ALDEHYDES KETONES AND CARBOXYLIC ACIDS

CHEMISTRY , DATE 15/12/2020

CLASS-XII ,UNIT-12 , LECTURE-6

PREPARATION OF KETONES

1. From acid chlorides

$$2R-MgX + CdCl_2 \longrightarrow R_2Cd + 2Mg$$

$$2R'-\underset{\underset{O}{\|}}{C}-Cl + R_2Cd \longrightarrow 2R'-\underset{\underset{O}{\|}}{C}-R + CdCl_2$$

* Treatment of acid chlorides with dialkylcadmium, prepared by the reaction of cadmium chloride with Grignard reagents, gives Ketones.

2. From nitriles

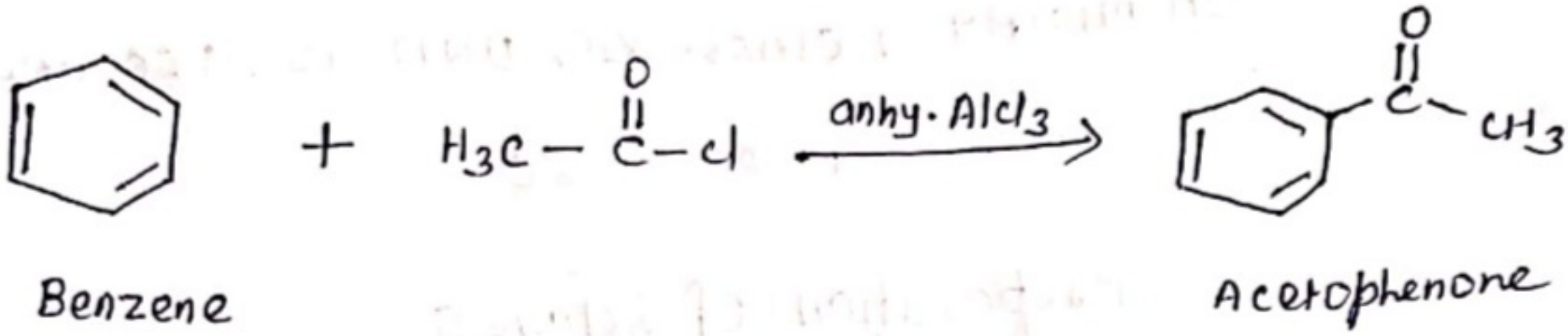
$$R-C\equiv N + R'-MgBr \xrightarrow{ether} R-\underset{\underset{R'}{|}}{C}=NMgBr$$

G.R

$$\xrightarrow{H_3O^+} \begin{matrix} R \\ R' \end{matrix}\!\!>C=O$$

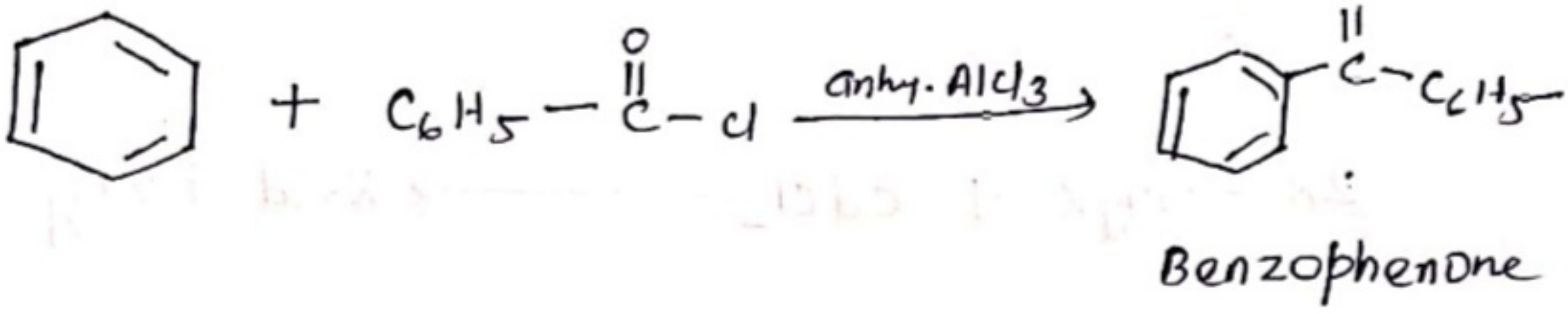
Ketone

3. By Friedel-craft acylation reaction



Benzene

Acetophenone



Benzophenone

NCERT

Ex : 12.1 Give names of the reagents to bring about the following transformations.

(i) Hexan-1-ol to hexanal

Ans. PCC

(ii) Cyclohexanol to cyclohexanone

Ans $K_2Cr_2O_7$ in acidic medium.

iii) But-2-ene to ethanal

Ans $O_3/Zn-H_2O$