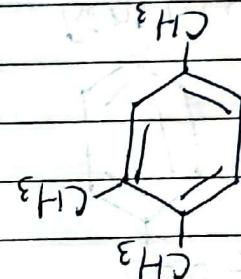
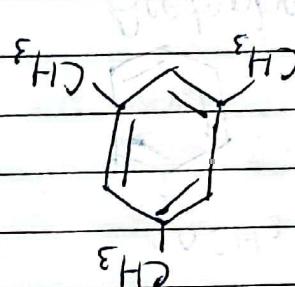


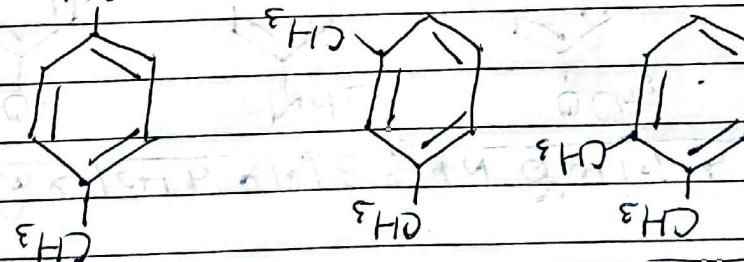
Benzene

1,2,4 Trimethyl 1,3,5 Trimethyl



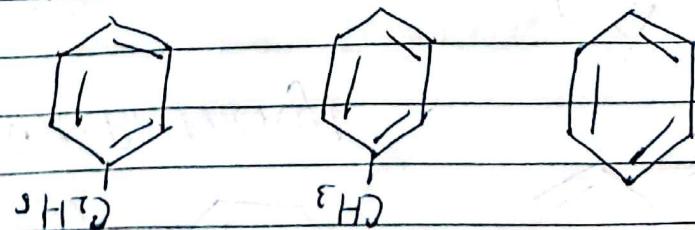
~~Ques. Ques. 3.~~

Benzene
1,2-dimethyl 1,4-dimethyl



~~Ques. Ques. 0~~

Toluene Benzene



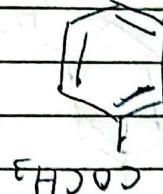
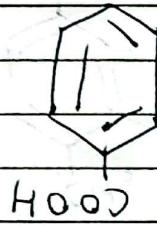
~~Ques. Ques. 10~~

Hydrogenation of aromatic hydrocarbons

Benzaldehyde



Benzophenone Benzonic Acid



Benzonitrile

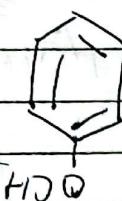


①

~~Phenol~~

~~Phenol~~

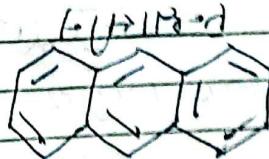
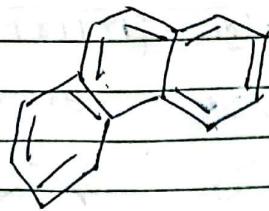
~~Phenol~~



OH

~~Phenol -> Phenoxide -> Aniline -> Anilinium -> Phenylbenzylamine -> Phenylbenzyl alcohol~~

1. $\text{H}_2\text{C}(=\text{O})\text{N}$



2. NaBH_4



② LiAlD_4

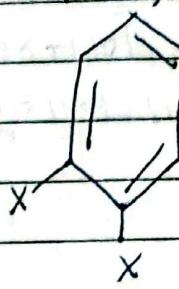
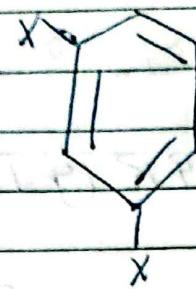
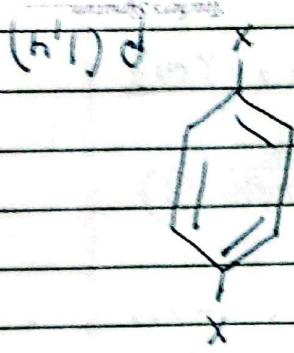


~~1. $\text{H}_2\text{C}(=\text{O})\text{N} \rightarrow \text{H}_2\text{N} \rightarrow \text{NH}_2 \rightarrow \text{NH}_2 + \text{CH}_2\text{OH} \rightarrow \text{NH}_2\text{CH}_2\text{OH}$~~

~~2. $\text{NaBH}_4 \rightarrow \text{NH}_2\text{CH}_2\text{OH} \rightarrow \text{LiAlD}_4 \rightarrow \text{NH}_2\text{CH}_2\text{D}$~~

m (1,3)

o (1,2)



1,2,1,4-dichlorobenzene

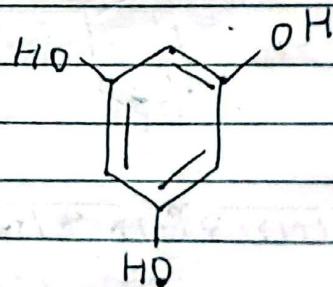
1,4-dichlorobenzene
1,2-dichlorobenzene
1,1-dichlorobenzene

(1,4-dichlorobenzene) - ①

Benzene + Hydrogenation :-

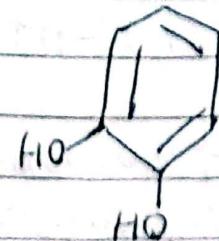
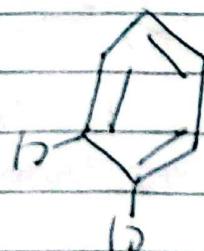
Hydrogenation Benzene

1,3,5 Tri



Benzene
1,2-dichloro

Benzene
1,2-dihydroxy



1,2-dichlorobenzene + Hydrogenation :-

~~102-141121-10171513 8 10141513~~

-: УЧЕБНИК ПО ГИГИЕНЕ 8

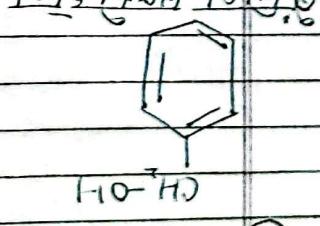
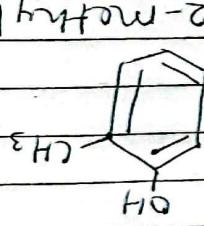
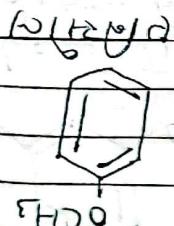
תְּבִרְכָה וְעַמְקָדָה
תְּבִרְכָה וְעַמְקָדָה

-: JK (4) 1014 1513 ②

① $\text{CH}_3 - \text{CH}_2 - \text{CH}_3$

~~-17-12-27-17-19-17-17-16~~

Pharm



$$\text{CH}_3 - \text{H} - \text{CH}_3$$

$$\text{CH}_3 - \text{CH} - \text{CH}_3$$

12 WSM 119

- NDT&RT INT'L INSTITUTE

(2) 419152 12412-40 11016 (3,65) 1 20. (34-419152
11216 11062,8 NBW 40 1-1178

$\rightarrow \text{Tr}(\text{Tr}(T)) = \text{Tr}(T^2)$ (P)

161-2022417

121074 1c/m 121H

3. Before 1-103 & H₂ 34.6. 4. 4-103

12/19/2019 Log Book

(3) ~~384.925.710.349.925.489~~

11074, 13E

12/10/37

12. $\mu > 4$ 1c (5). For $\mu \neq 4$ $\lambda_1(\lambda_2) = \lambda_2(\lambda_1)$. $\lambda_1(\lambda_2) = \lambda_2(\lambda_1)$. (8)

1.2 N₂ °Boyle + 1 + 11c/12

ବୀର୍ଯ୍ୟ ପାଇଁ କିମ୍ବା କିମ୍ବା କିମ୍ବା କିମ୍ବା କିମ୍ବା

210

~~28-18107 14 4 EMD 10/11/10 10/10 1-11-15 34~~

~~-2. C110 did 10% less. This is 10%~~

~~For 12/17 11-12 days 12/18 11-12 days 12/19 11-12 days 12/20 11-12 days~~

$$CH_2 = CH - C \equiv C - (CH_2)_n$$

CH₃C - CH₂-C≡CH ⑤

$$\text{CH}_2 = \text{C} = \text{CH} - \text{CH} = \text{C} = \text{CH}_2$$

~~-1.2 (941) 24 mols~~

~~Sisterly (n/o) 1.2 G13, for her 4 pmw 31/11~~

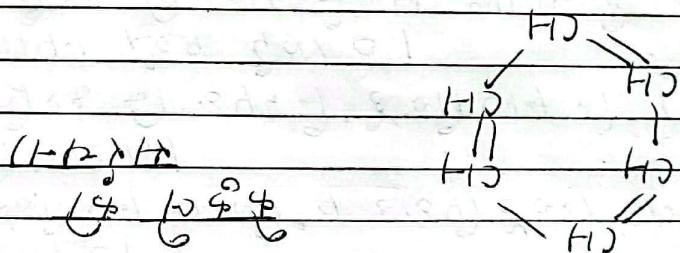
all of triple bond \equiv double bond \equiv single bond \equiv

4 double bond x 4 bonds = 16

121P4H

~~more likely to be found along the western coast of North America.~~

$\rightarrow \overline{O(HR)} \cdot \overline{f(B)}$

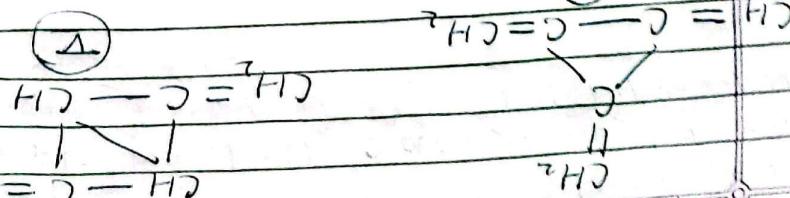
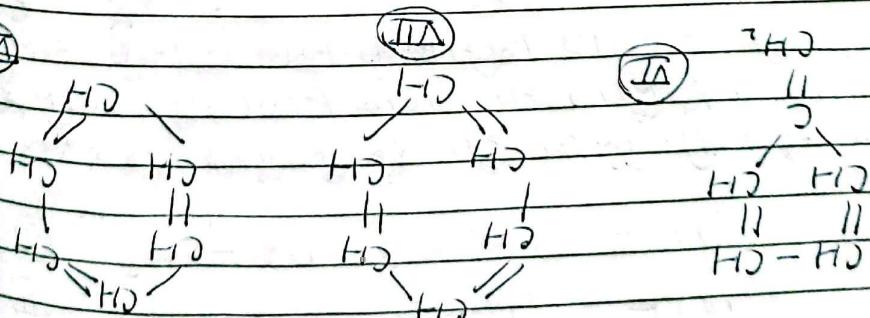


THERB

~~11-12 11-12 11-12 11-12~~

~~(2) 10167 138~~

11-12-212 14. 10 4^o 9 14. 118/112 212 10 41 113 510
11-12-13 10 4^o 9 11-12-212 (III) 6 (IIA) 14. 113 510



12 $\text{CH}_4 \rightarrow$ (3)

to 11-12 steps 10% 3/2 12 C₄H₁₀ + 1-5 %
are 10% 1-6% 1-2/3 hrs 1-10/15% 1-10% ⑧

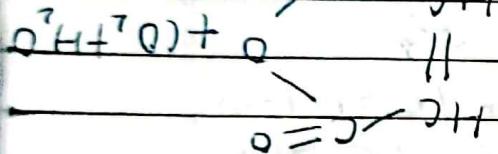
50/33/2 1-2 4% 6/5

O

H

C

H



H

H

H

H

H

H

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H

(2) 6 +



12 $\text{CH}_4 \rightarrow$ to 11-12 steps 10% 3/2 12

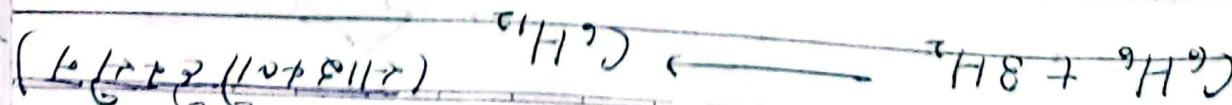
10% 1-10% 14 50/33/2 1-2 4% 10% 10% (-10%)

10% 1-10% 14 50/33/2 1-2 4% 10% 10% (-10%)

50/33/2 1-2 4% 10% 10% (-10%)

H₂

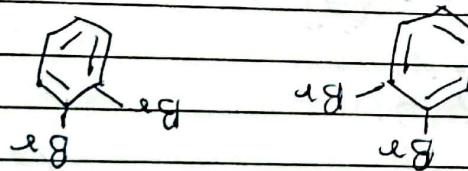
50/33/2 1-2 4% 10% 10% (-10%)



~~12 4 for 18 to 8.~~

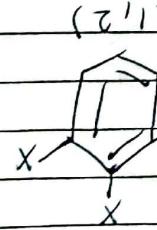
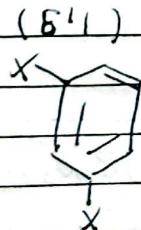
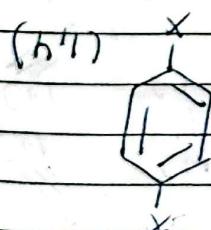
$$1.040 \text{ A} \quad L - C \text{ single bond length is } 1.154 \text{ A}$$

~~42 + 17 = 81 & 1013 - 1115 = 17 - 1000~~ 10241-X



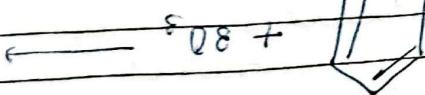
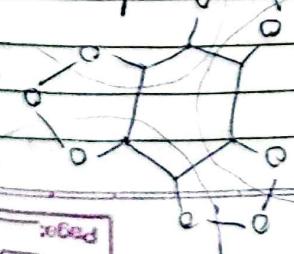
12 (9.4%). IN-0 1-4) 2 610 1/2/6/1-1
10/10/10/10 04+30 12 20/4 1/2/10/10/10
1-1-1-1 2/1-2/1-2 1/1-2/1-2 1/2/2/2 1/4 1/1/1/1

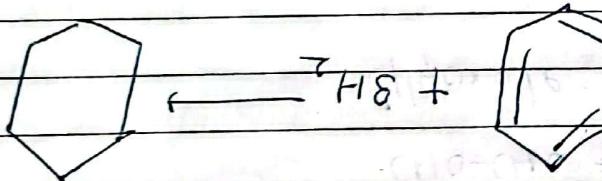
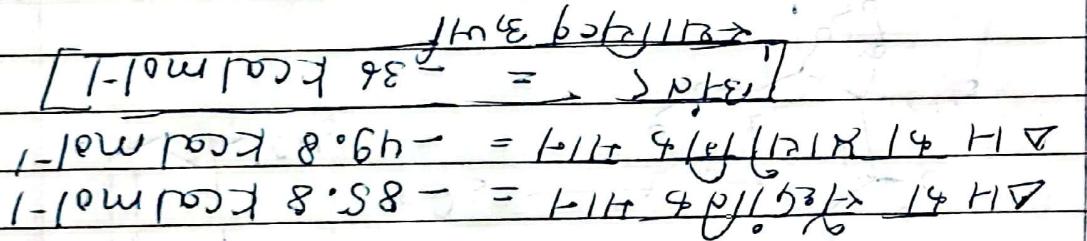
$$-\frac{1}{2} \overline{(T_2 T_1)^2} \left(\overline{g_1} \overline{T_1} \overline{T_2} \lambda \right) \rightarrow \overline{f_2} \overline{g_1} \overline{g_2} \quad \#$$



84416 (112), (113), (114) 2112 1211 1111

Chloroacetic acid

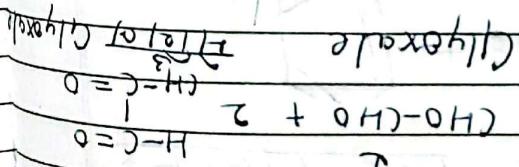
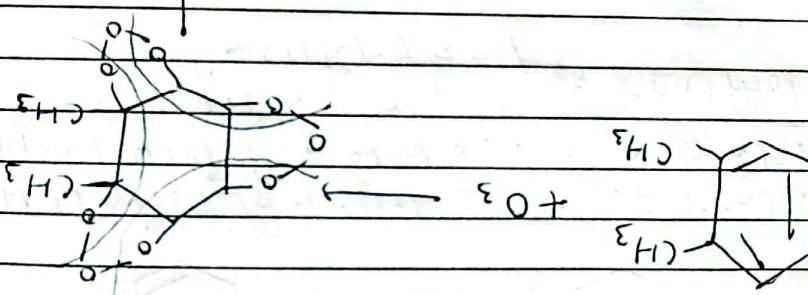
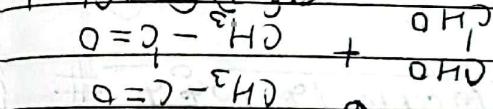
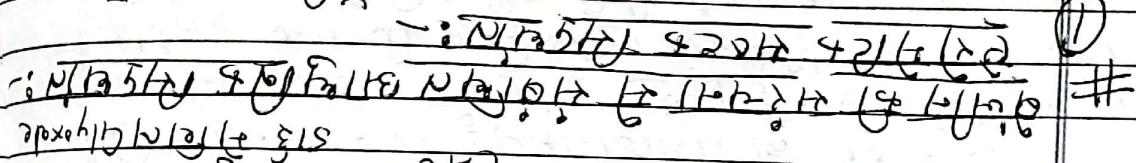
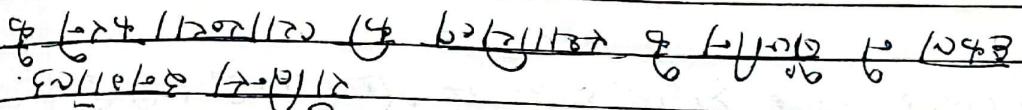




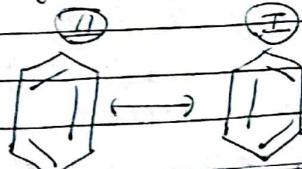
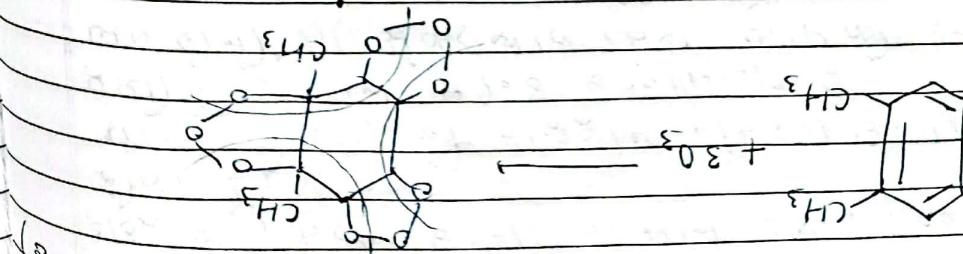
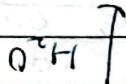
12/11/2024 The 6th floor
3rd floor 3rd floor 1st floor
1st floor 1st floor 1st floor 1st floor
1st floor 1st floor 1st floor 1st floor 1st floor
1st floor 1st floor 1st floor 1st floor 1st floor
1st floor 1st floor 1st floor 1st floor 1st floor

~~1-10W1003 9:52 AM 14 Feb 2014 (10:48 10:41pm) (8813)~~
~~-15 14:42 11:57 4:12 2:31 11:12 11:12 11:12~~
~~11:12 8x28.6 kg/cm² = 85.8 kg/cm²~~
~~4.11.53 14 Feb 2014 (10:48 10:41pm) (8813) 14 11:12 11:12~~

Teacher's Signature



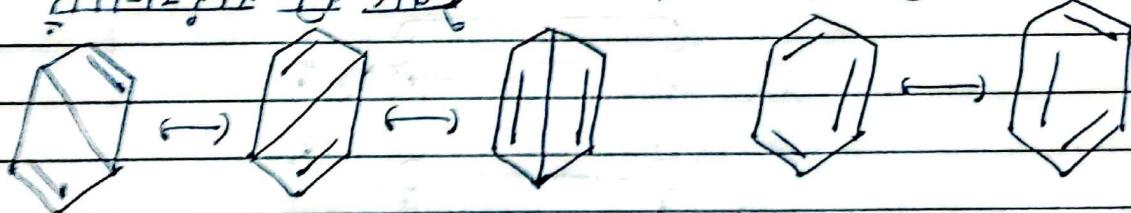
(2)



12 234 104 51098

125 | 2 1013.1015.07-100798 4 614 N 014212
1024.1024.11-1013.14 1010.10214 2 1015.1012

2410 611-1018



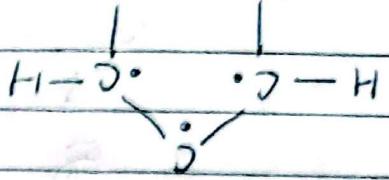
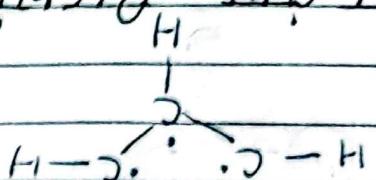
~~100 210 E 400 1100~~

~~40000 3103 b 10446 11012 40106 71102 40106
1510000 31459 11025 12 4013 70491~~

~~151408 15 2145 9 1725 12 0013 00h01~~

~~10-10 P14 P14 - P14 3/58 12 IN 13 14.021
1013 1012 2/58 12 IN 13 P14 P14 - P14 4/58
CH 1013 8/1083 N15 1016 1016 1016 1016 1016 1016~~

$$= \frac{1}{\sqrt{1/2} \sqrt{5/2}} \frac{1}{\sqrt{2}} \frac{1}{\sqrt{1/2 + 4/2}} \frac{1}{\sqrt{1/2}}$$



~~L2 18110 134 42012 42165 120 1812 024~~

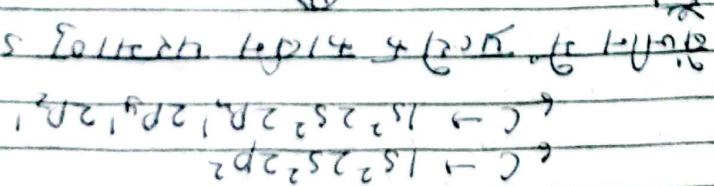
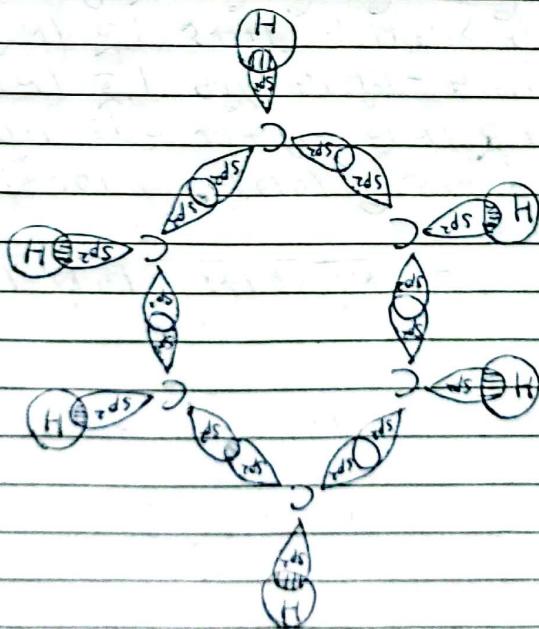
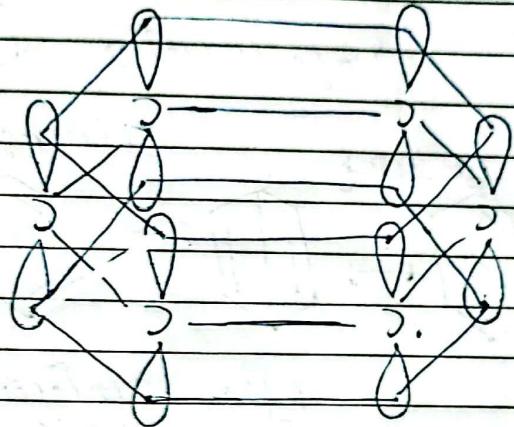
~~10/11/10 14 42812 4CL-29~~ ~~to 2118 2 1N32 1D2~~

~~-28/10/12 & 10/11/12 1-14 & 15/12/12 & 16/12~~

March 8, 1990 11:22 1:214 2 to 1-078 211Pm

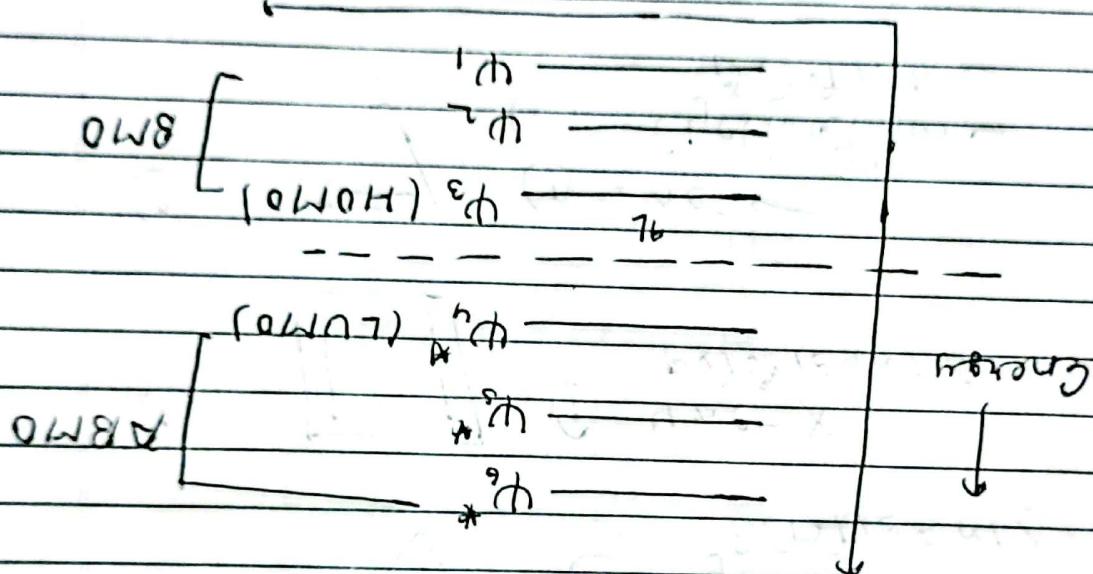
8/15/2 1110.41 P.P.TK. (t) 100% g 4291n -2 (78 d/w)

4184. $\mu \gamma 4! \times \pi ds$ (2) 4. $\text{Fol} 1 + 2 \alpha$ 1. $\mu 14 + \frac{1}{2} \beta 15$
1. $\mu 12$ $N(1)(117.0)(\frac{1}{2})^2$ $\geq 1.014 + \frac{1}{2}$ 1. $\mu 14 + \frac{1}{2} \beta 15$
4.0 (2) ≥ 2415.2 $\ln \{ 3 - \pi \} 1024! \times 14 + \mu 14 + \frac{1}{2} \beta 15$



-: W13.51y L. B. Forn ⑧

$$10 > 4 \left(y_{12} \cdot 14 - 2x \cdot 11 \right) + 2 \left(y_{11} \cdot 13 \cdot 10 \right) + 5 \cdot 7 \cdot 19 = 13 \\ 10 < 14 \left(y_{12} \cdot 11 \cdot 10 \cdot 7 \right) + 11 \cdot 10 \cdot 4 \cdot 13 \cdot 12 \cdot 5 \\ - : \left(11 \cdot 10 \right) \cdot 14 \\ 2x \left(2 + y_{11} \right) + 10 \cdot 4 \cdot 11 \cdot 10 + 11 \cdot 10 \cdot 4 \cdot 13 \cdot 12 + 11 \cdot 10 \cdot 4 \cdot 13 \cdot 12 \cdot 5 =$$



परिवर्तन

② वृत्तीय
① वृत्त



④

परिवर्तन

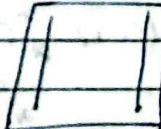
③ वृत्तीय
① वृत्त



③

परिवर्तन

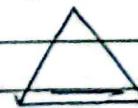
④ वृत्तीय



②

परिवर्तन

② वृत्तीय
① वृत्त



①

परिवर्तन

— वृत्तीय

..	-	=
(-)	-	=
(+)	-	=
=	-	=

②

परिवर्तन

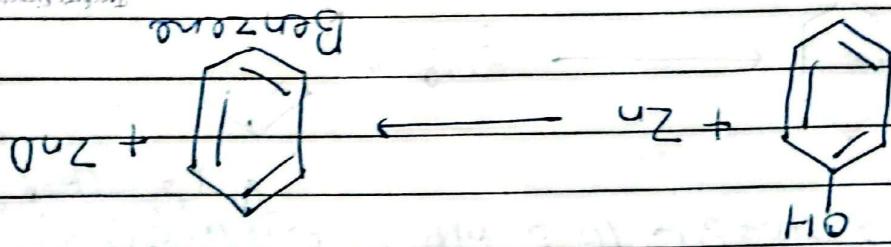
① $(4n+2) \times e \rightarrow 2ne, 6ne, 10ne, 14ne$

परिवर्तन

परिवर्तन

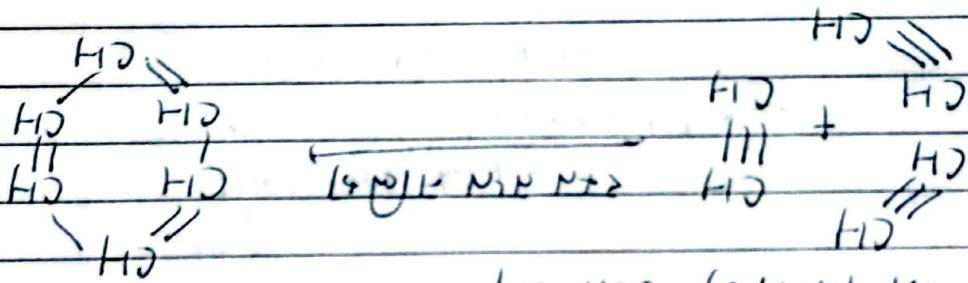
परिवर्तन

Benzene



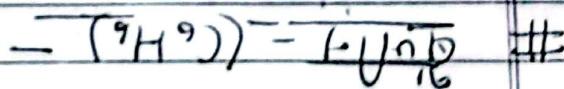
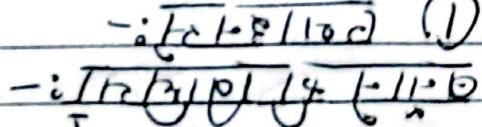
~~2. Cyclization of substituted benzene~~

~~-: Benzene -~~ ②

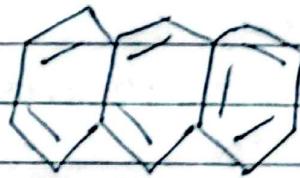


~~1. Preparation of cyclohexane~~

~~-: Benzene -~~ ①

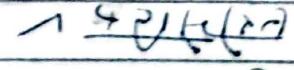


② Cyclization
1. heat -



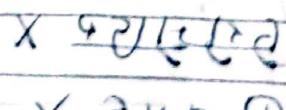
③

② Cyclization
1. heat -

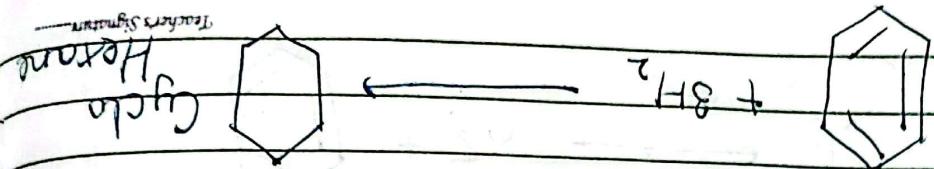


④

③ Cyclization
1. heat -



⑤



~~1. $\text{CH}_2 = \text{CH}_2 + \text{H}_2 \rightarrow \text{CH}_3 - \text{CH}_3$~~

~~(1) $\text{H}_2 + \text{C}_2\text{H}_4 \rightarrow \text{C}_2\text{H}_6$~~

~~(2) $\text{C}_2\text{H}_6 + \text{PbO} \rightarrow \text{C}_2\text{H}_4 + \text{PbO}_2$~~

~~(3) $\text{C}_2\text{H}_4 + \text{PbO}_2 \rightarrow \text{C}_2\text{H}_4 + \text{PbO}$~~

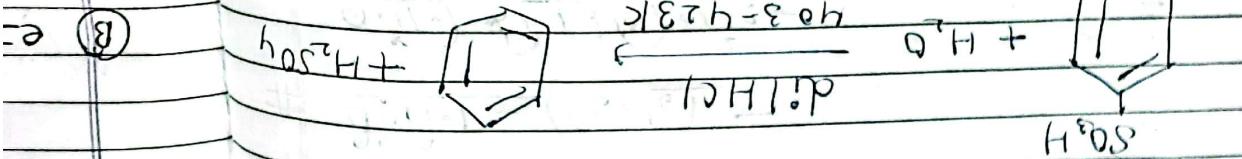
~~(2) $\text{C}_2\text{H}_4 + \text{PbO}_2 \rightarrow \text{C}_2\text{H}_4 + \text{PbO}$~~

~~(1) $\text{C}_2\text{H}_4 + \text{PbO} \rightarrow \text{C}_2\text{H}_4 + \text{PbO}$~~

~~C_2H_4~~

~~$\text{C}_2\text{H}_4 + \text{H}_2 \rightarrow \text{C}_2\text{H}_6$~~

~~$\text{C}_2\text{H}_4 + \text{H}_2 \rightarrow \text{C}_2\text{H}_6$~~



~~$\text{C}_2\text{H}_4 + \text{H}_2\text{O} \rightarrow \text{C}_2\text{H}_5\text{OH}$~~

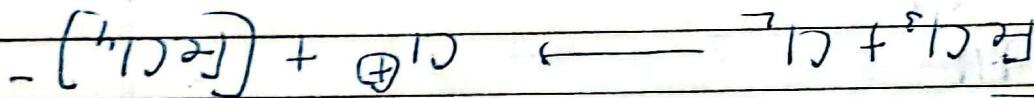
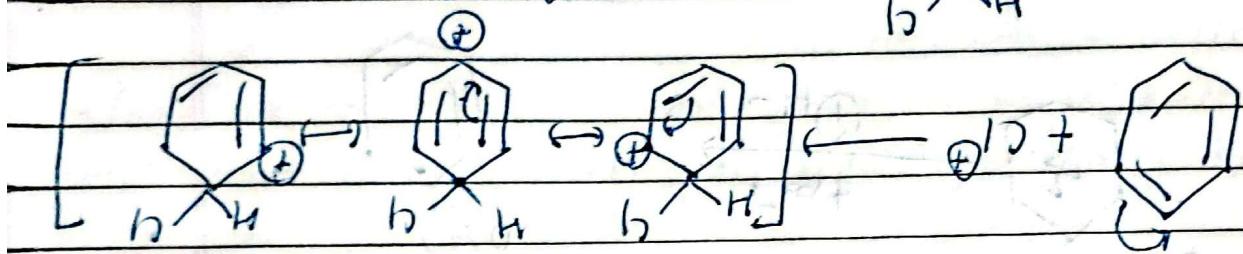
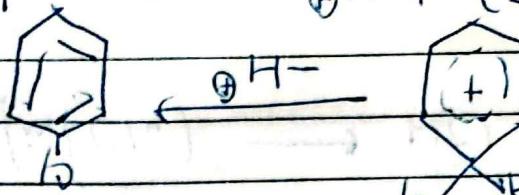
~~(1) $\text{C}_2\text{H}_4 + \text{H}_2\text{O} \rightarrow \text{C}_2\text{H}_5\text{OH}$~~

~~$\text{C}_2\text{H}_5\text{OH} + \text{NaOH} \rightarrow \text{C}_2\text{H}_5\text{ONa} + \text{H}_2\text{O}$~~

~~$\text{C}_2\text{H}_5\text{ONa} + \text{H}_2\text{O} \rightarrow \text{C}_2\text{H}_5\text{OH} + \text{NaOH}$~~

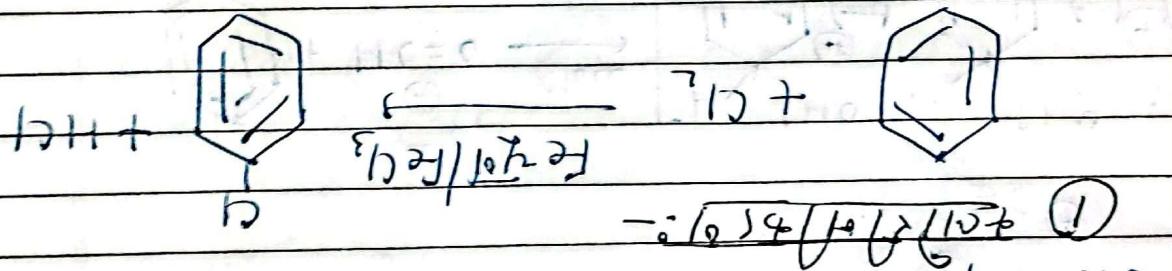
~~(2) $\text{C}_2\text{H}_5\text{OH} + \text{H}_2\text{O} \rightarrow \text{C}_2\text{H}_5\text{OH} + \text{NaOH}$~~

~~(3) $\text{C}_2\text{H}_5\text{OH} + \text{H}_2\text{O} \rightarrow \text{C}_2\text{H}_5\text{OH} + \text{NaOH}$~~



Mechanism

Chloro Benzene

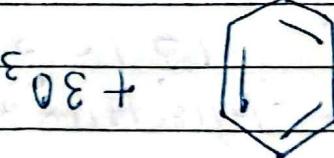
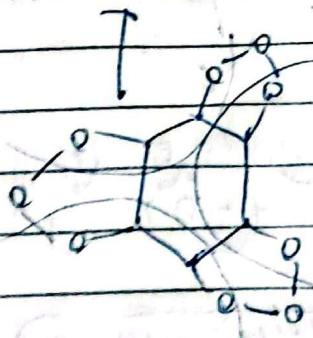
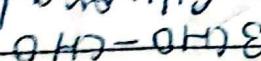


~~Reaction mechanism for chlorination of benzene~~

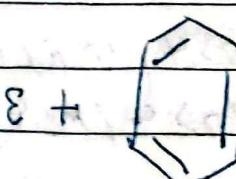
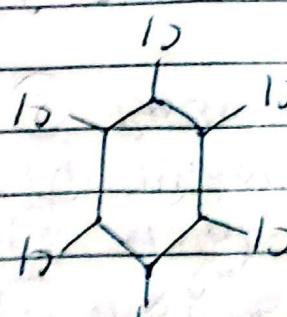
~~Step 1: FeCl3 + Cl- -> Cl3Fe~~

~~Step 2: Cl3Fe + Benzene -> [Fe(C6H5)3] + Cl-~~

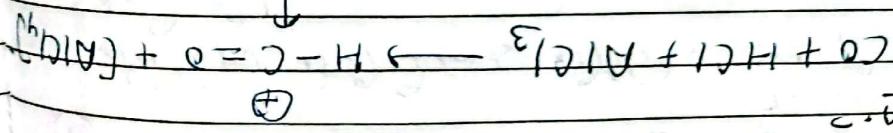
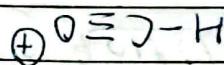
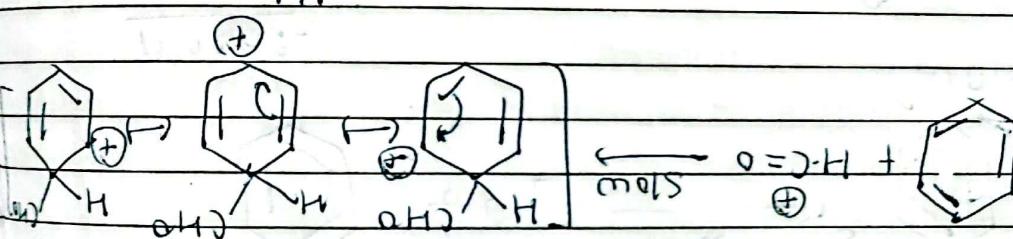
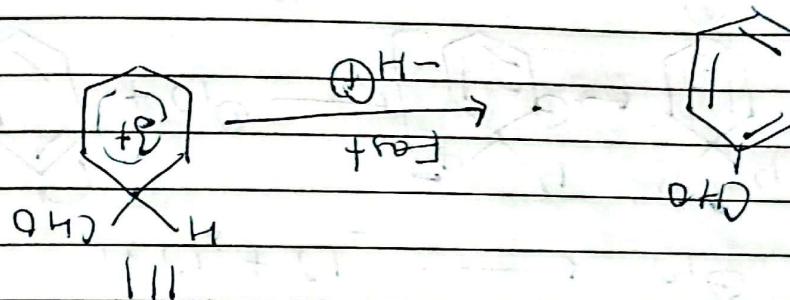
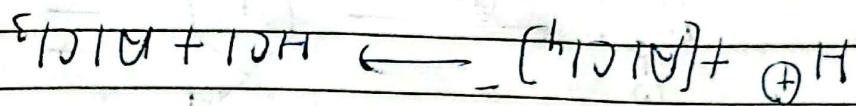
~~Chlorobenzene~~



5

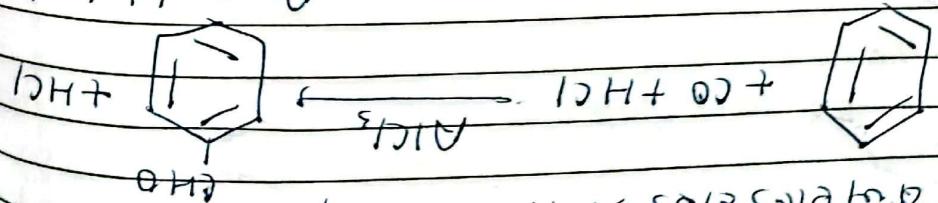


6



Mark.

Benzaldehyde



Q. किसके द्वारा बनता है तुलून?

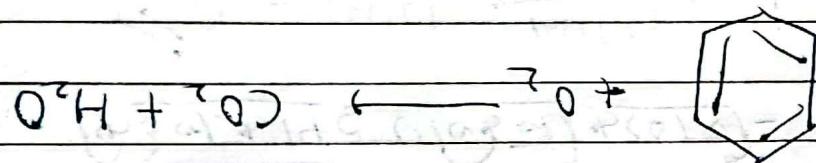
1. $\text{CO} + \text{HCl} + \text{AlCl}_3$

2. $\text{CO} + \text{HCl} + \text{AlCl}_3$

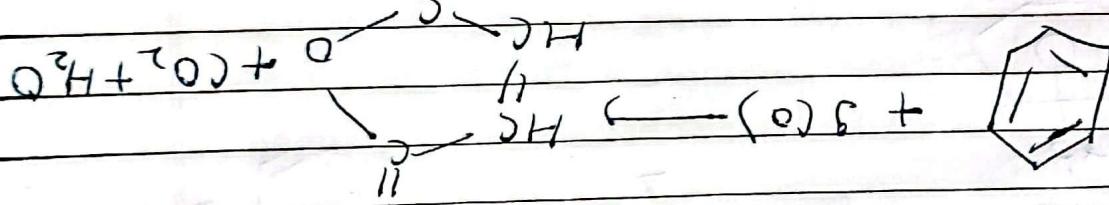
3. $\text{CO} + \text{HCl} + \text{AlCl}_3$

4. $\text{CO} + \text{HCl} + \text{AlCl}_3$

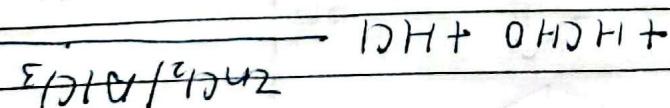
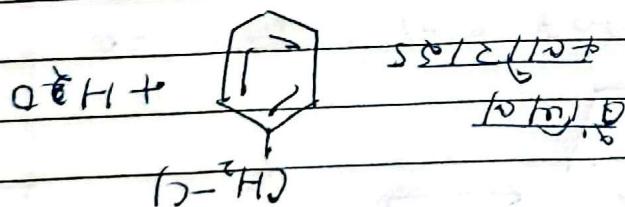
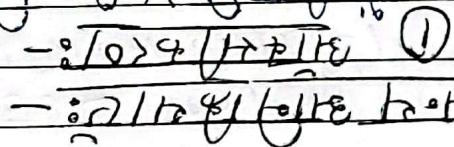
~~2. In the presence of Hg²⁺~~



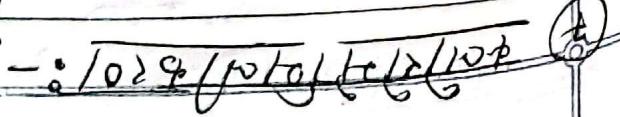
~~3. In the presence of Cu²⁺~~



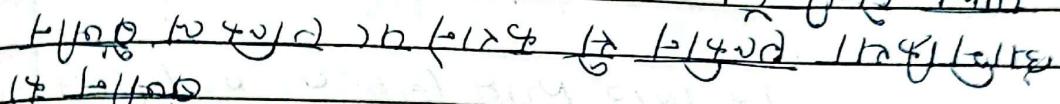
~~4. In the presence of Fe²⁺~~



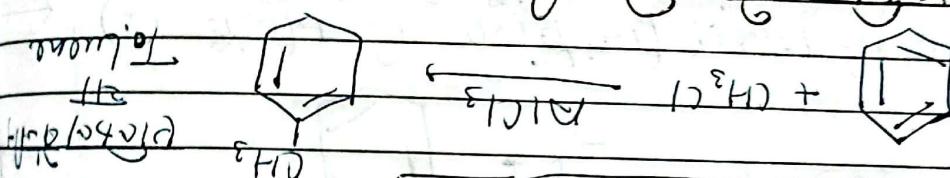
~~5. In the presence of AlCl₃~~



12 June 1998



~~(f) 1-100~~



110



$$= (\bar{x} \cdot 10)^4 + (10^4 \cdot \bar{v})^2 = 2 + 14 = 100$$

~~- f₂(t) f₄ (-1)^n~~



- ପ୍ରକାଶ ମହାନ୍ତିର



~~10/12/01 (4)~~



卷之三



1

~~12 INCH MIR-110/14 S-100015 10
858 KIT 110/14 100015 10
110/14 100015 10~~

10/10/04



46

~~left~~ → right

$$1. \quad U_{n,p} > 187.5$$



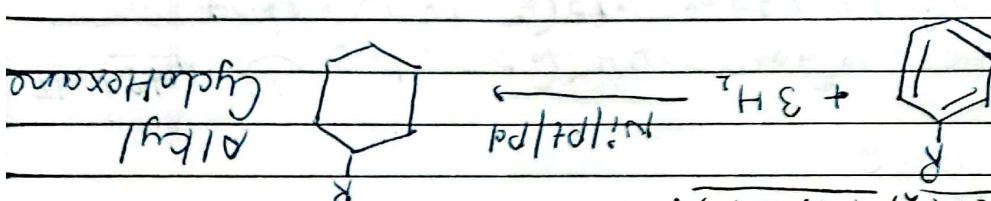
24

1:14:4195



۲۷۸

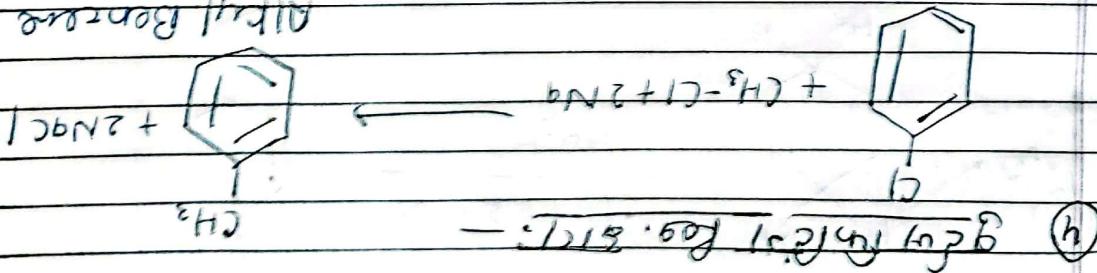
It's important to understand the future
of your business needs
to plan accordingly.



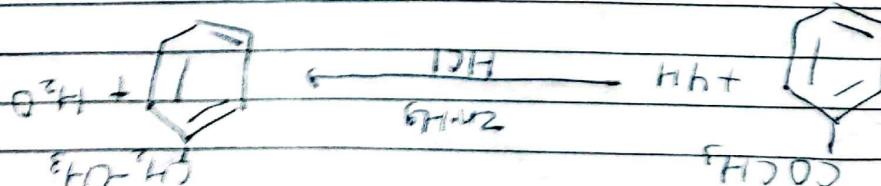
(1) NH_4^+ 14 NO_3^- 14 H_2O
(2) $\text{e}^- \rightarrow \text{e}^- \text{NO}_3^-$ 14 H_2O
(3) NH_4^+ 14 NO_3^- 14 H_2O

Chemical Reactors:-

All Right Reserved



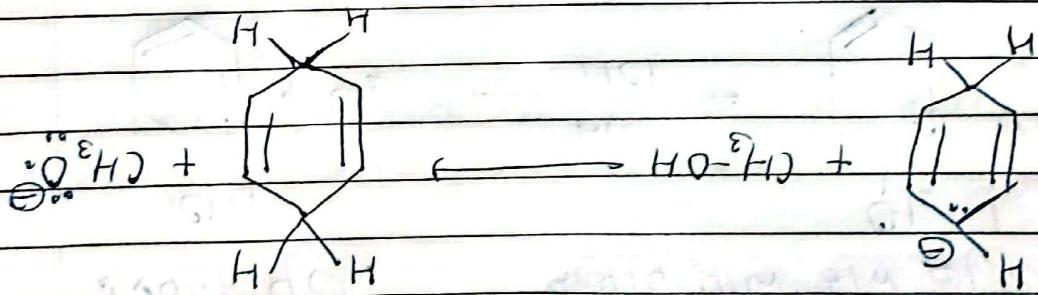
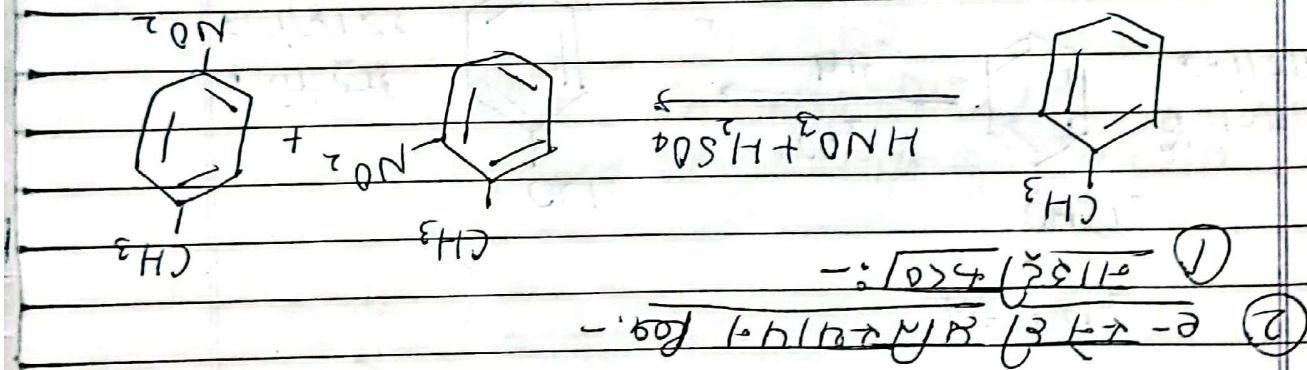
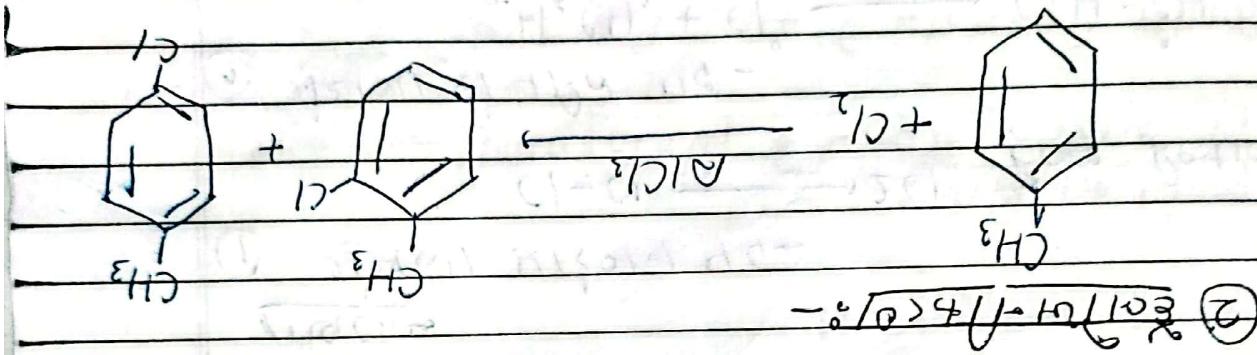
Polymer RAFT / Acrylate Ethylenimine



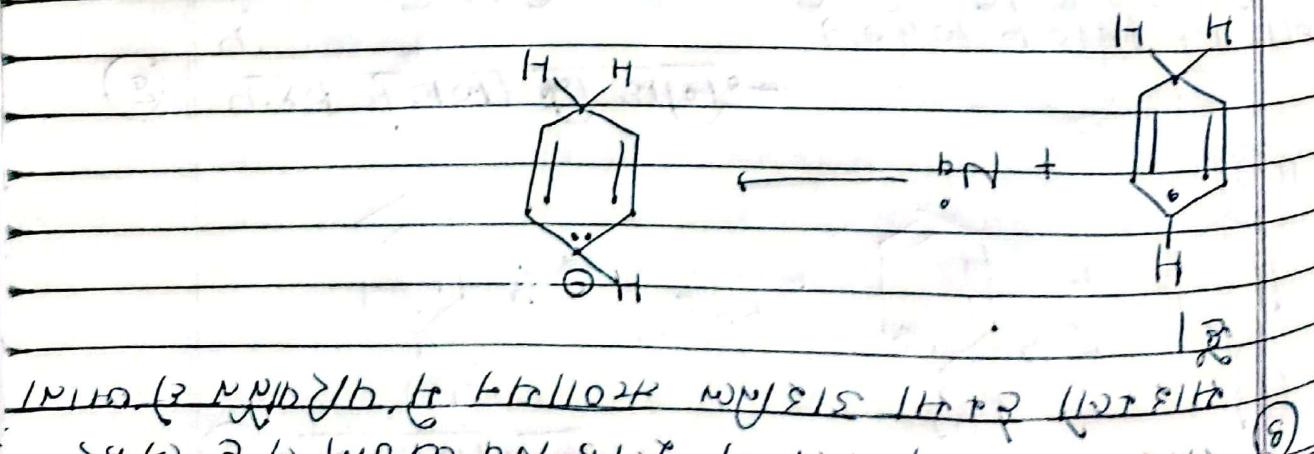
BRITISH MUSEUM

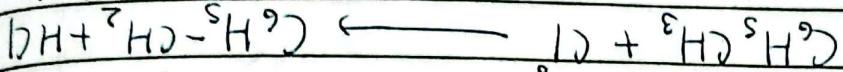


~~HJ-HJ~~ 224
~~FF~~ : 224

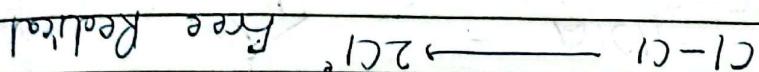


~~(2) $\text{C}_6\text{H}_5\text{NO}_2 + \text{CH}_3\text{O}^- \xrightarrow{\text{H}_2\text{O}} \text{C}_6\text{H}_5\text{OH} + \text{H}_3\text{N}^+$~~



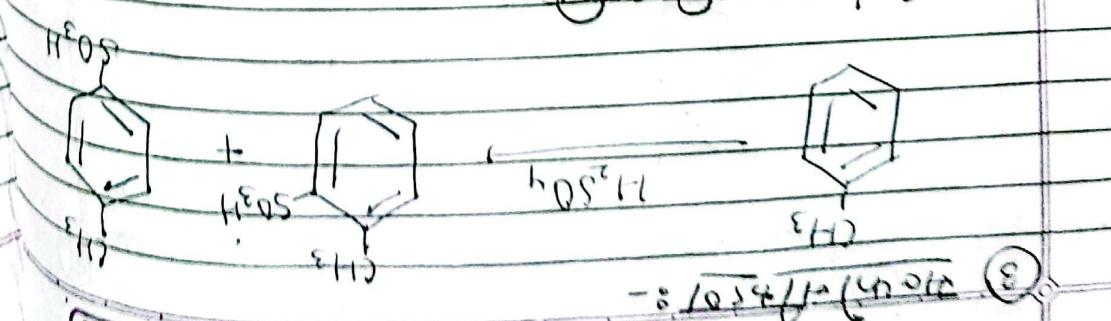
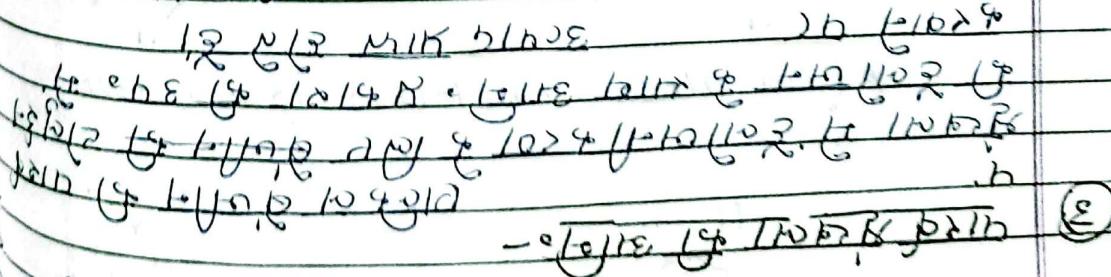
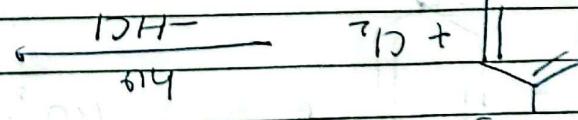
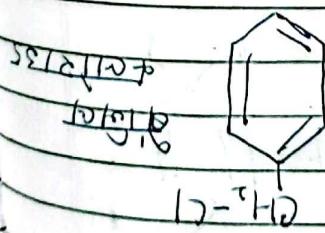
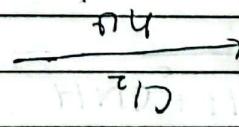
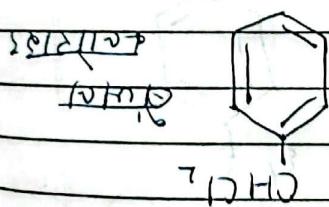


2. $\text{C}_6\text{H}_5\text{CH}_2\text{Cl} \rightarrow \text{C}_6\text{H}_5\text{CH}_2\text{Na}^+$

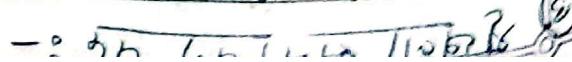
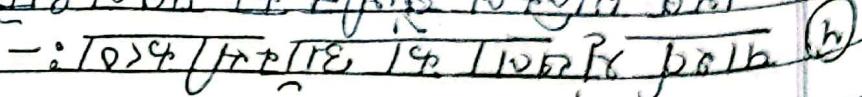
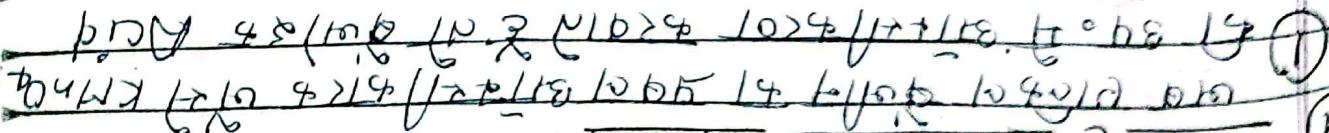
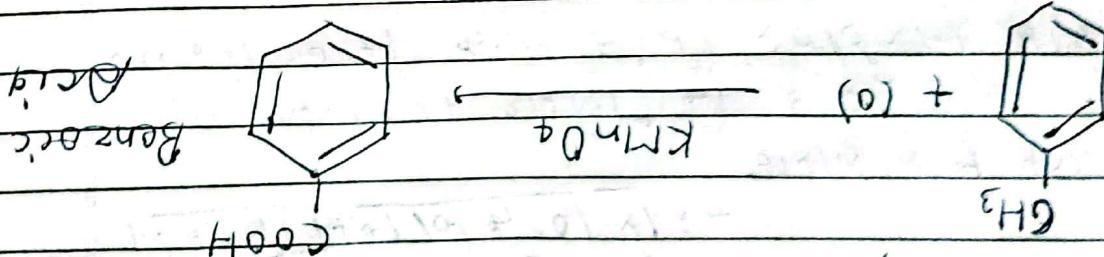
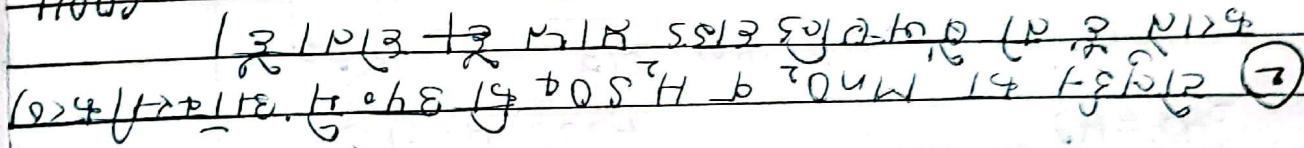
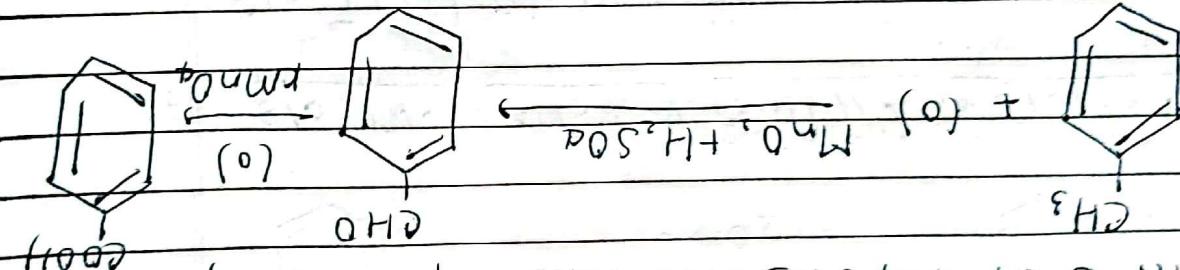
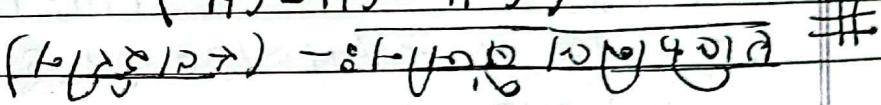
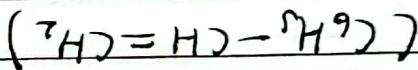
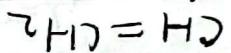
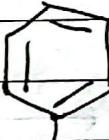
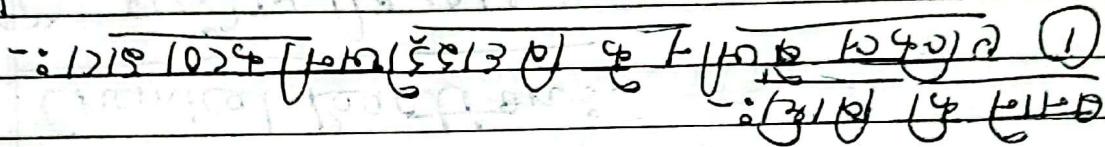


1. $\text{C}_6\text{H}_5\text{CH}_2\text{Na}^+ + \text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_5\text{CH}_2\text{OH} + \text{Na}^+$

Na^+ \rightarrow Na^+

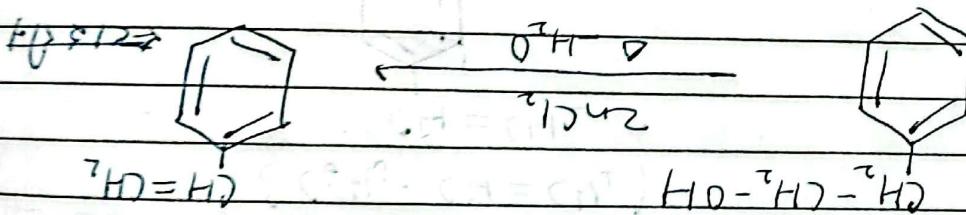


13/11/2015 10:51:27 26 10:40 J10 10:48 10:48
801 6002 141211 121N3 101H0 14 J10
101H0 602 N1624 000 101H0 8 J10 14 J10
013



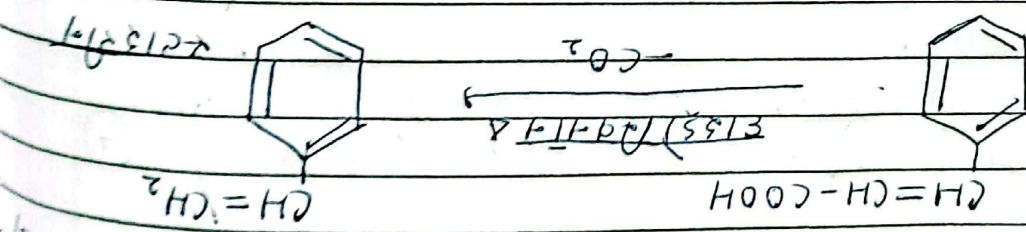
12. $\text{C}_6\text{H}_5\text{NO}_2 + \text{H}_2 \rightarrow \text{C}_6\text{H}_5\text{NH}_2$
 13. $\text{C}_6\text{H}_5\text{NO}_2 + \text{CH}_2=\text{CH}_2 \rightarrow \text{C}_6\text{H}_5\text{NHC}_2\text{H}_5$

Chemical Reactions:-



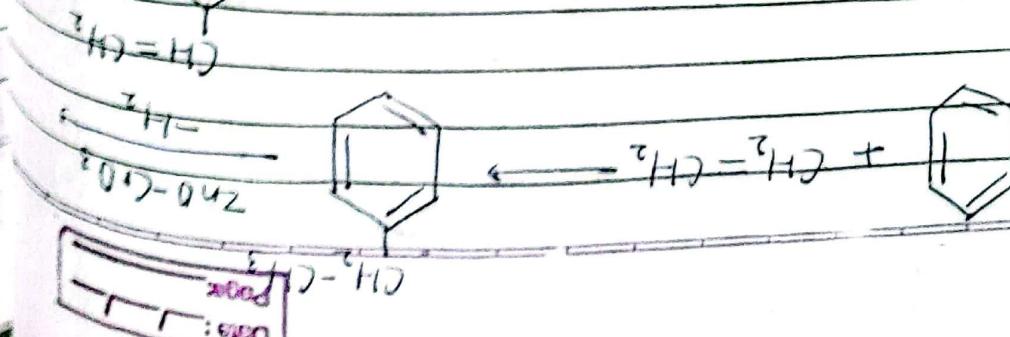
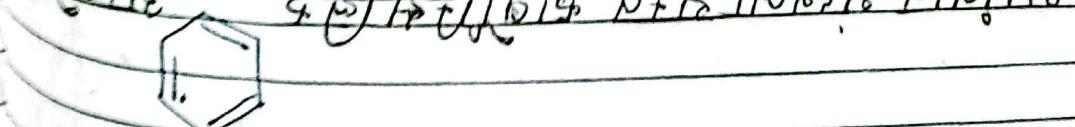
2. $\text{C}_6\text{H}_5\text{Cl} + \text{NaOH} \rightarrow \text{C}_6\text{H}_5\text{OH} + \text{NaCl}$

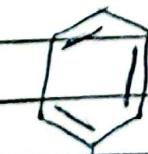
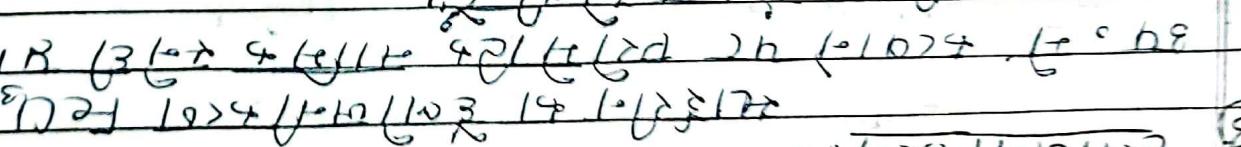
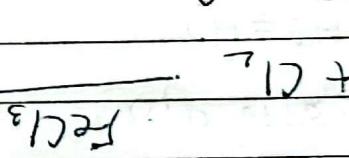
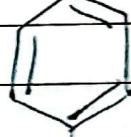
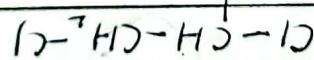
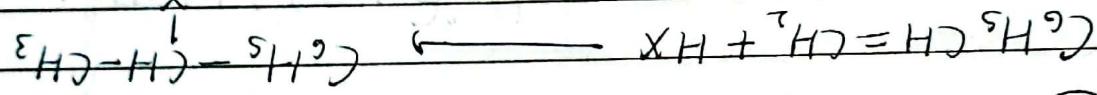
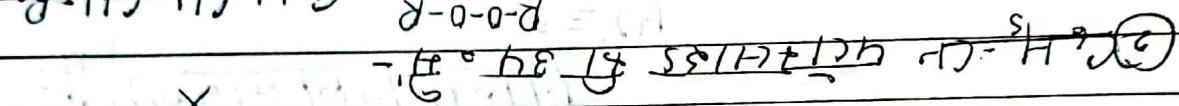
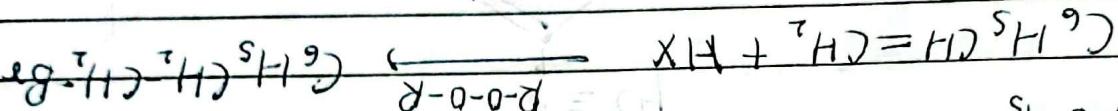
3. $\text{C}_6\text{H}_5\text{Cl} + \text{CH}_2=\text{CHCOOH} \rightarrow \text{C}_6\text{H}_5\text{CH}_2\text{COOH} + \text{HCl}$



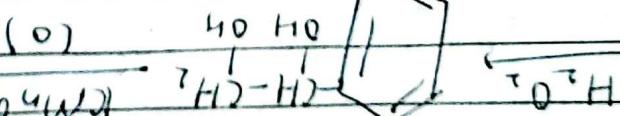
5. $\text{C}_6\text{H}_5\text{Cl} + \text{CH}_2=\text{CH}_2 \xrightarrow{\text{H}_2\text{O}} \text{C}_6\text{H}_5\text{CH}_2\text{CH}_3$

6. $\text{C}_6\text{H}_5\text{Cl} + \text{CH}_2=\text{CH}_2 \xrightarrow{\text{H}_2\text{O}} \text{C}_6\text{H}_5\text{CH}_2\text{CH}_3$

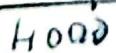


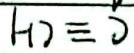
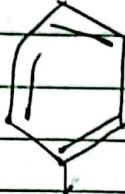


(o)

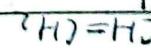
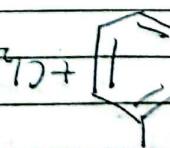
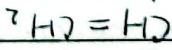
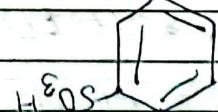
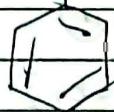


$\text{C}_6\text{H}_5\text{CH}_2\text{CH}_2\text{OH}$

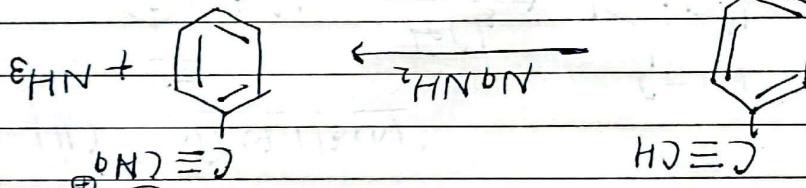
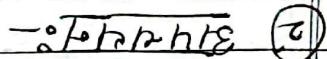
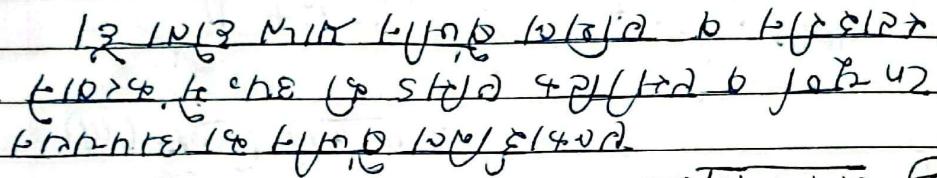




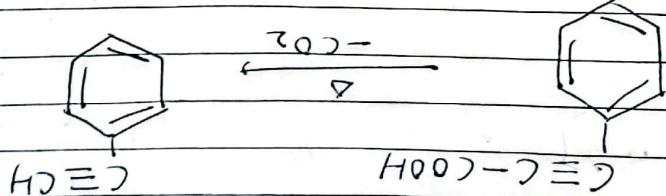
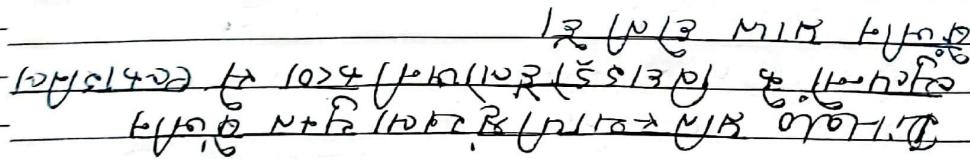
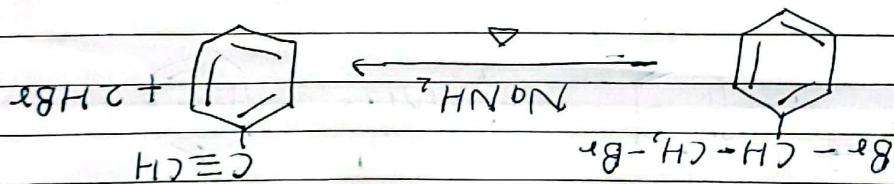
~~प्राकृतिक गैसों का~~



Sample
Date: 11/11/2014

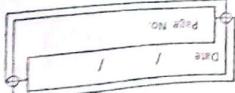


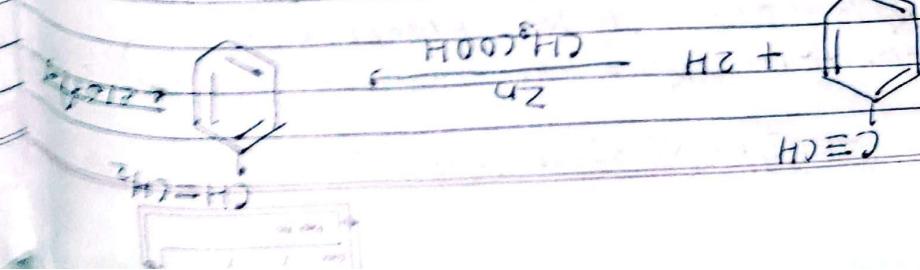
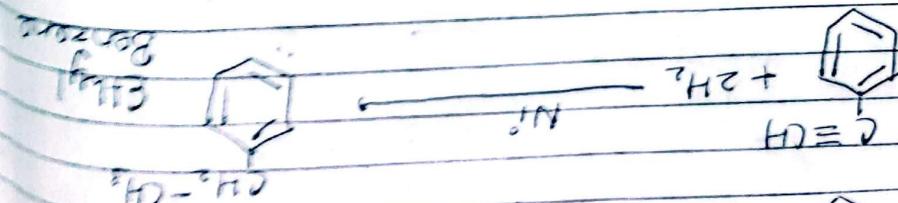
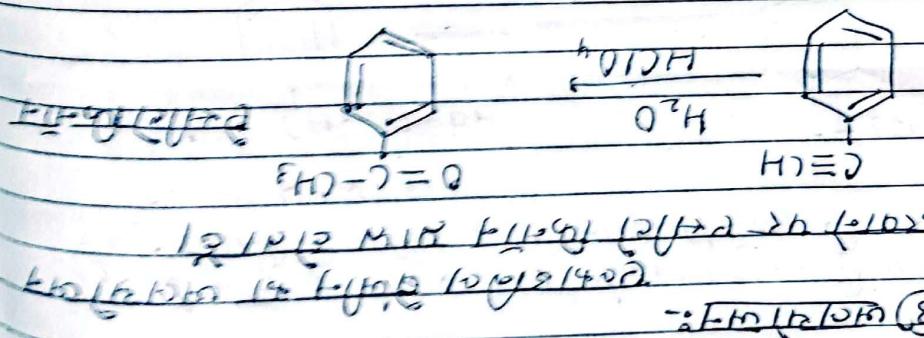
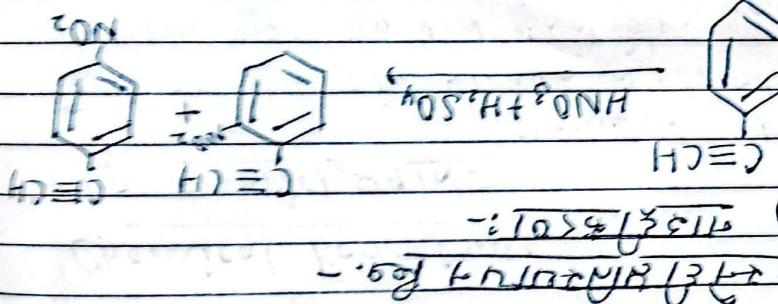
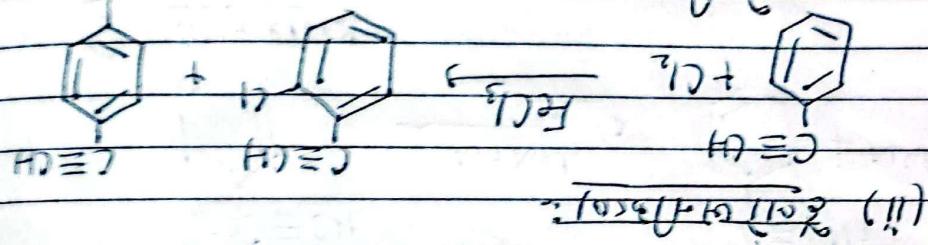
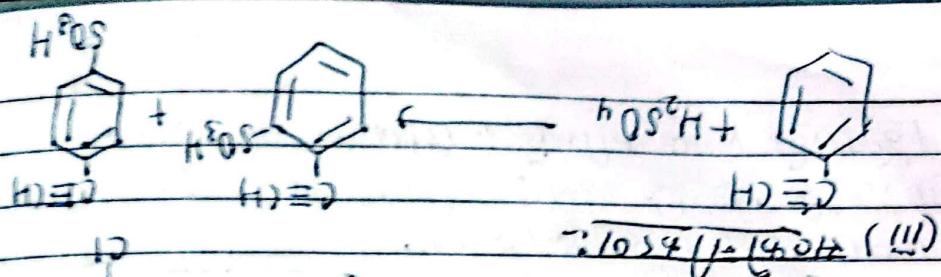
• ۱۲ بکتیریه (۱)



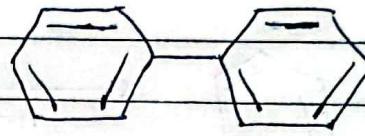
12 (NIB MIL)

6. Urgent Temporary for the time being and not for long periods of time

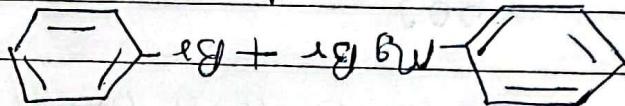




$+ MgBr_2$



$\downarrow NiCl_2$



12. BiPhenyl 14. BiPhenyl

~~2. $MgBr + Br^- \rightarrow MgBr_2$~~

~~($+ Br^- \rightarrow MgBr_2$)~~

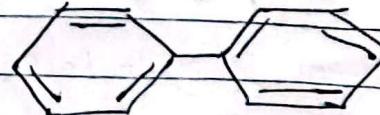
~~- $(MgBr_2 + Br^- \rightarrow MgBr_2)$~~ ⑧

② 3-AH-1-Paq.

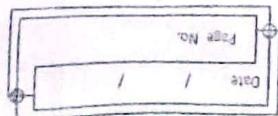
① AB231 Paq.

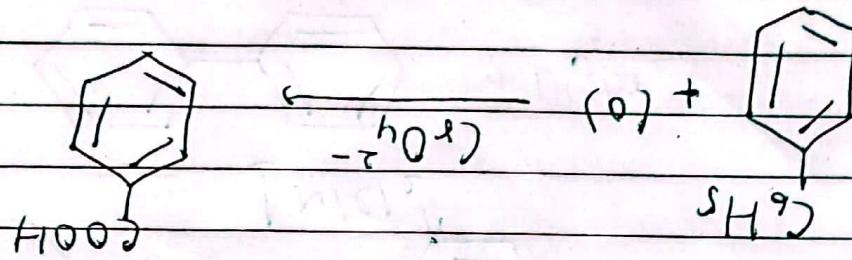
④ AB231 Paq.

BiPhenyl



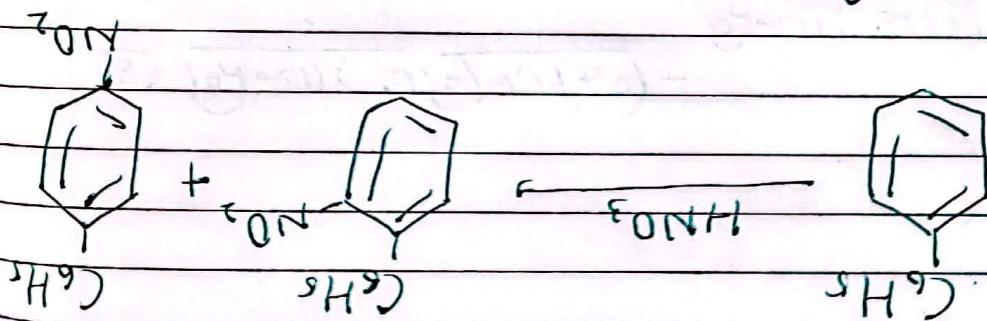
Aliphatic (BiPhenyl) Compound:-





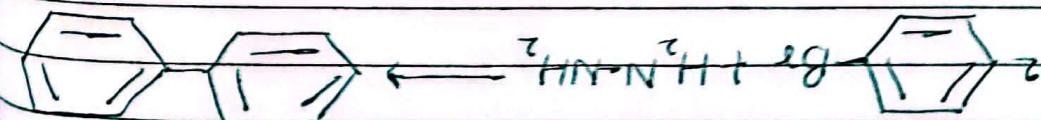
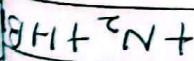
~~Biphenyl + CrO₄²⁻ → C₆H₅COOH~~

(2) ~~3C₆H₅ + CrO₄²⁻~~



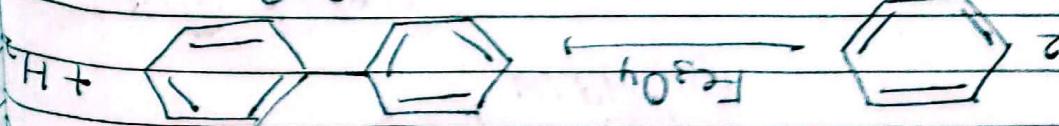
~~e - → 3C₆H₅NO₂~~

Chromic Product.



~~- CrO₄²⁻~~

~~Ammonia~~



~~Fe₃O₄ + 3C₆H₅ NH₂ → (C₆H₅NH)₃Fe₃O₄~~