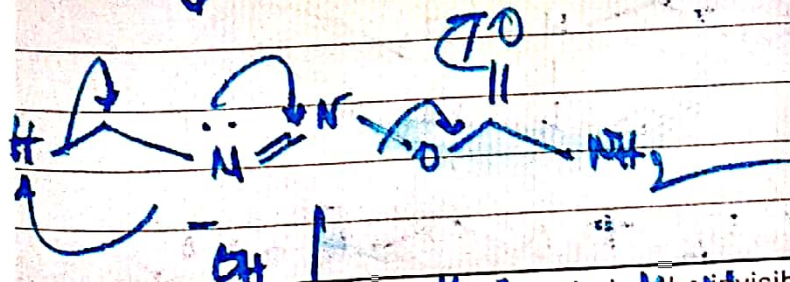
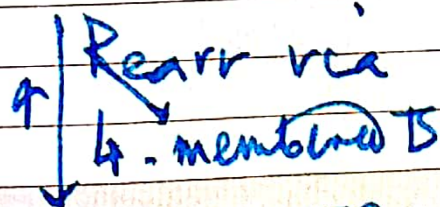
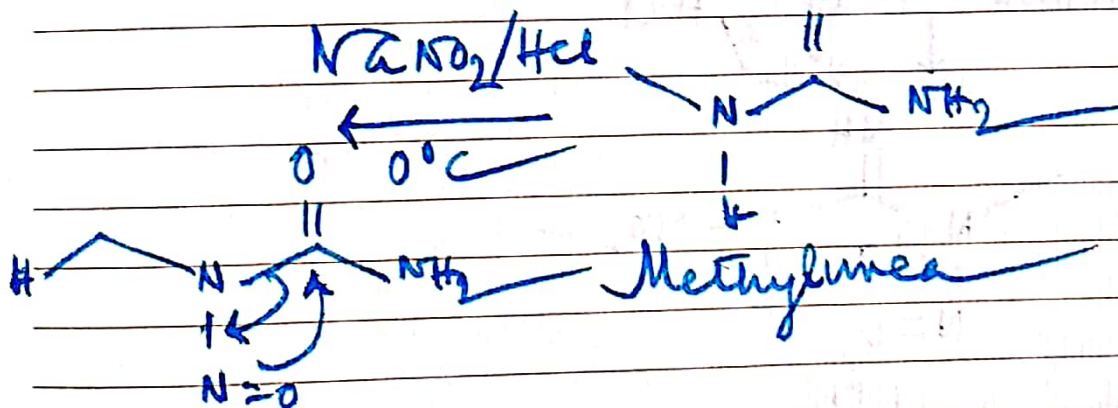
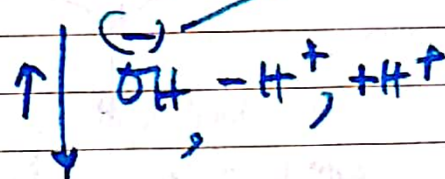
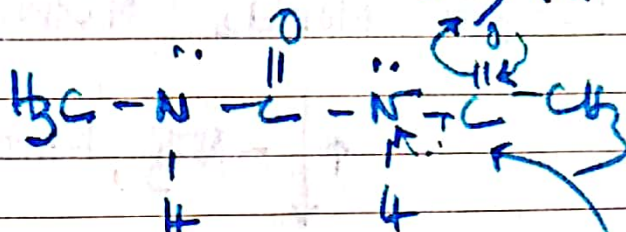
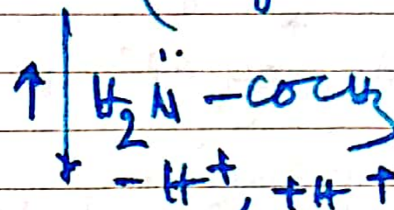
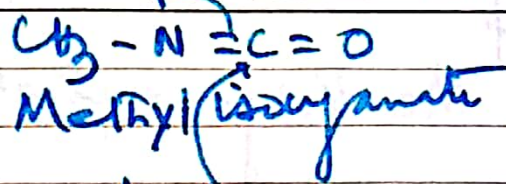
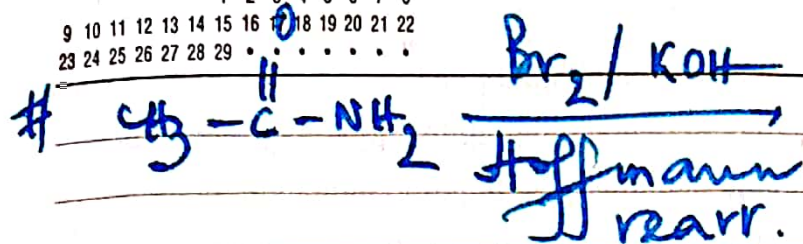
N-methylurethan
(Carbamic acid ester)



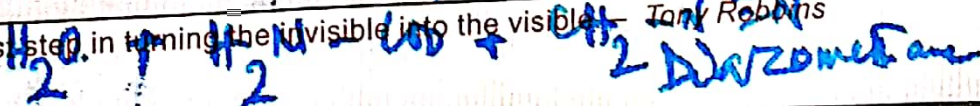
Rearr. via 4-membered B



Diazomethane



Setting goals is the first step in turning the invisible into the visible. Tony Robbins



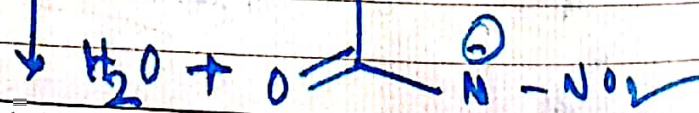
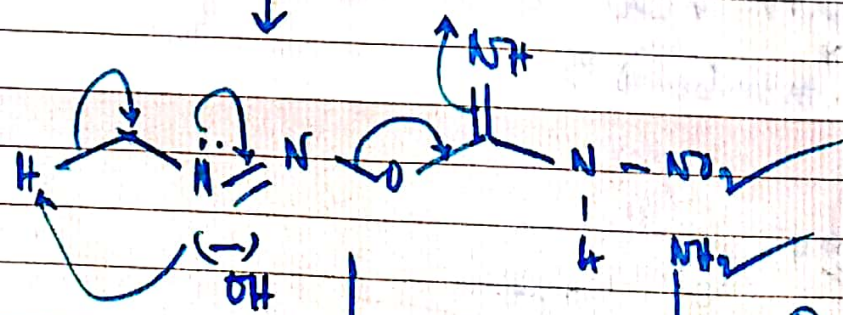
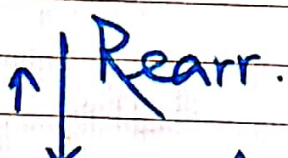
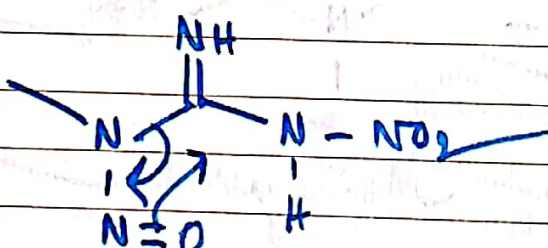
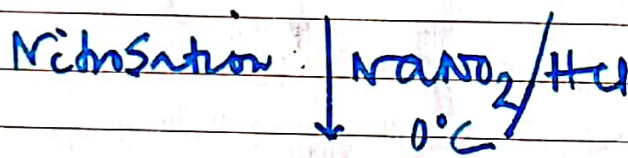
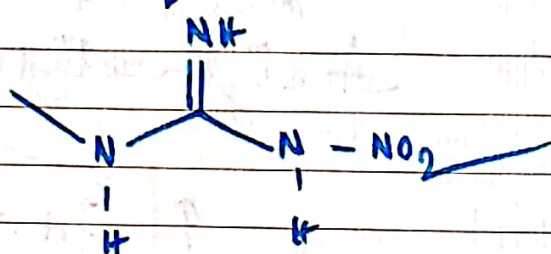
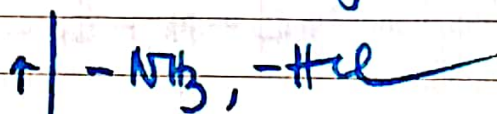
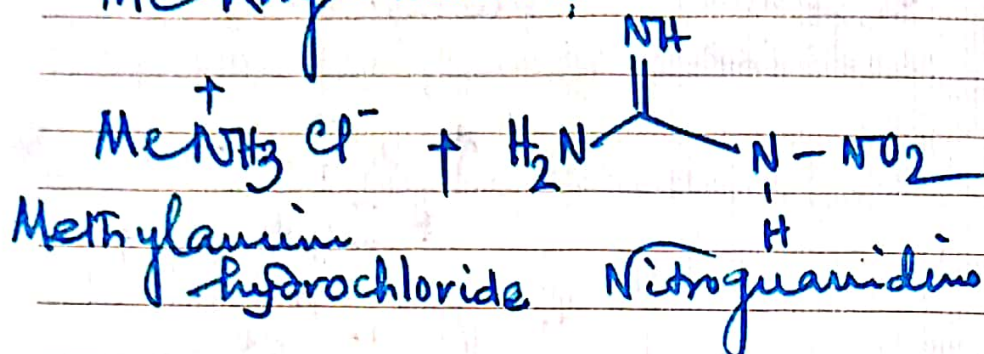
10 Friday

Jan 2020 Week-2 (010-356)

January

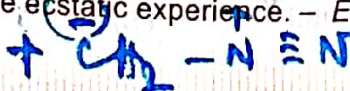
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McKay method:

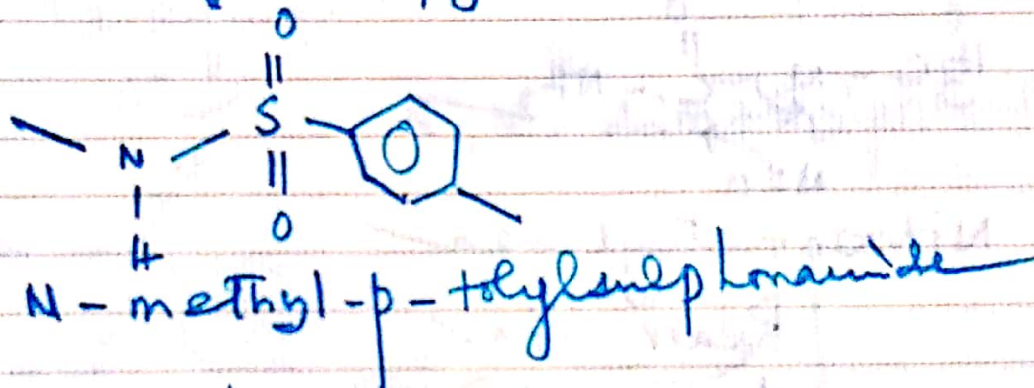
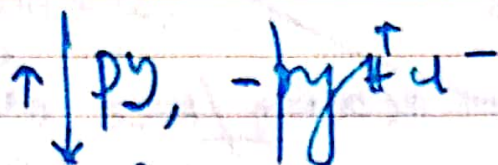
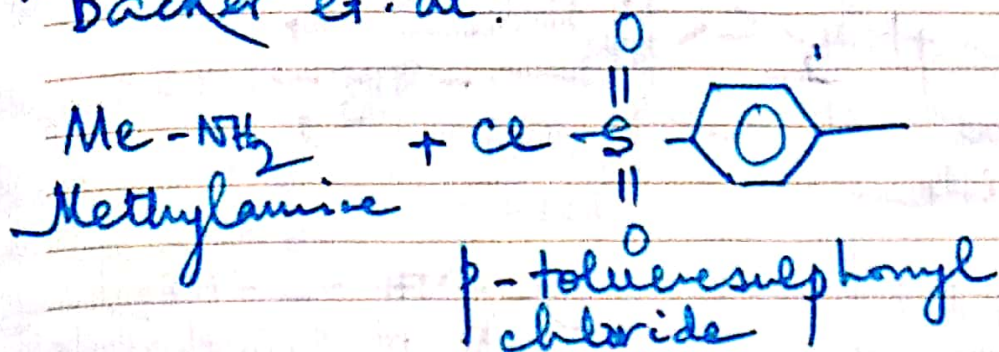


NOTES

The soul should always stand ajar, ready to welcome the ecstatic experience. — Emily Dickinson

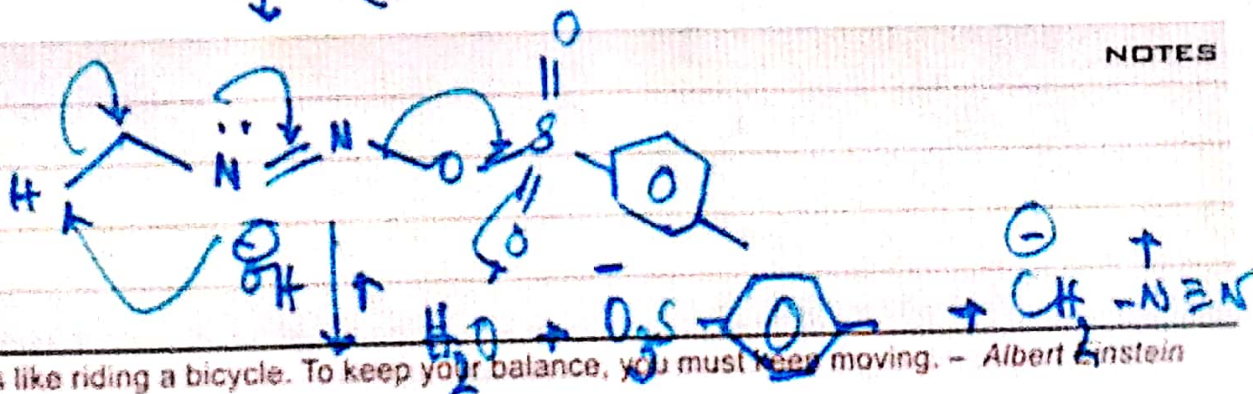
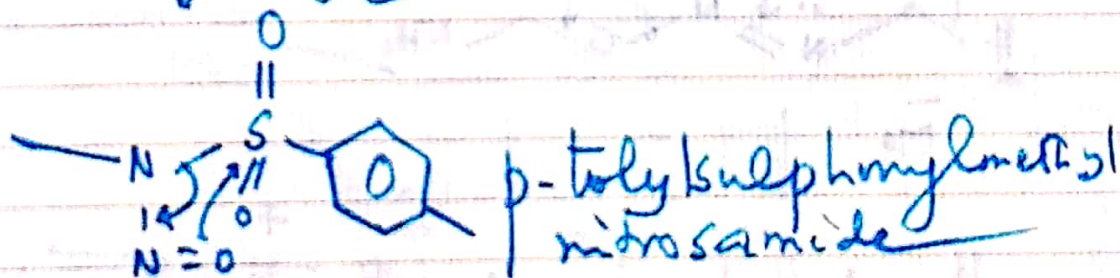
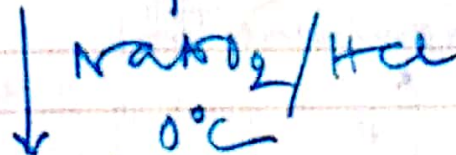


Backer et. al:



Nitrosation

12 SUNDAY



NOTES

Life is like riding a bicycle. To keep your balance, you must keep moving. - Albert Einstein

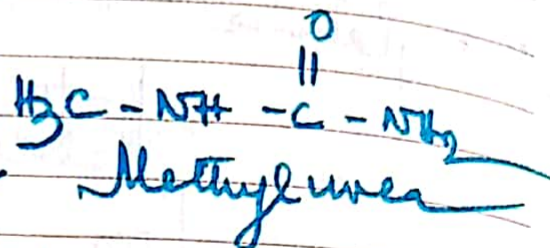
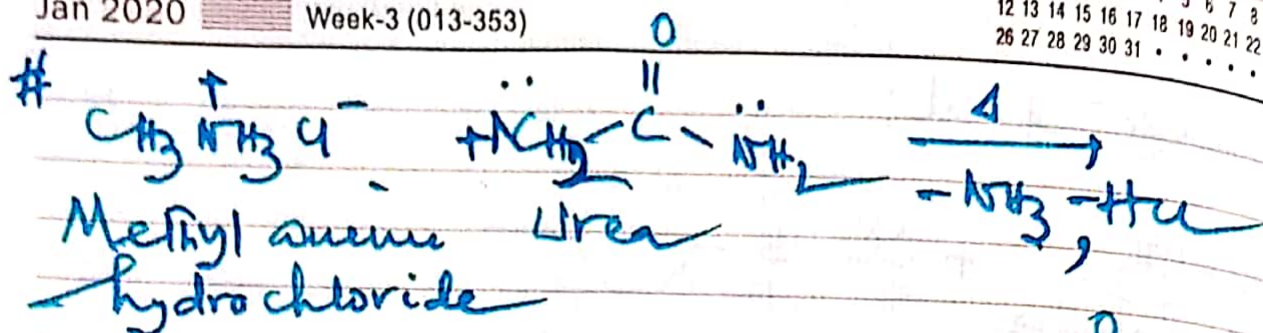
13

Monday

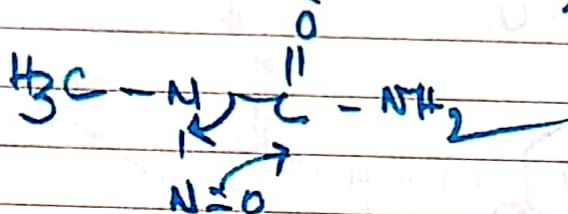
Jan 2020 Week-3 (013-353)

January

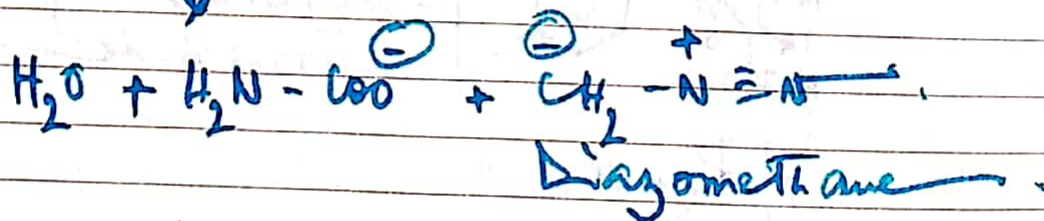
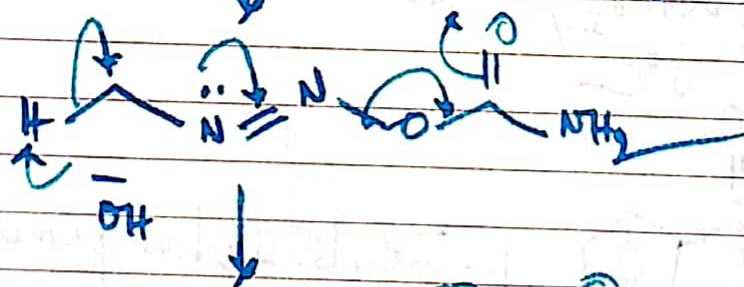
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26	27	28	29	30	31								



$\xrightarrow{\text{NaNO}_2/\text{HCl}, 0^\circ\text{C}}$



Rearr. via 4-membered B



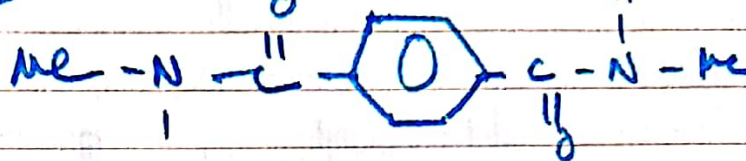
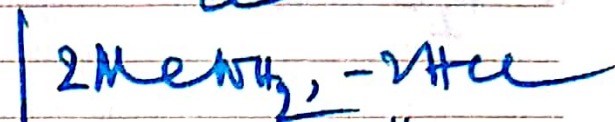
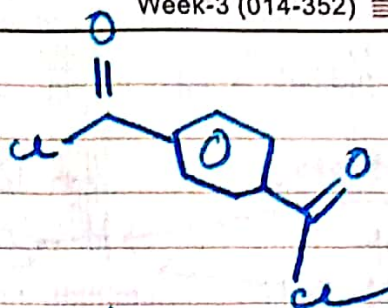
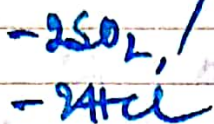
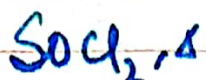
NOTES

The progress of rivers to the ocean is not so rapid as that of man to error. — Voltaire

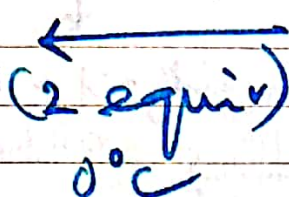
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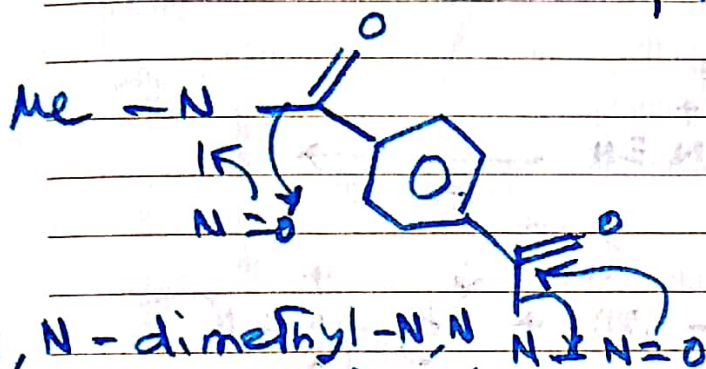
Benzoic-1,4-
dicarboxylic
acid
(Terephthalic acid)



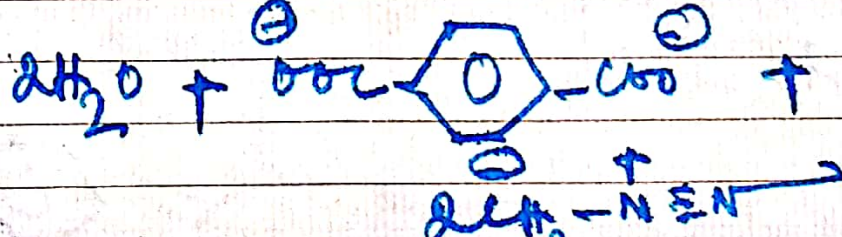
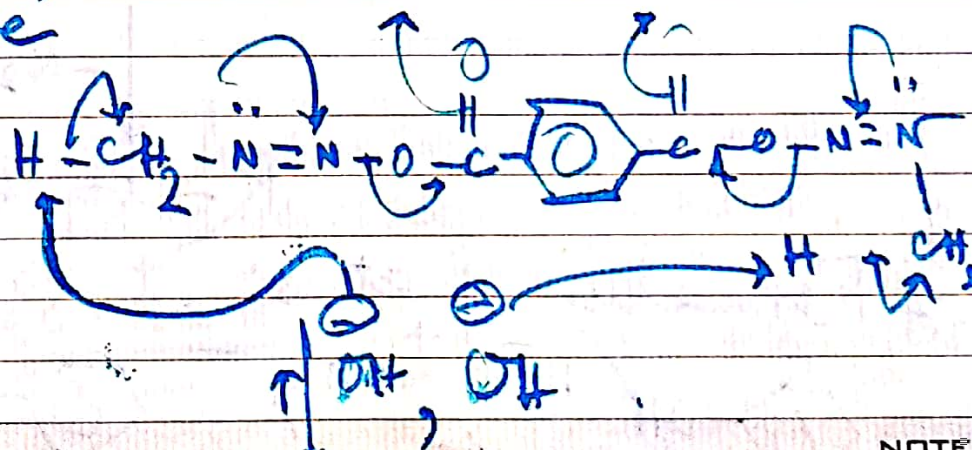
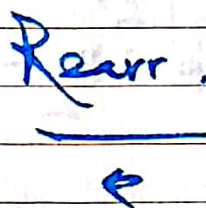
N,N-dimethylphthalamide



0°C



N,N-dimethyl-N,N-
dinitrothalamide



NOTES

15

Wednesday

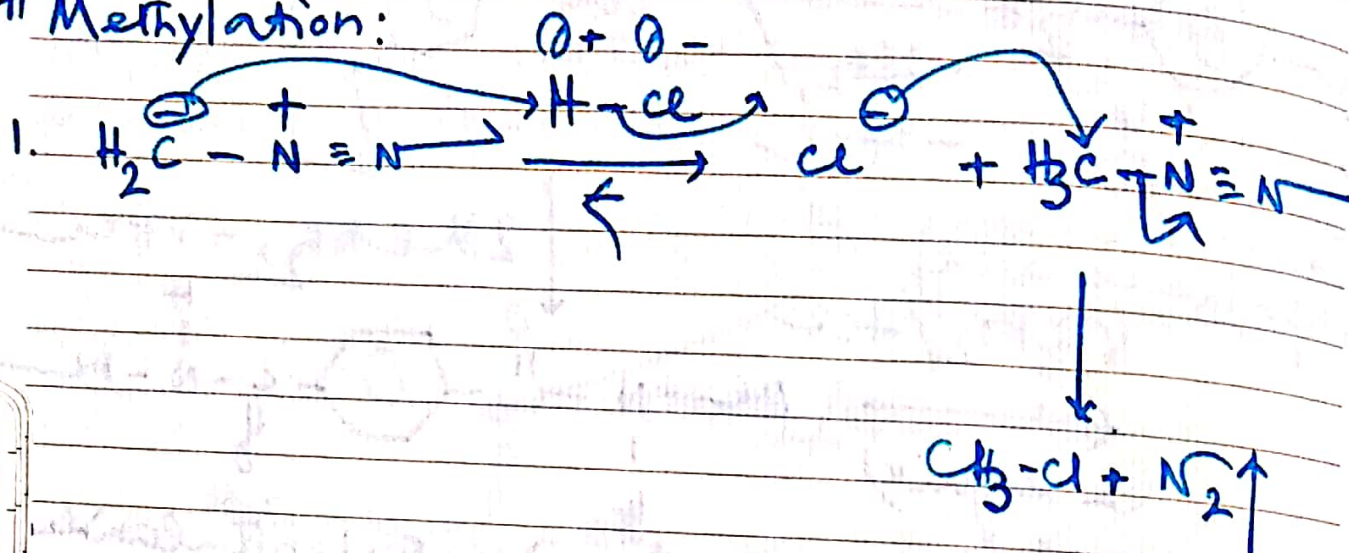
Jan 2020  Week-3 (015-351)

January

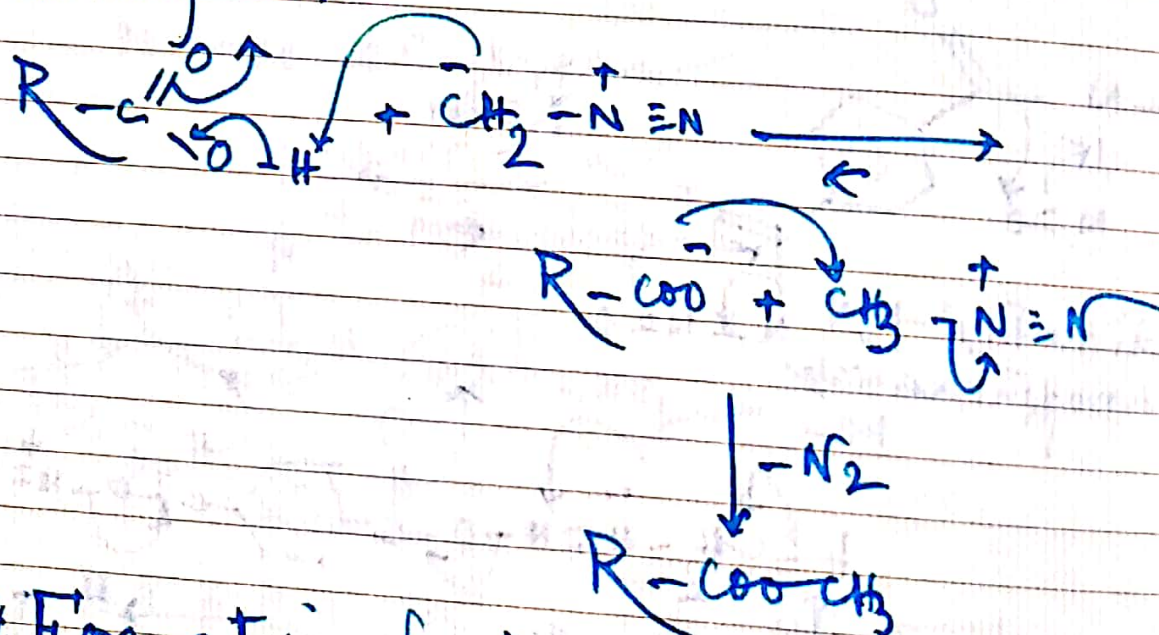
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Reactions:

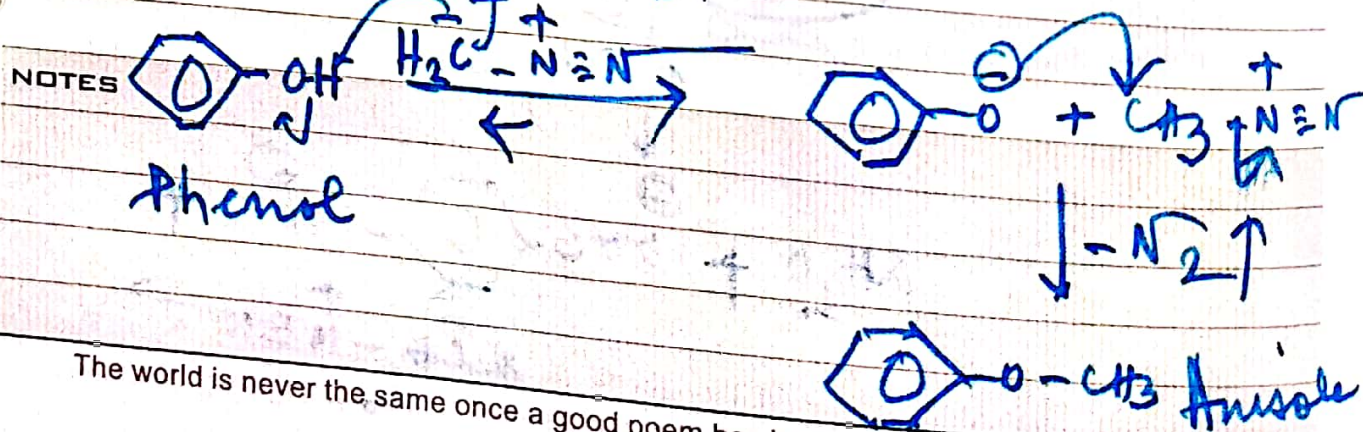
Methylation:



2. Esterification:

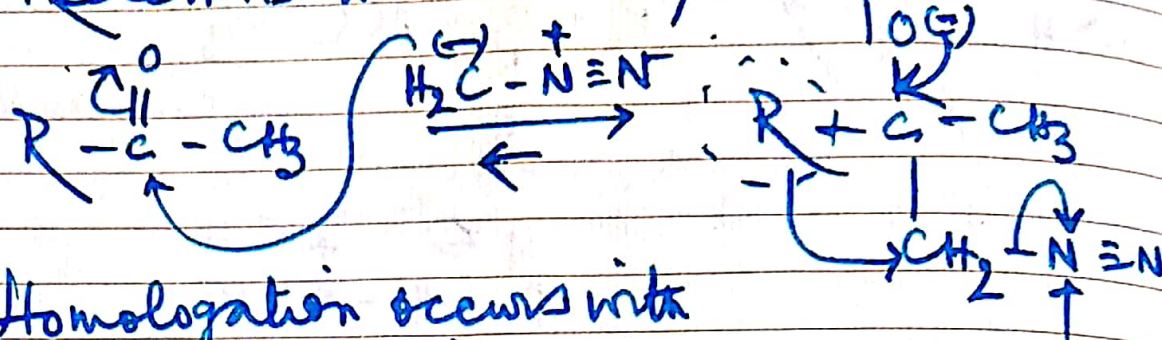


3. # Formation of ethers:

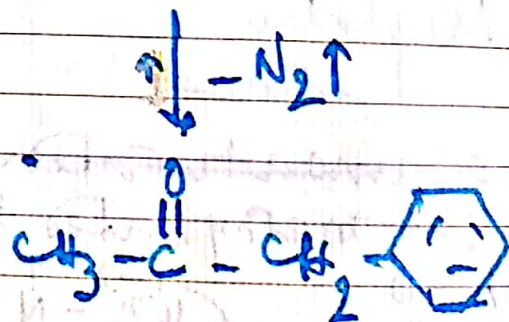
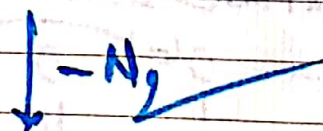
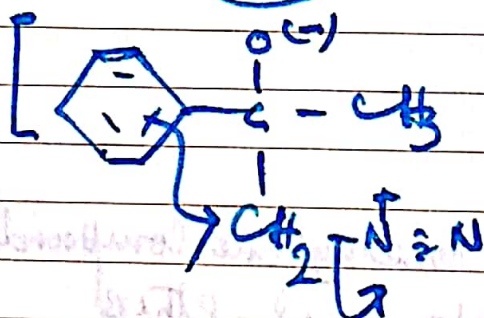
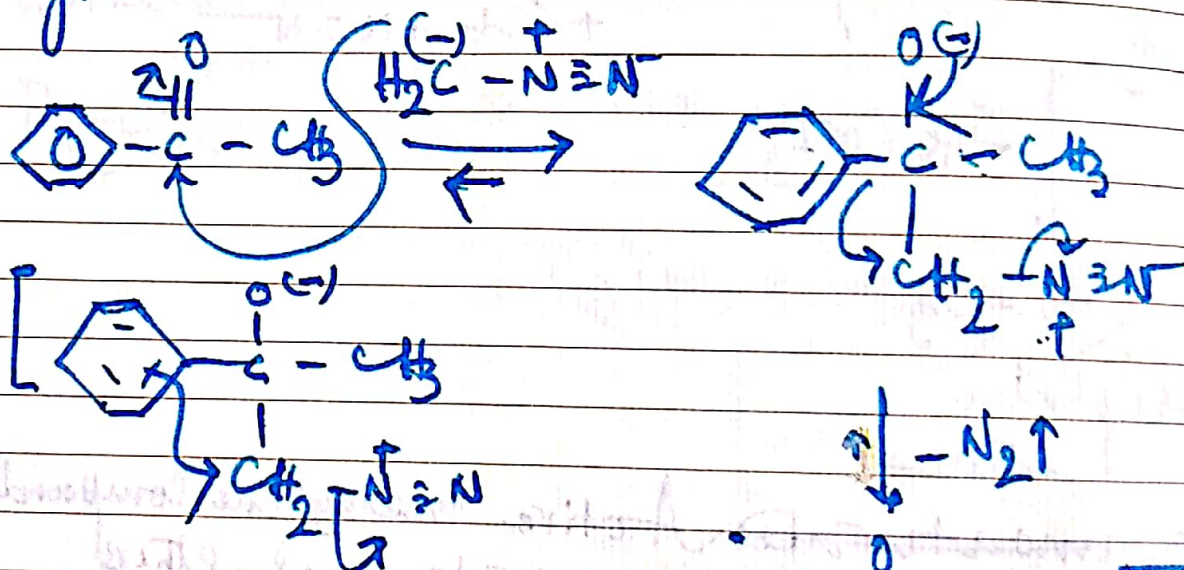
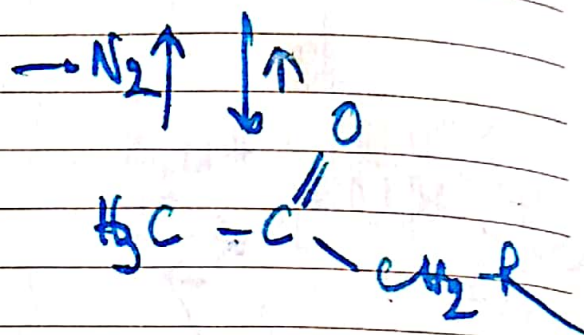


The world is never the same once a good poem has been added to it. — Dylan Thomas

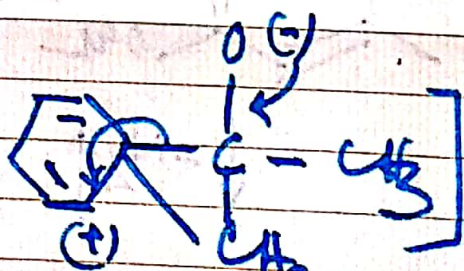
Reactions with carbonyl compounds:



Homologation occurs with high yield. The group having higher migratory preference migrates



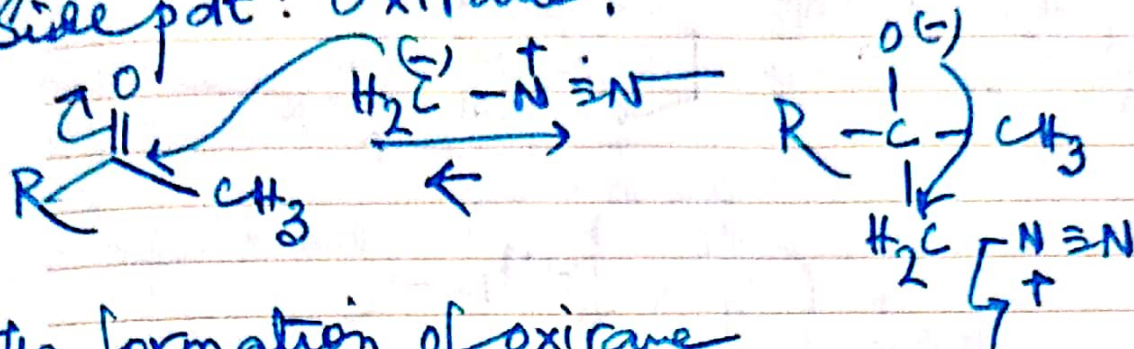
NOTES



Bridged complex

Science is a beautiful gift to humanity, we should not distort it. - A.P.J Abdul Kalam

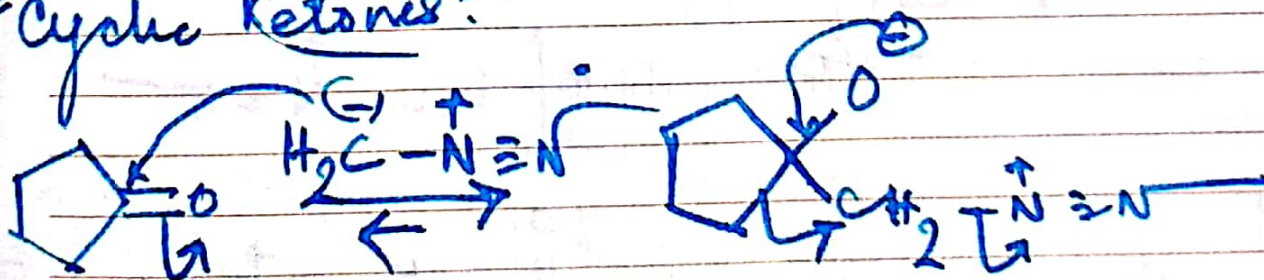
Side pdt: Oxirane:



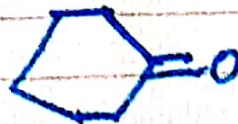
The formation of oxirane and migration of the group having higher migratory preference clearly indicates that diazomethane acts as a nucleophile & not as a base even in case of carbonyls having β -H.

19 SUNDAY

Cyclic Ketones:



Cyclopentanone
 Homologation by
 ring expansion



NOTES

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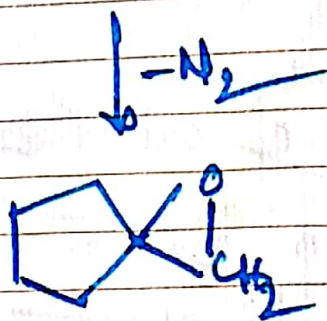
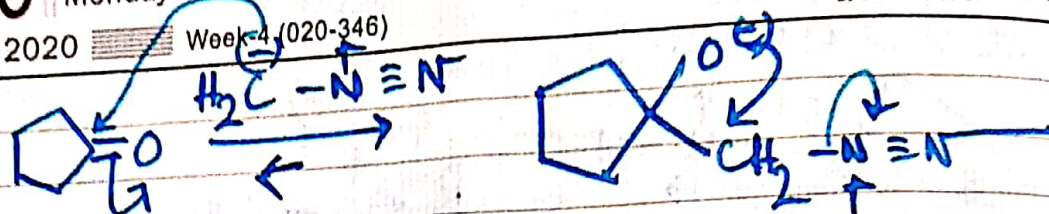
Monday

Jan 2020

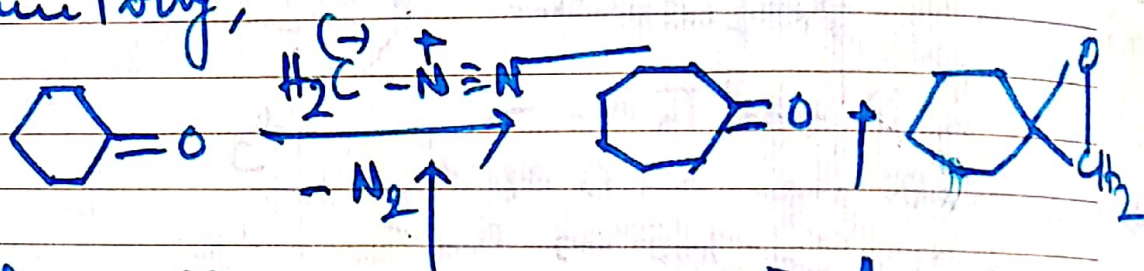
Week 4 (020-346)

January

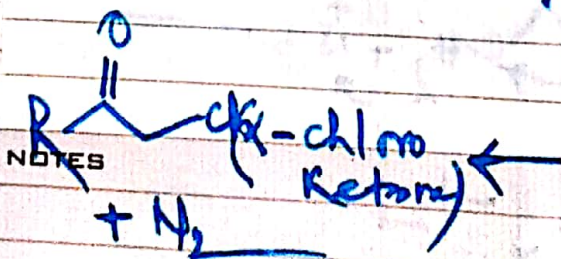
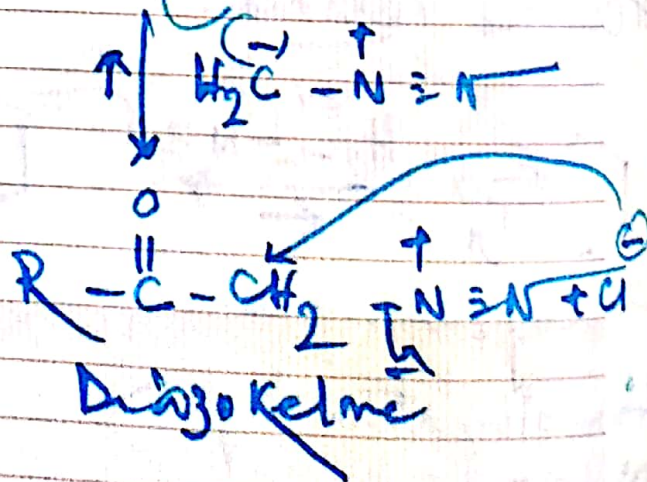
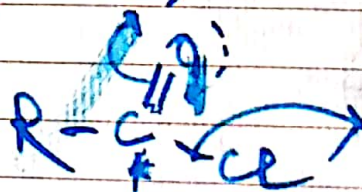
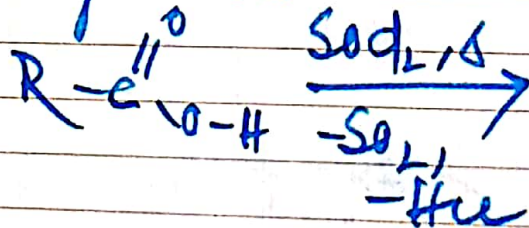
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Similarly,

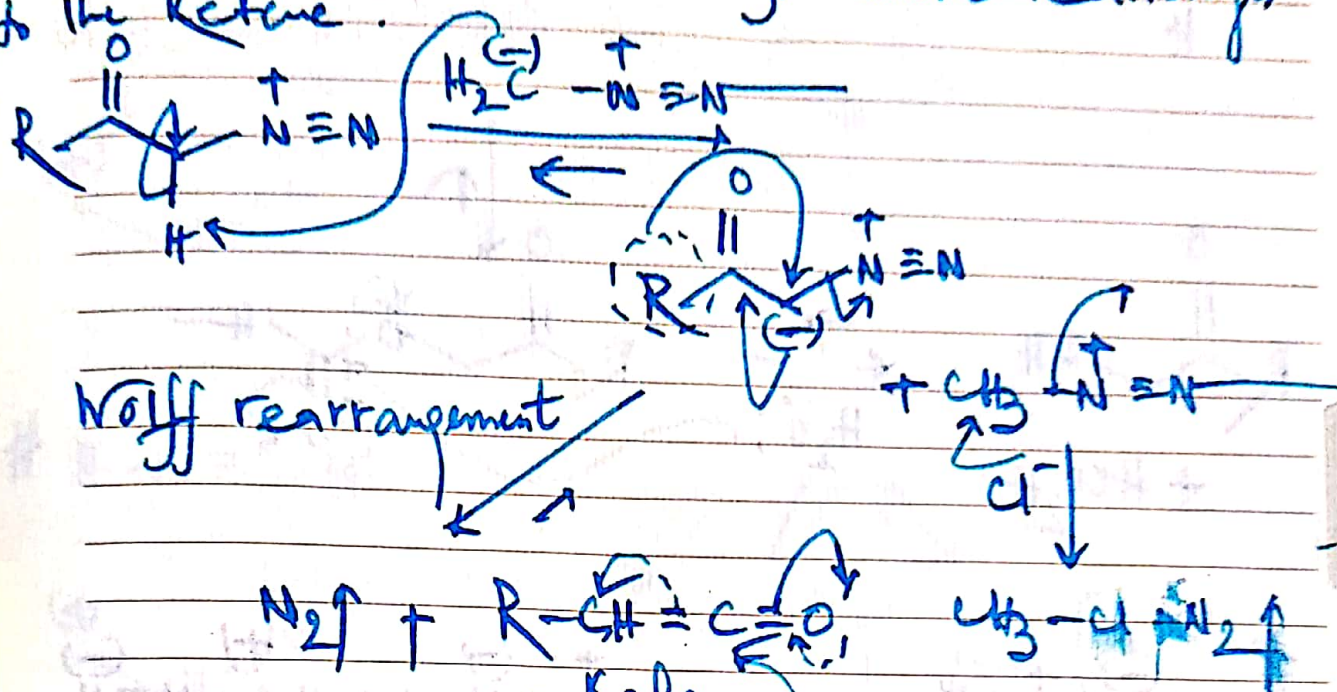


The Wolff rearrangement, the Arndt-Eistert Synthesis:

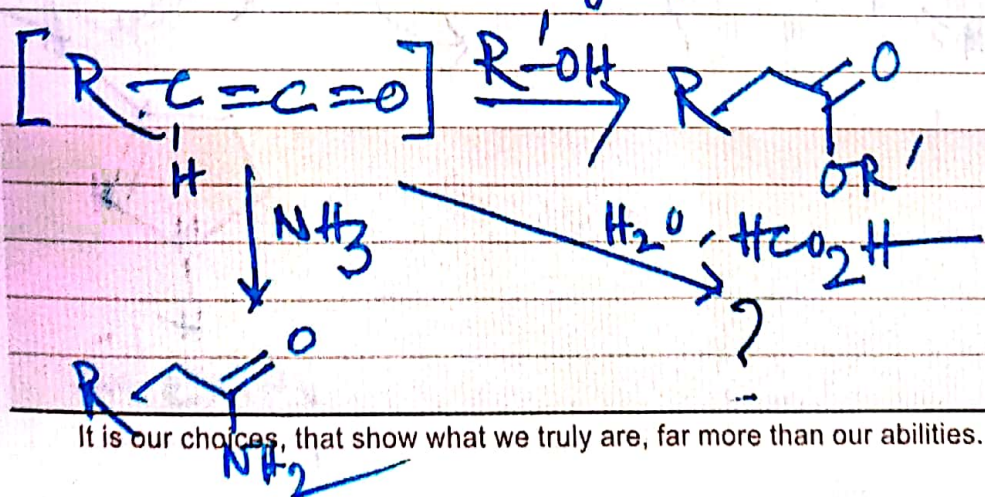
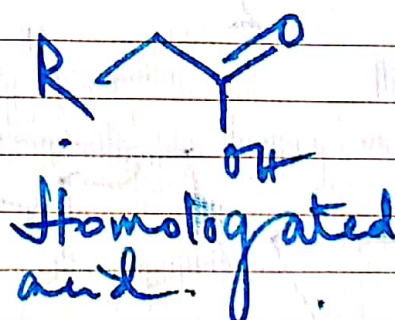


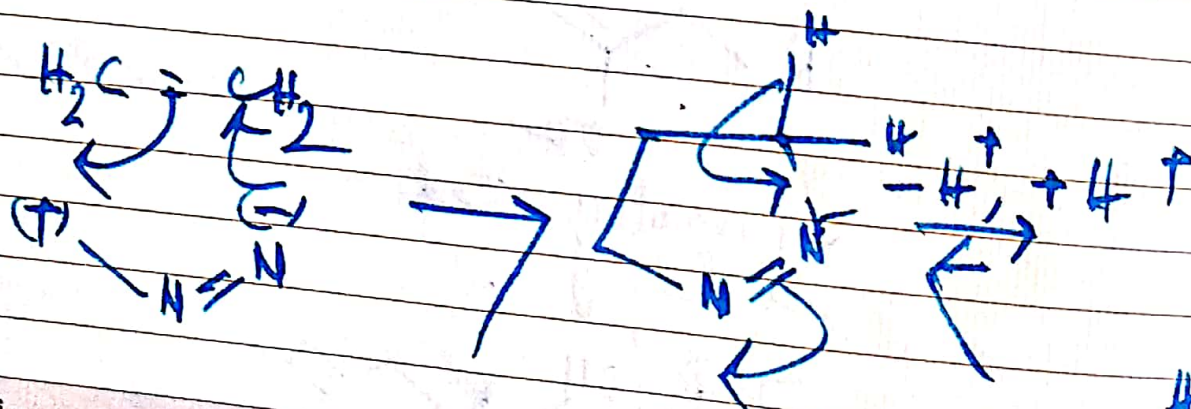
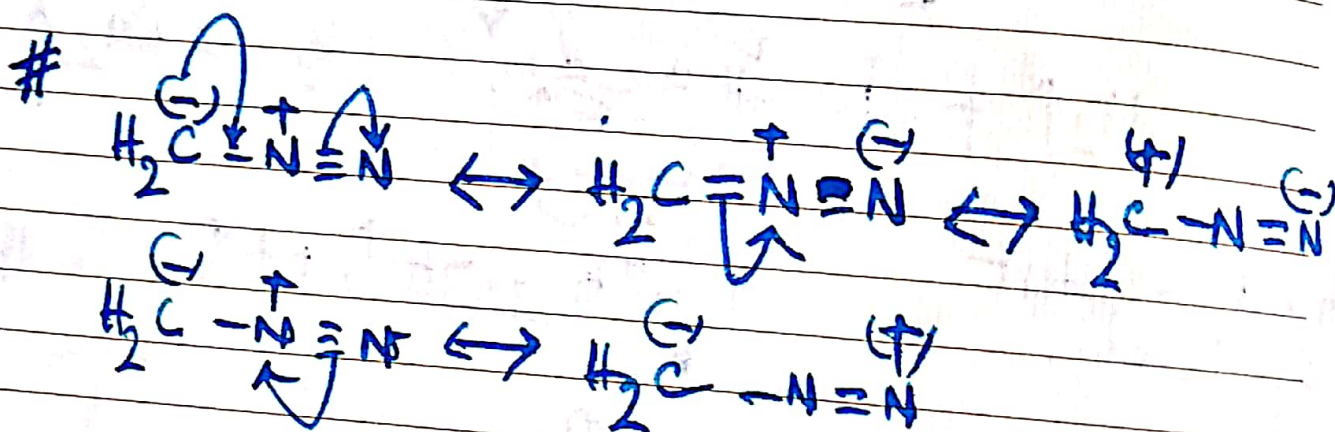
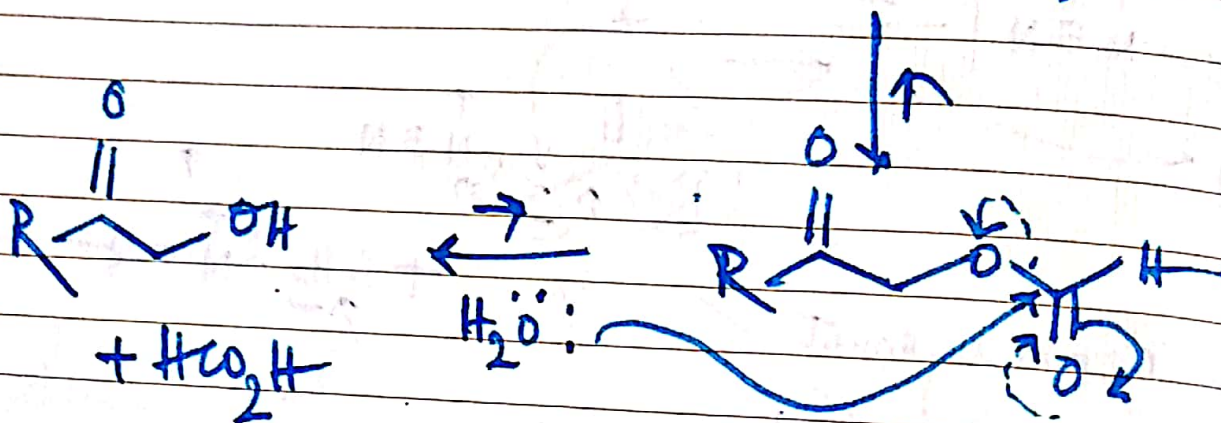
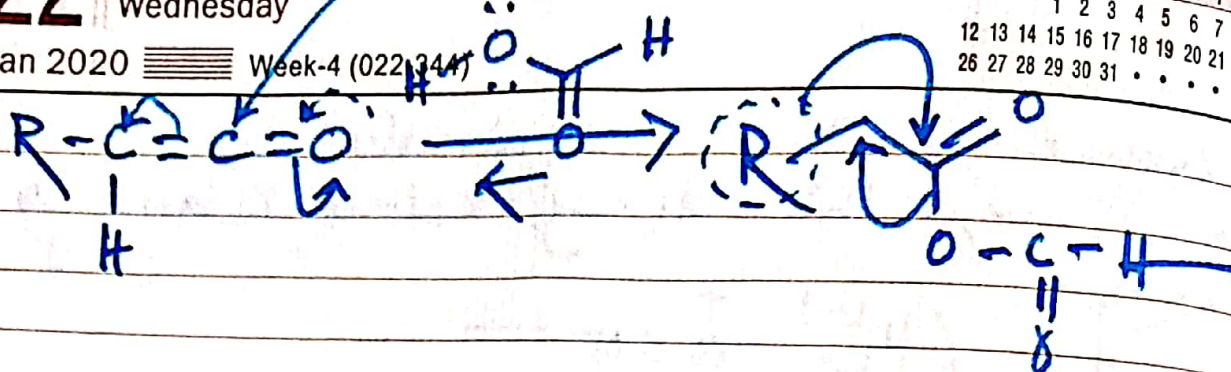
The people who influence you are the people who believe in you. — Henry Drummond

In presence of another equivalent of diazomethane, the α -ketone rearranges to the ketone.

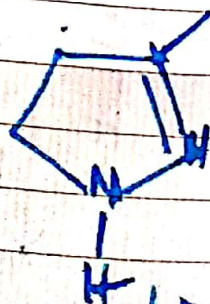


Arndt-Eistert synthesis





NOTES



2020

February

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

1 2 3 4 5 6 7 8

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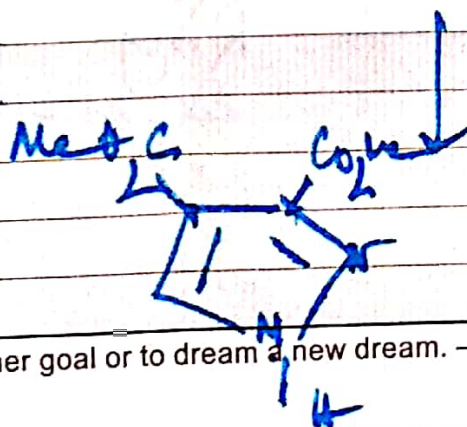
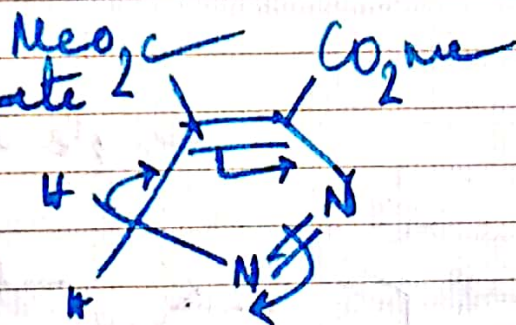
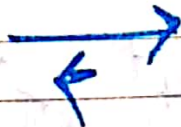
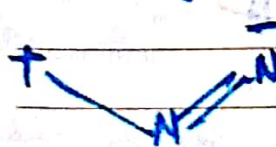
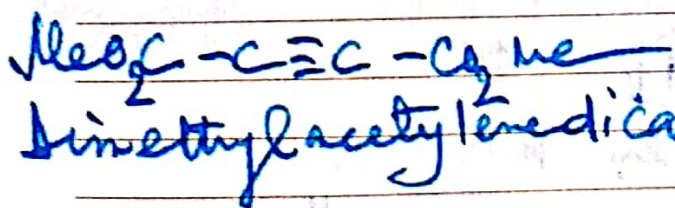
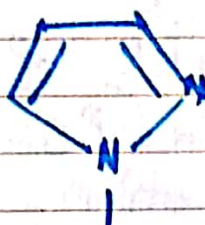
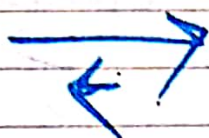
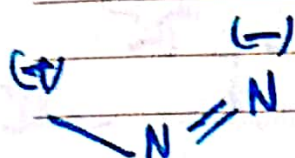
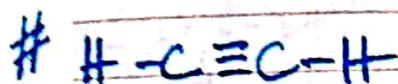
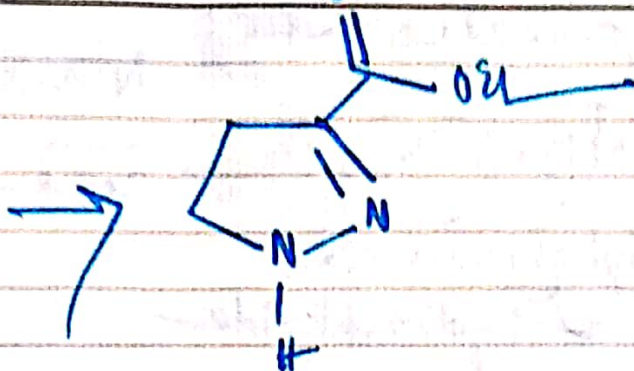
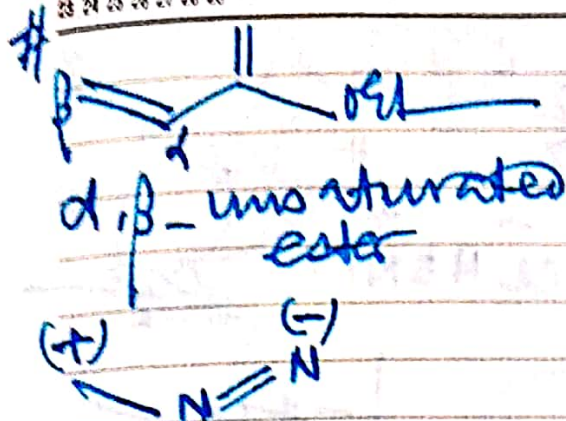
23 24 25 26 27 28 29

Thursday

23

Week 01 (023-343)

Jan 2020



NOTES

You are never too old to set another goal or to dream a new dream. — C.S. Lewis

24

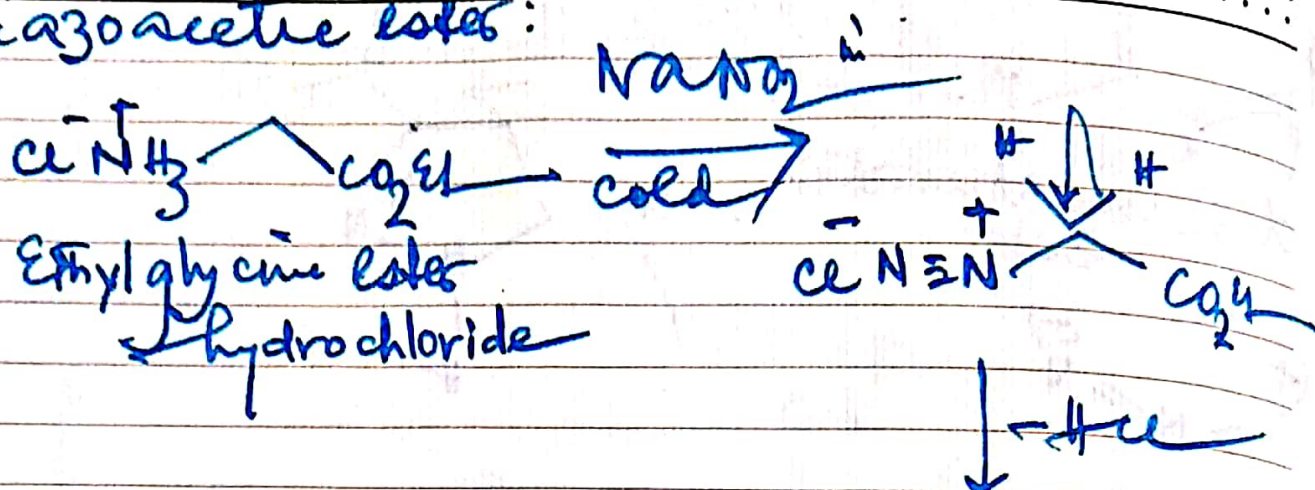
Friday

Jan 2020 Week-4 (024-342)

January

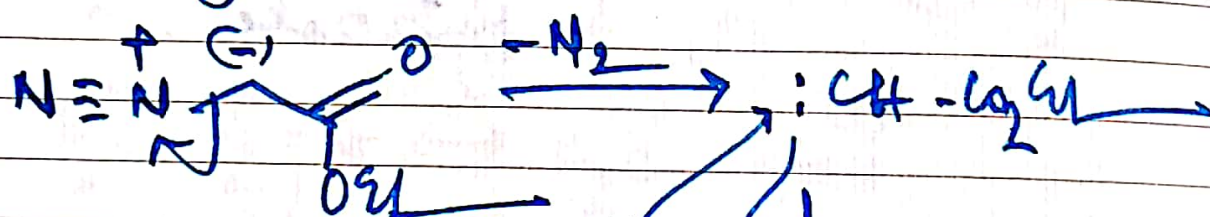
S	M	T	W	T	F	S	S	M	T	W	T	F	S
			1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21	22	23	24	25
26	27	28	29	30	31	.	.	.	.	.	.	.	.

Diazocetic ester:

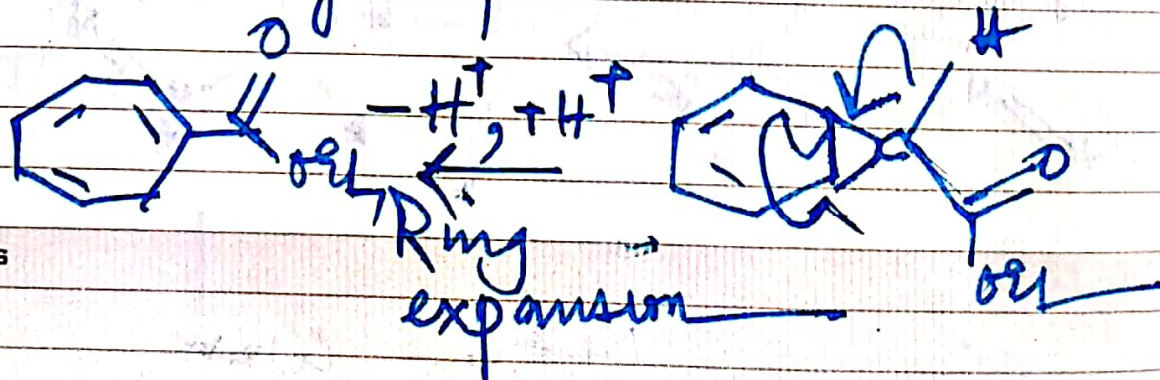


The stability of this species is due to π delocalisation offered by the ester function.

$\text{N} \equiv \text{N}^+ \text{---} \text{CH}^-\text{---} \text{CO}_2\text{Et}$



Single step addn.



NOTES

2020

February

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

1 2 3 4 5 6 7 8

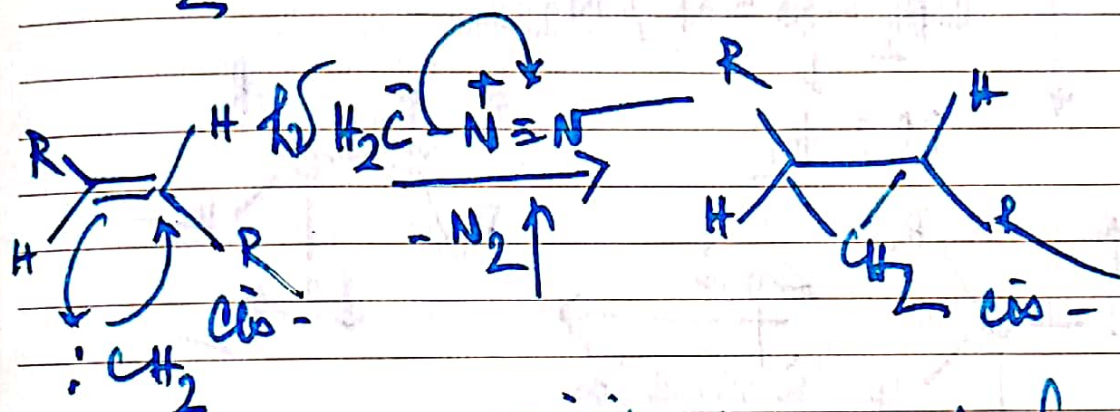
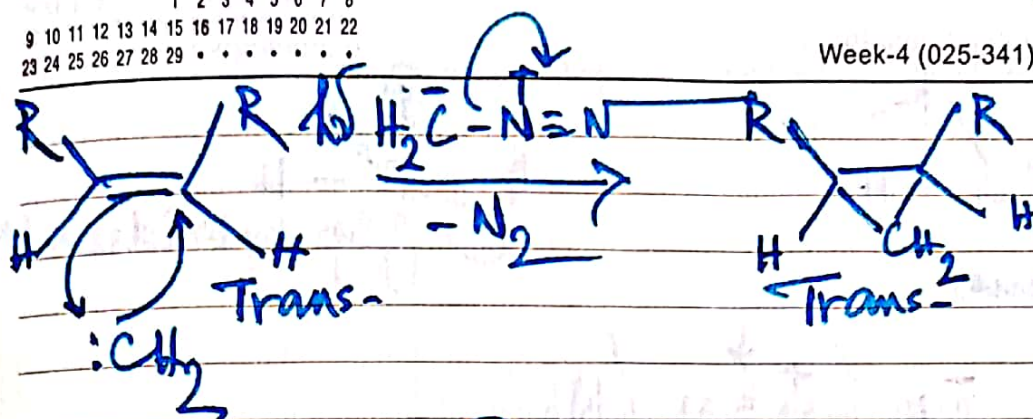
9 10 11 12 13 14 15 16 17 18 19 20 21 22

23 24 25 26 27 28 29

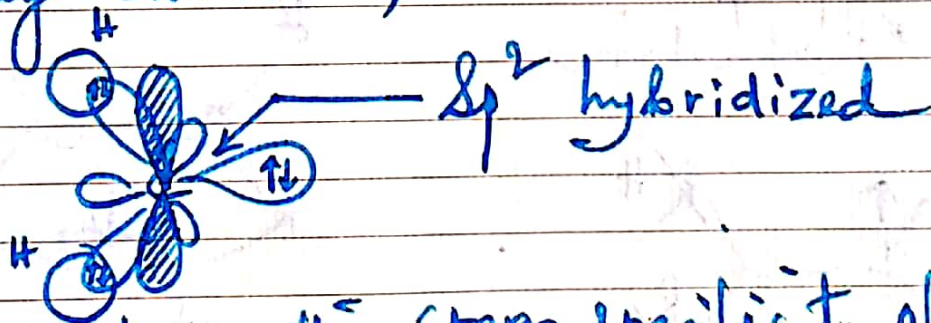
Saturday

25

Week-4 (025-341) Jan 2020



The stereospecificity is due to formation of singlet carbene having the following structure; this allows concerted addition:

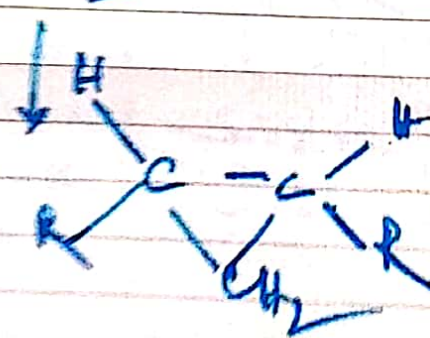
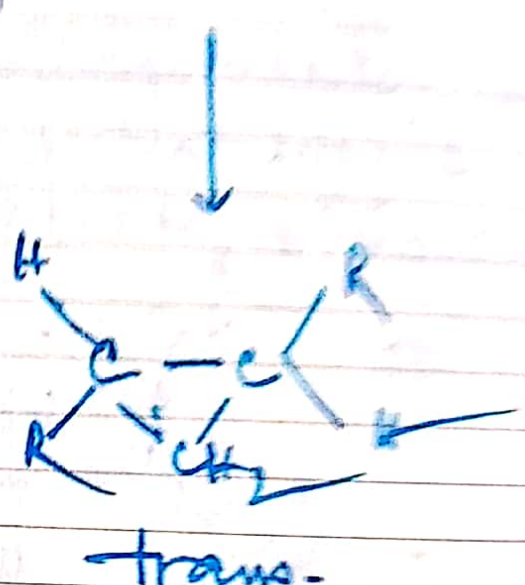
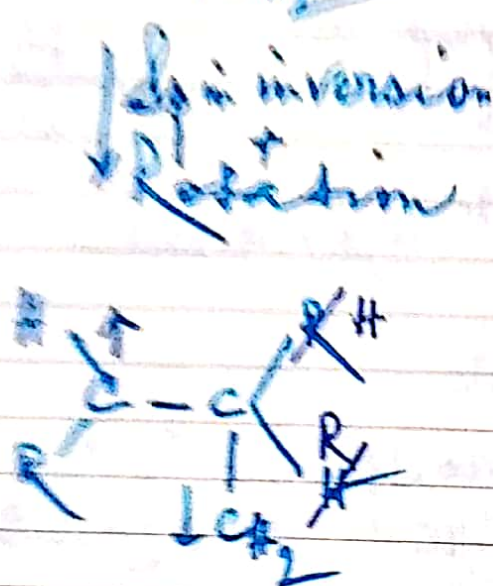
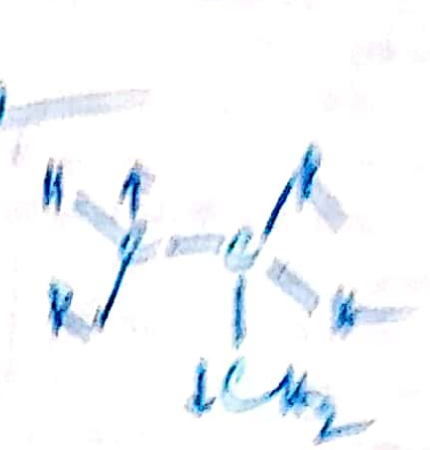
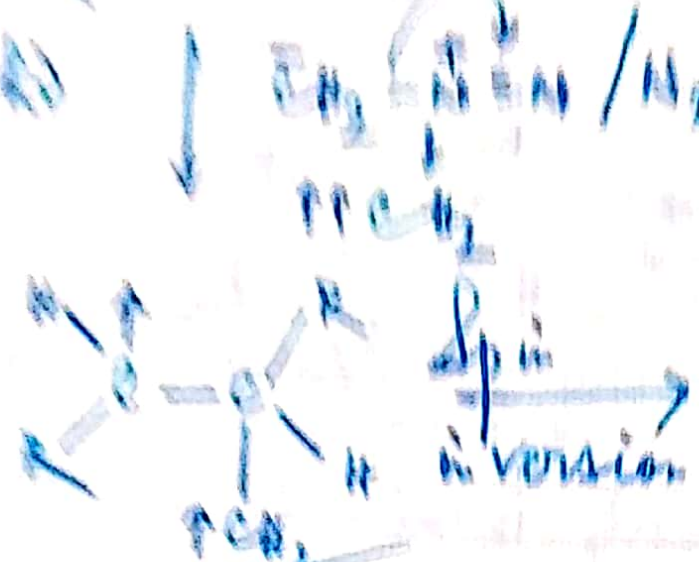


On the contrary, the stereospecificity of the addition is lost if the diazomethane is diluted with N_2 . This is due to formation of triplet carbene having the following structure which allows for stepwise addition.

NOTES



"S_N2 mechanism"



The Stereospecificity is lost when bond rotation is faster than spin inversion.