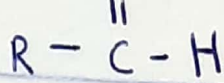


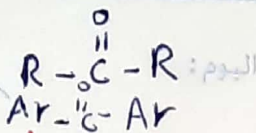
aldehyde



- al

Ketone

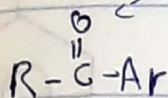
الرباعي



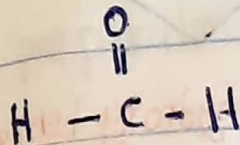
- one

الدرس:

Chapter 9: aldehyde & Ketone

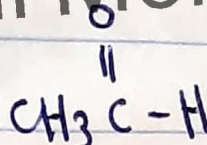


Ali Mohanna



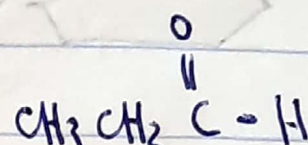
* methanal

* formaldehyde

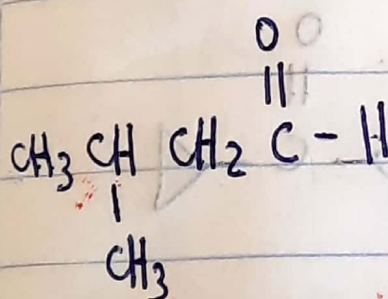


* ethanal

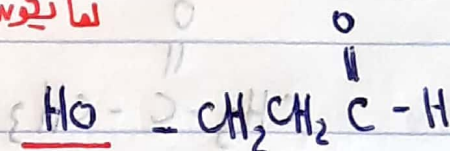
* acetaldehyde



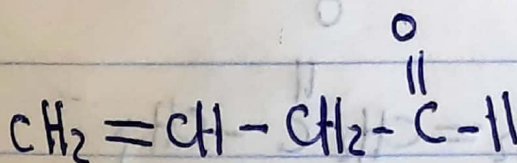
* propanal



* 3-methyl butanal



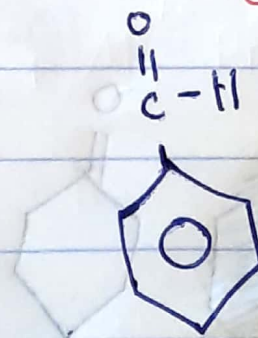
* 3-hydroxypropanal



* 3-butenal

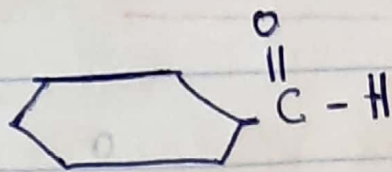
أول مرئ
عند

أول مرئ
عند



* Benzene carbaldehyde

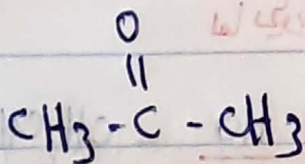
* Benzaldehyde



* cyclohexanecarbaldehyde

الفايكون على ملقة

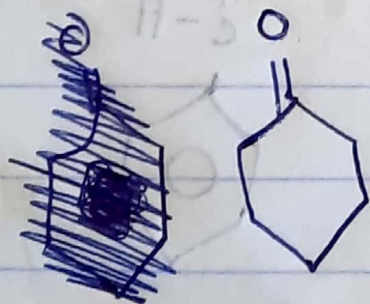
Ketone



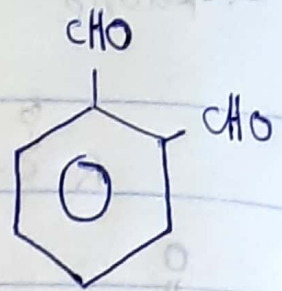
* propanon

* dimethylketone

* acetone

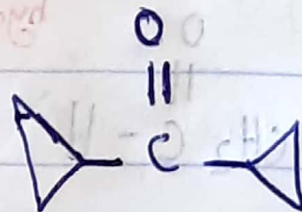


* cyclohexanon

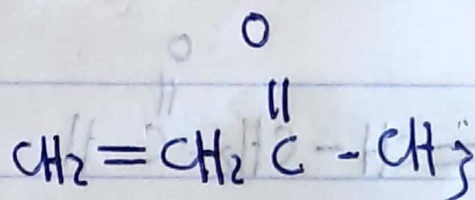


* 2-hydroxybenzaldehyde

* salicylaldehyde



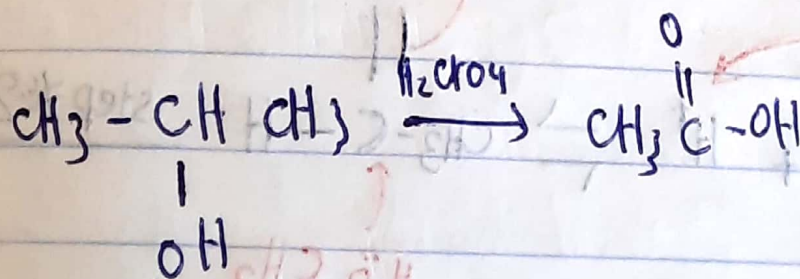
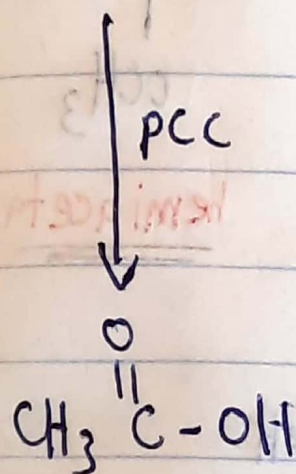
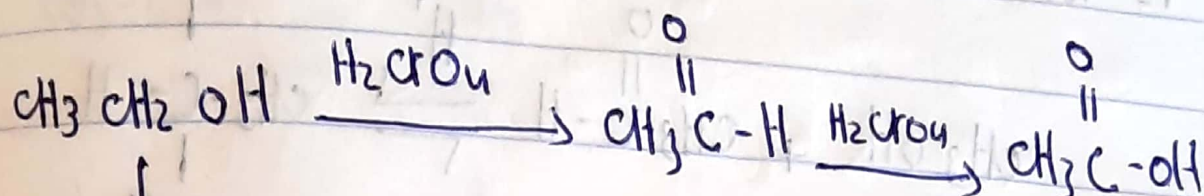
* dicyclopentanone



* 3-buten-2-one

* methyl vinyl ketone

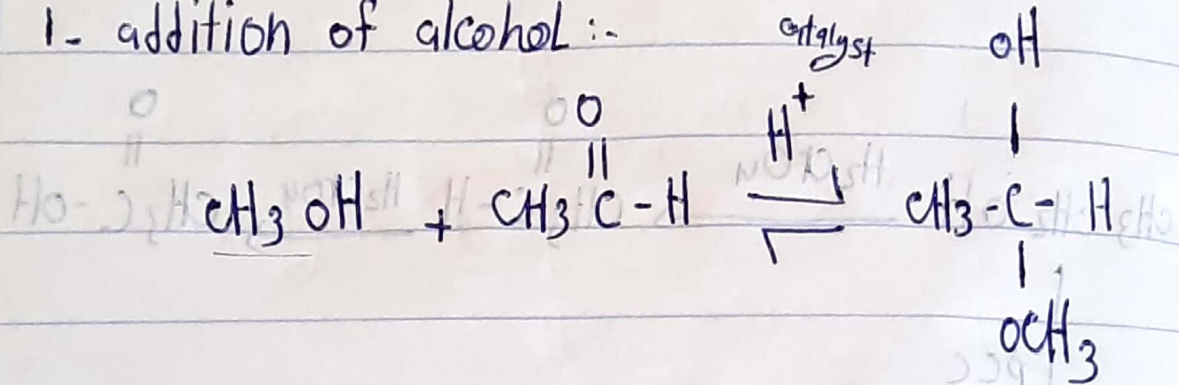
* preparation of aldehyde & ketone :-



4 " 4 " 4 " 4 " 4 "

* Reaction of aldehyde & Ketone :-

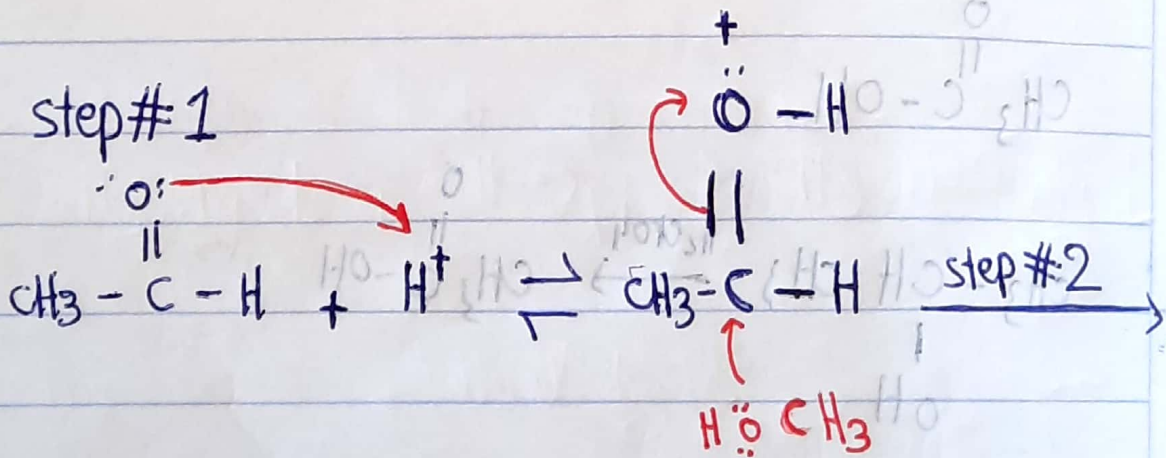
1- addition of alcohol :-



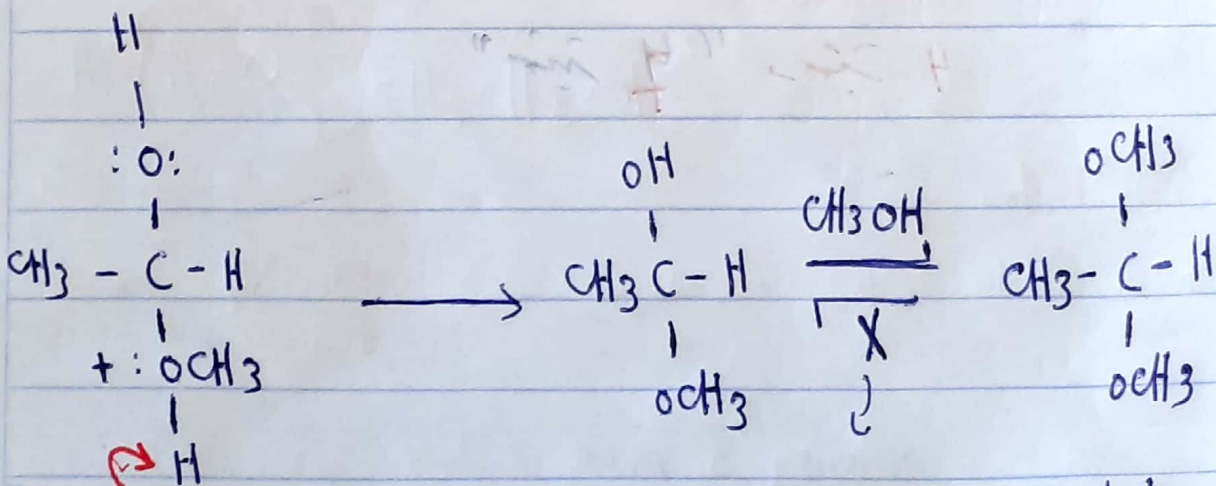
hemiacetal

Mechanism :-

step #1



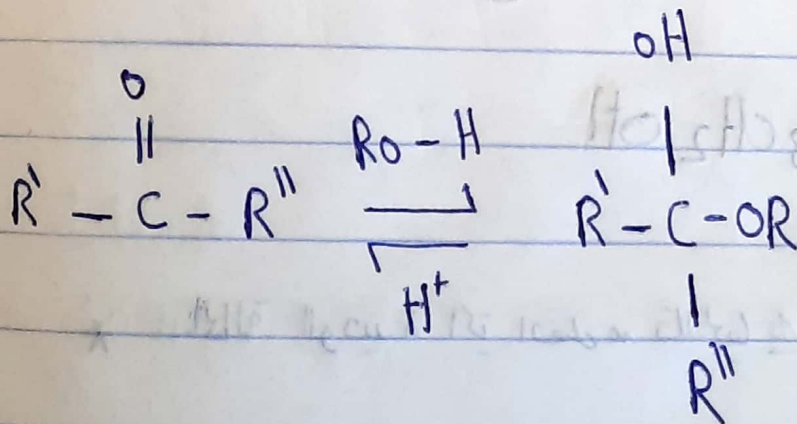
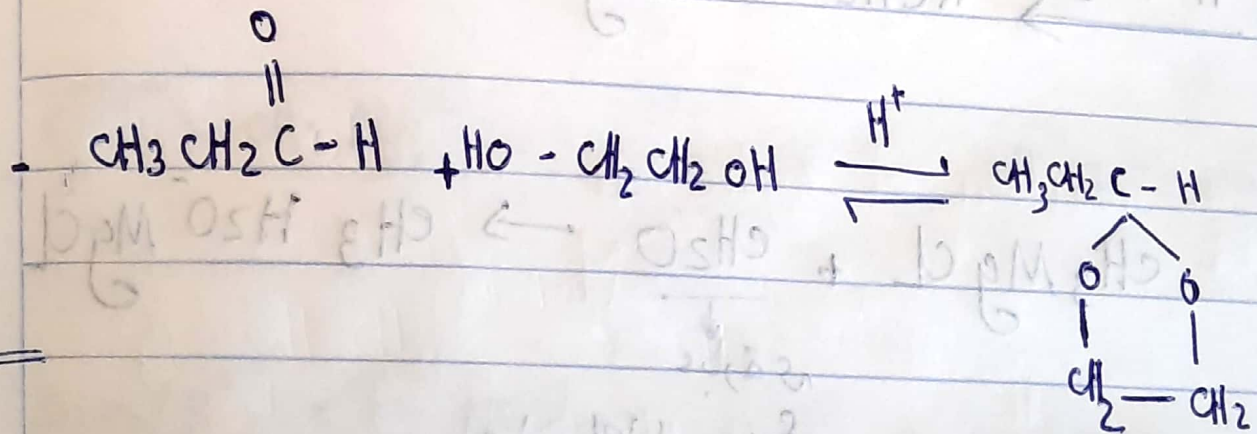
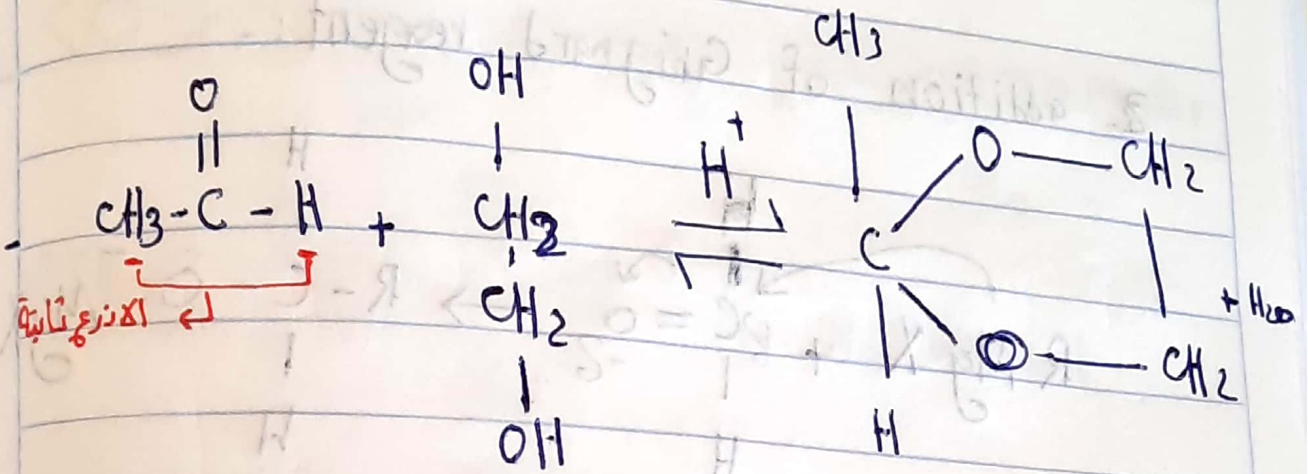
step #2



mechanism

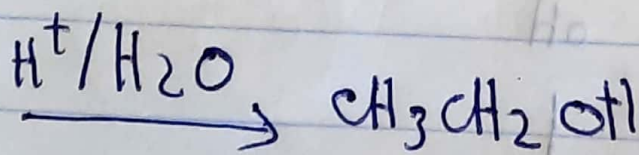
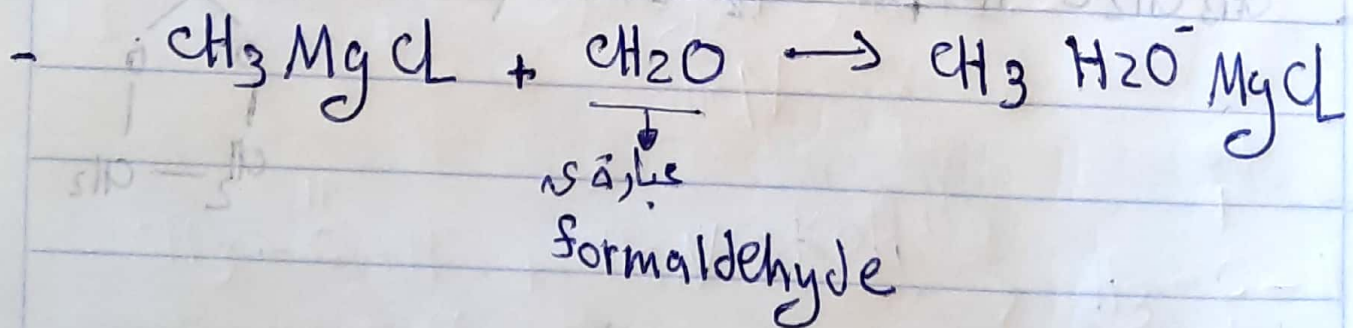
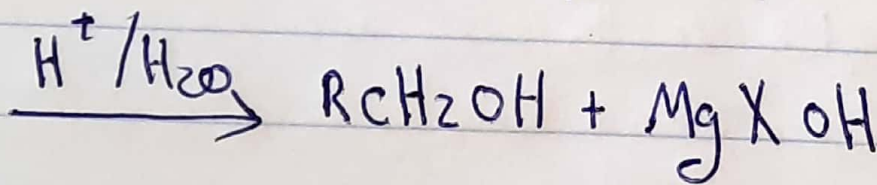
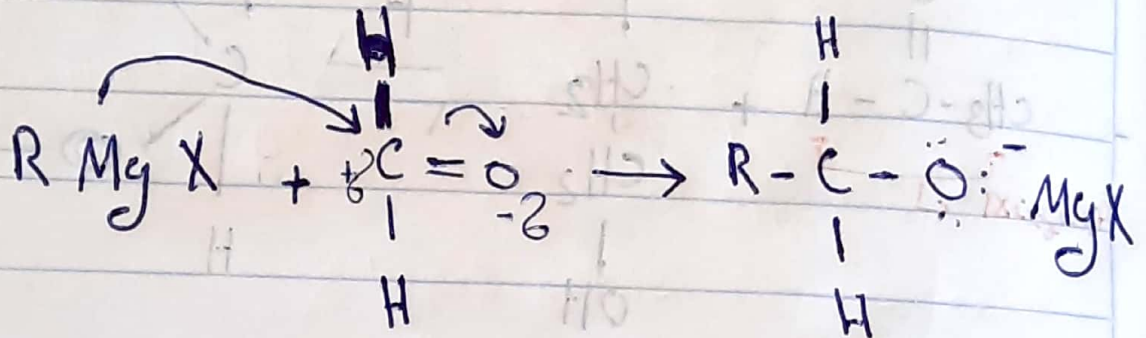
acetal

Example :-



* لما بدك ترجع الـ hemiacetal للأصل أنته هيف مية عليه

2. addition of Grignard reagent :-

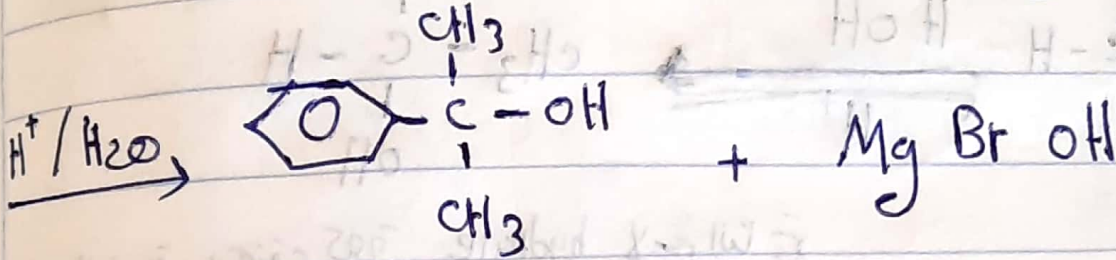
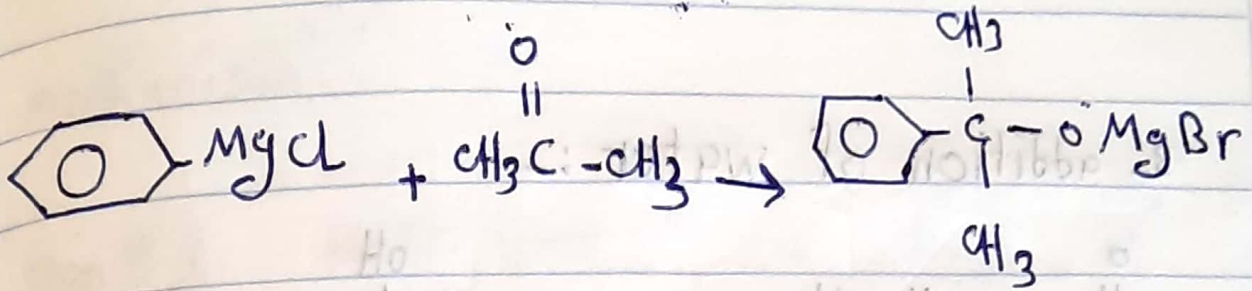


primary
alcohol

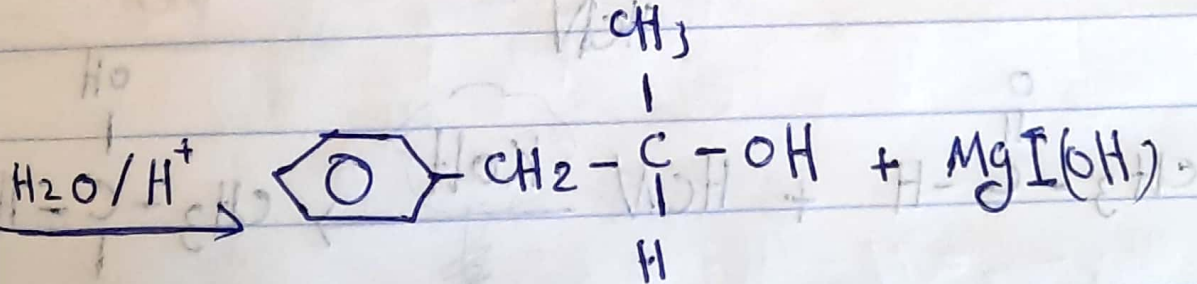
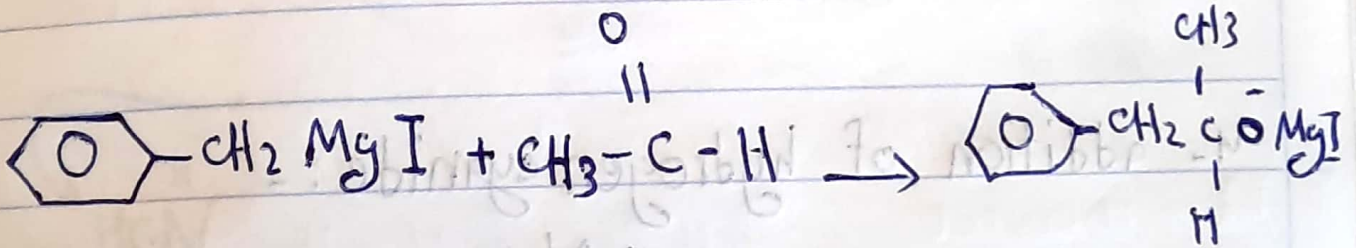
* الحالة الوحيدة التي يصنع فيها كحول

formaldehyde

grignard مع

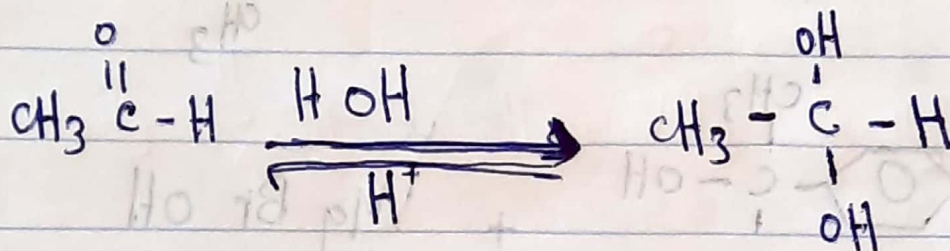


3°



2°

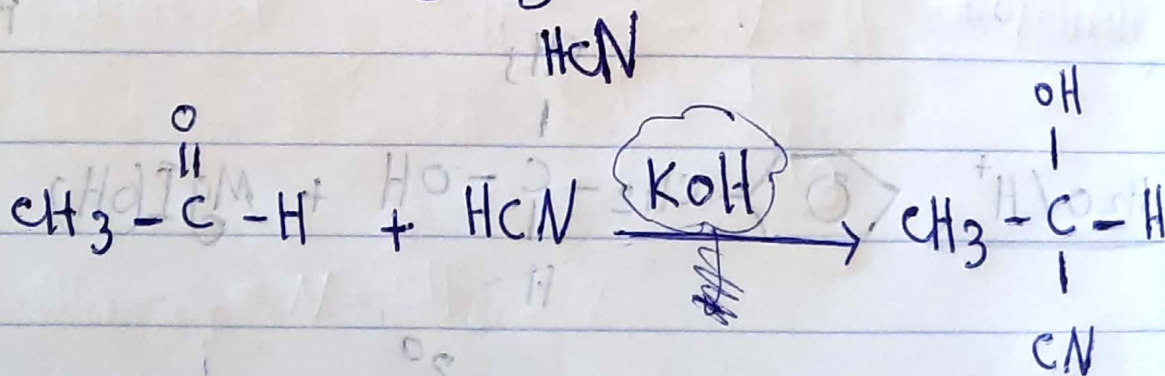
3- addition of water :-



* التسمية بـ "hydrate" لأن الماء

* إضافة الماء إلى

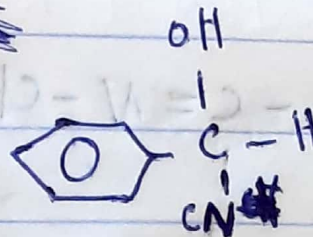
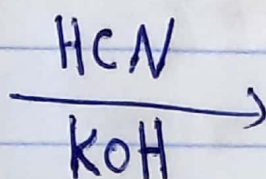
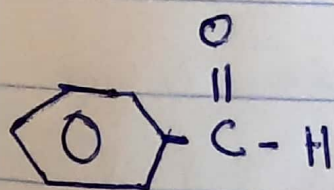
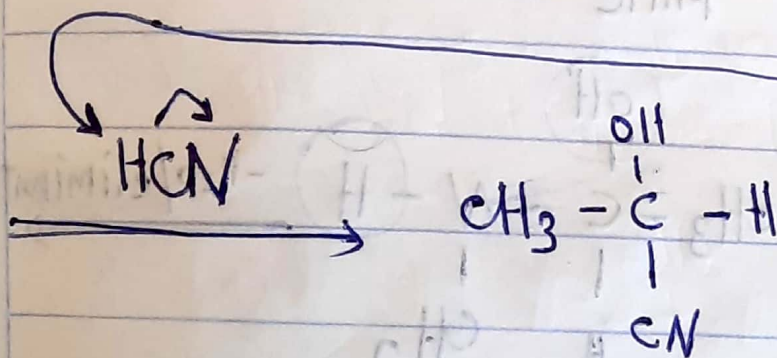
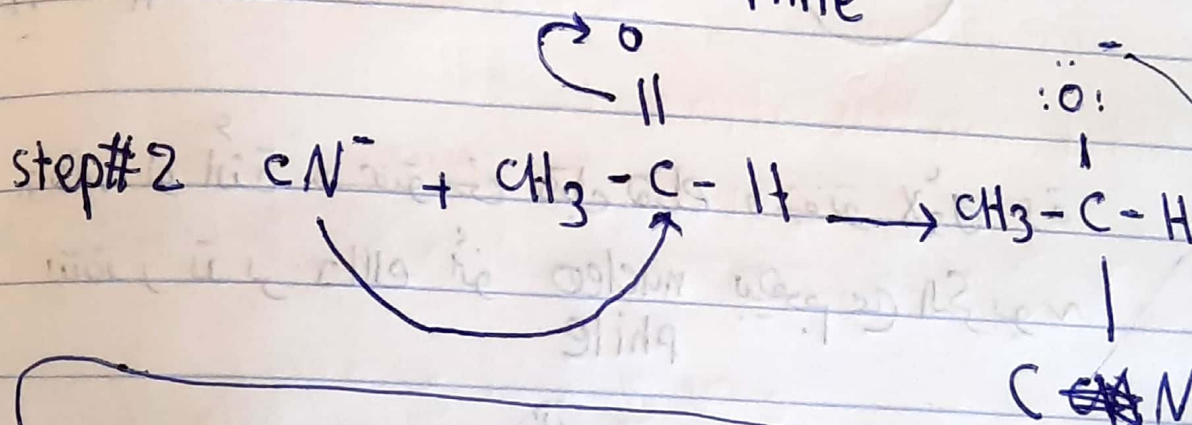
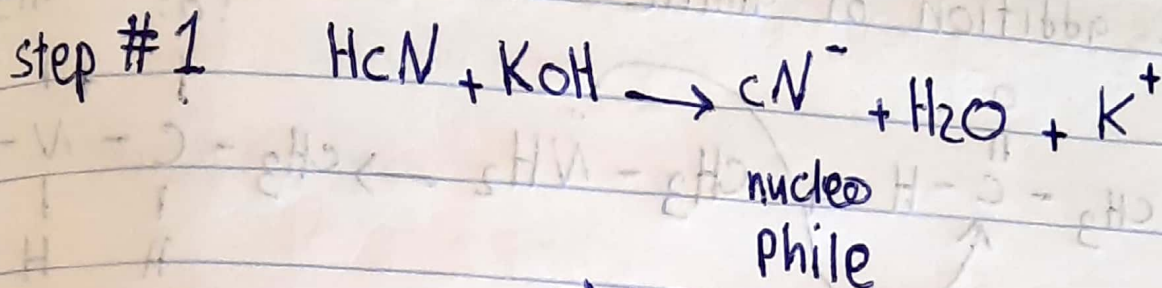
4- addition of hydrogen cyanide :-



act aldehyde
cyano hydrine

* التسمية بـ "cyanohydrine" لأن

Mechanism: -

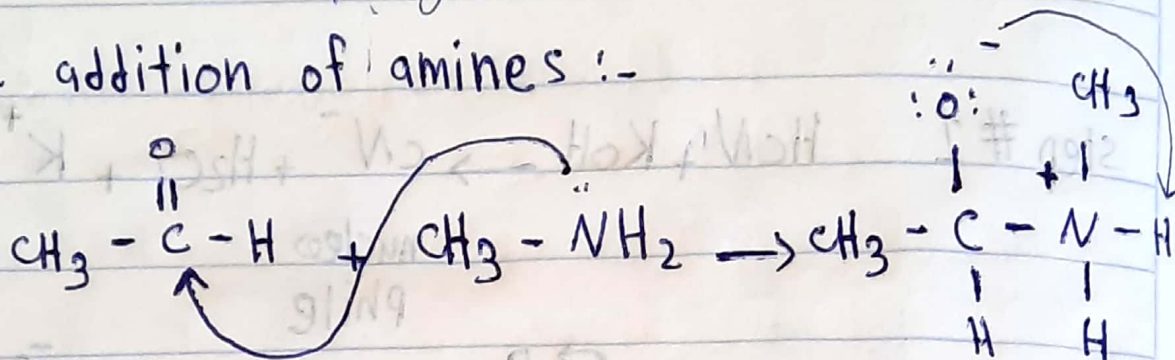


benzaldehyde
cyanohydrine

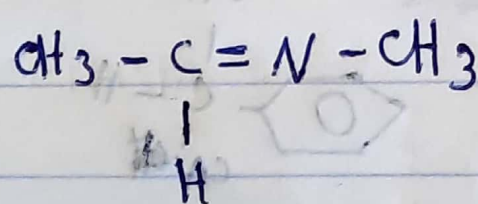
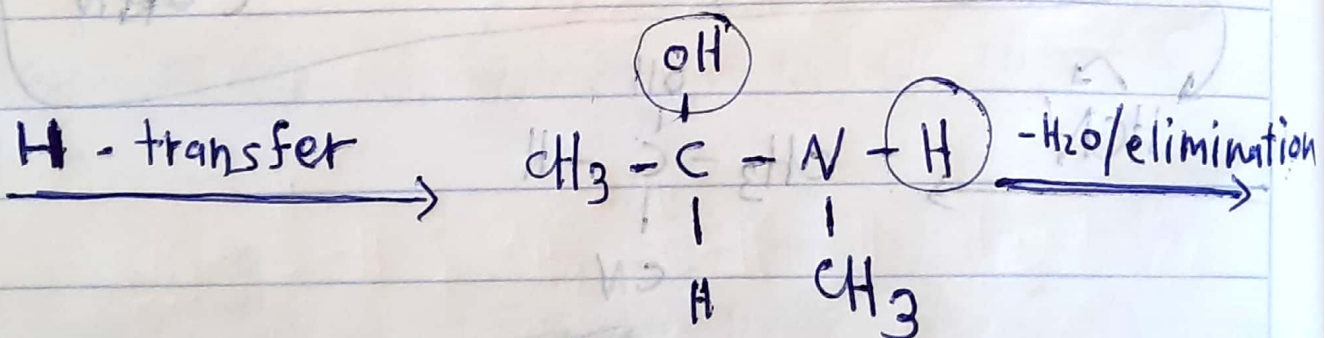
المرشد :
اليوم :
التاريخ :
التركيب هاء غير مستقر هاء ميوني
على حصة + وسالية

primary

4. addition of amines :-



* هاء لو أنتة مفتوحة قبل هيك وحتو لاؤل مرة
بتقدر تدبر حالك أو nucleophile
يجمع مع الكربون



هو هاء العفص
ملي ملو اما العاز
imine

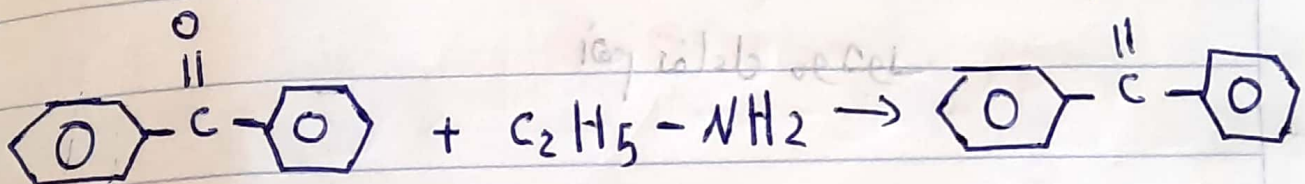
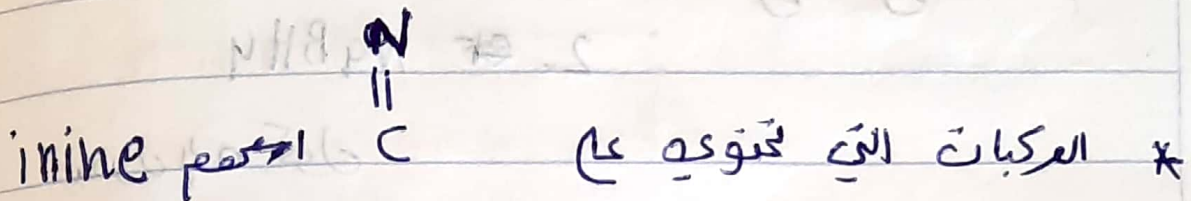
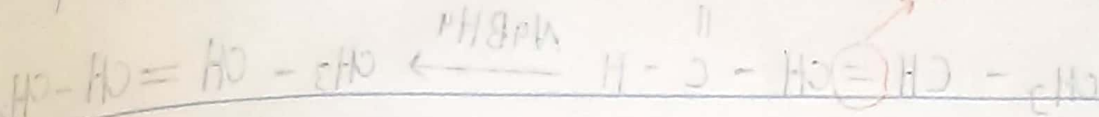
* هاء في هاء stabilization مرتبة

* N ده دفعه غراو انتظو ال 0

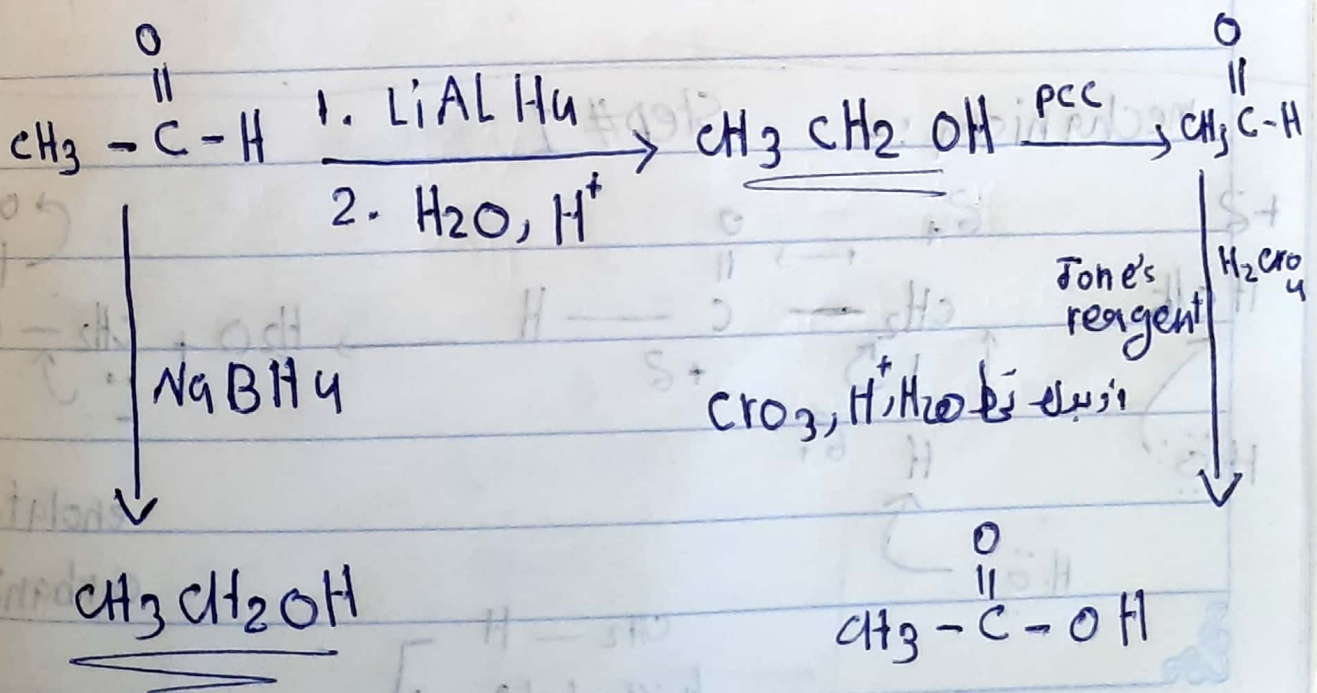
التاريخ:

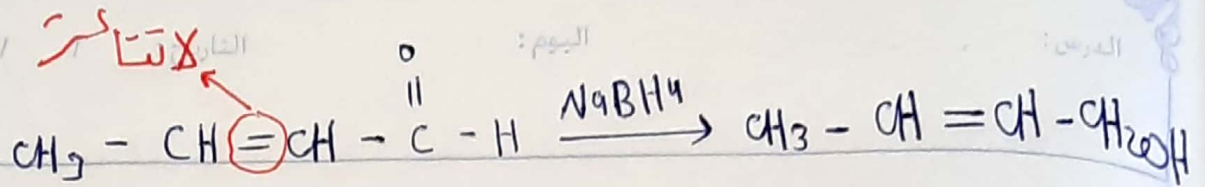
اليوم:

الدرس:



* Reduction of aldehydes & Ketone :-





* Reducing reagent : 1. LiAlH_4

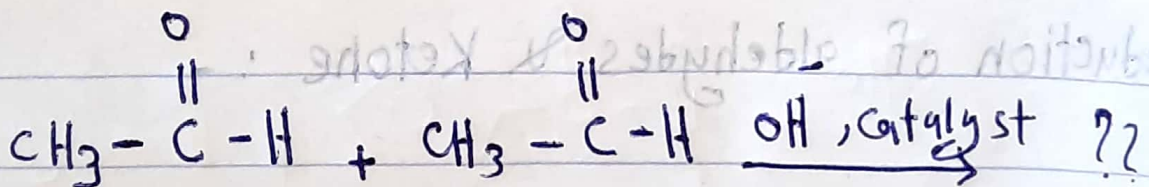
2. NaBH_4

بجول إليه كحول

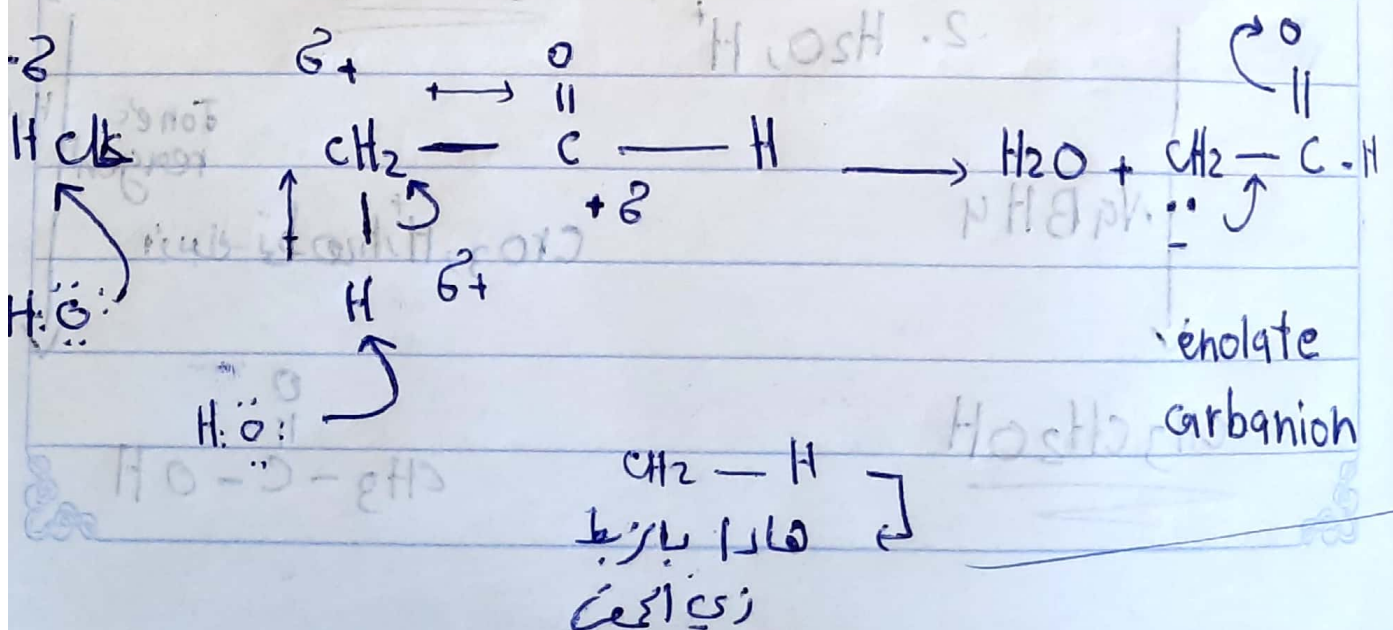
* Aldol condensation :-

أهم تفاعل موجود

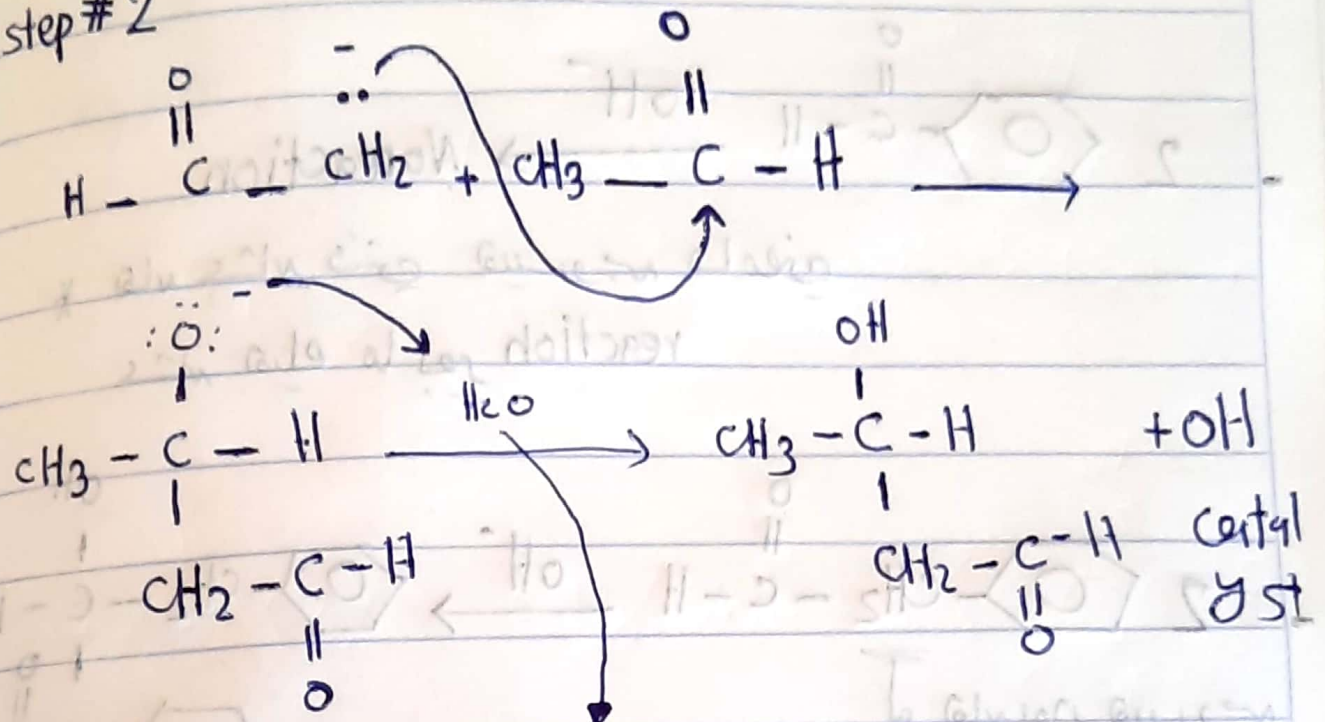
condensation : يعني جمع اثنين مع بعض



mechanism :- Step # 1

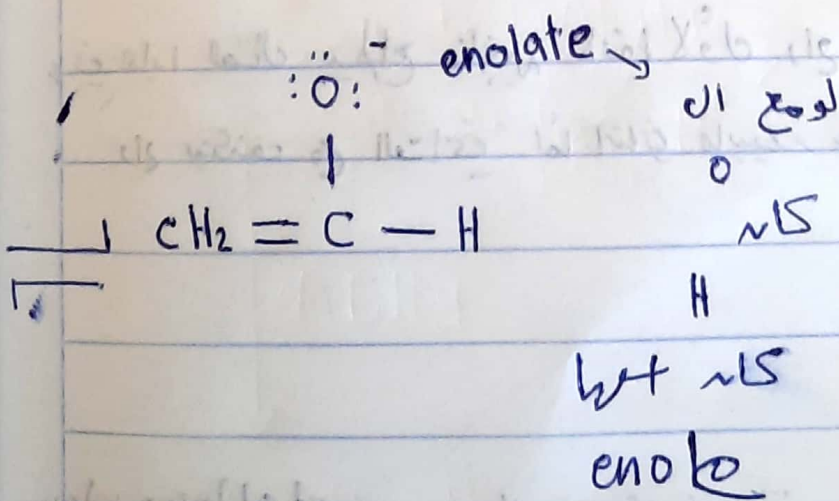


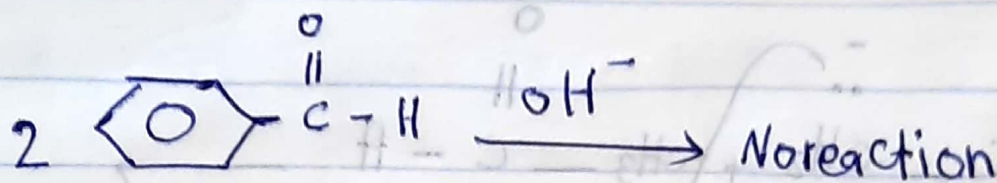
step # 2



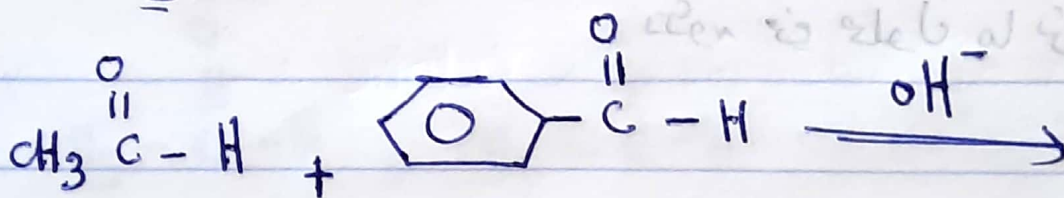
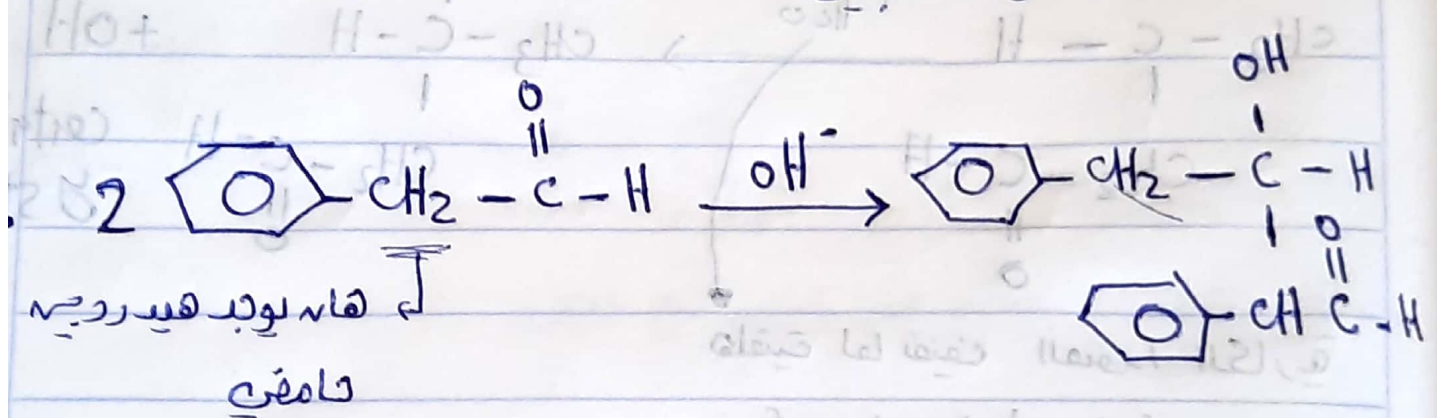
هلقية لما نصف الفوران الكارية

تكون مع محلول مائي





* هاه عتاه فتي هيدروجيه تامفني
عتاه هليه ما يفر reaction



* في هادا المثال بيدلح ناتجيه لانوا لاؤل راج يتكثف مع نفو والاؤل
راج يتكثف مع الثاني اما الثاني ما يقدر يتكثف مع الثالث

next aldol condensation station
لا نو كتيف اثنين مختلفين ليرجع