

# 21 SYNTHETIC REAGENTS 2

A DEGREE-III (H), LECTURE-9 0

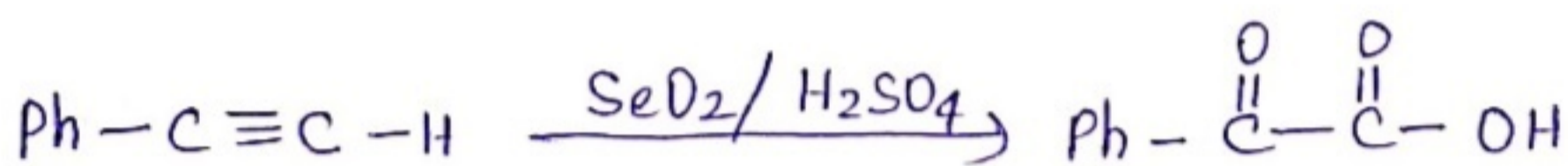
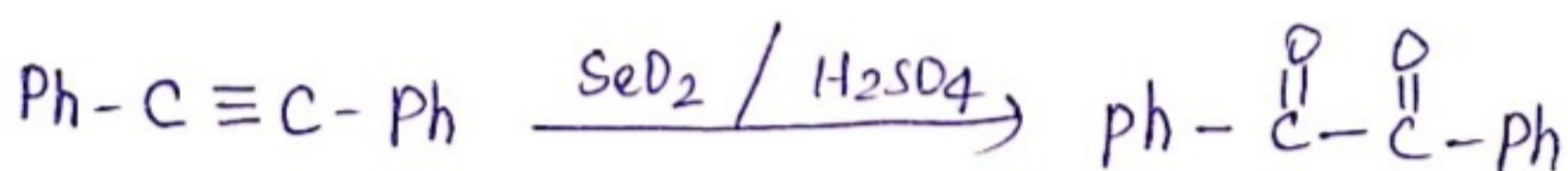
U ORGANIC CHEMISTRY, PAPER-VII 2

G. TOPIC : SELENIUM DIOXIDE 0

## OXIDATION OF ALKYNES

Continued..

\*  $\text{SeO}_2$  is also capable of oxidising alkynes to vicinal dicarbonyl compounds.  $\text{SeO}_2$  with a small amount of  $\text{H}_2\text{SO}_4$  oxidises internal alkynes to  $\alpha$ -diketones.



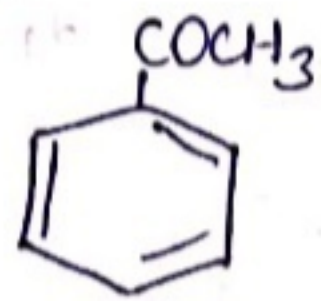
## OXIDATION OF CARBONYL COMPOUND

\* A useful application of  $\text{SeO}_2$  is the oxidation of the methyl or methylene group adjacent to the carbonyl group. Thus, aldehydes and ketones with a methyl or methylene group  $\alpha$ -to the carbonyl group

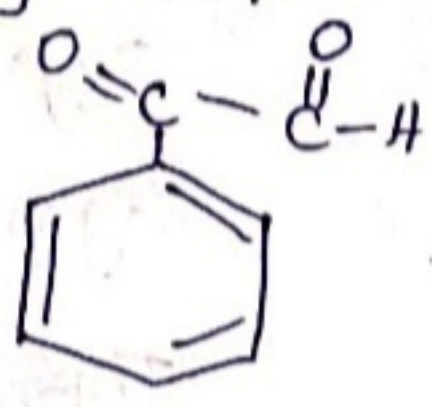
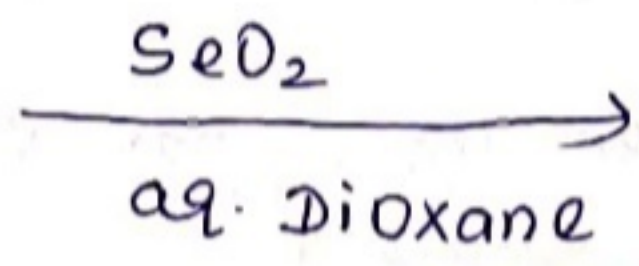
By-Dr.Rinky

are oxidised to the 1,2-dicarbonyl compounds.

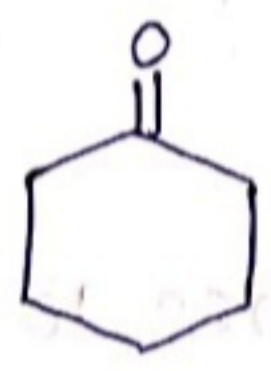
e.g.



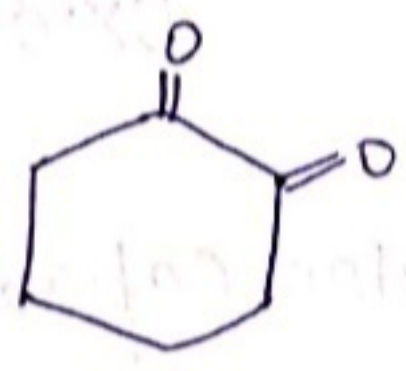
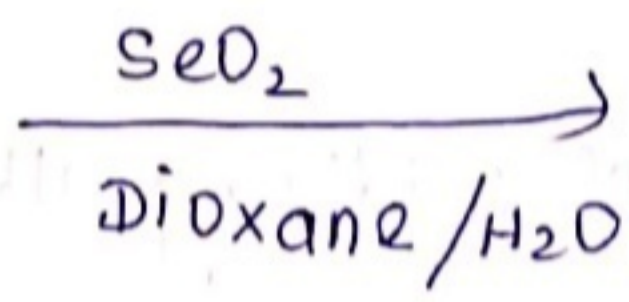
Acetophenone



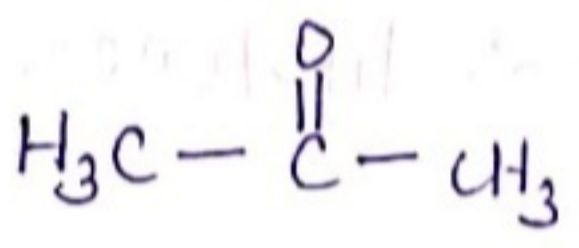
Phenyglyoxal



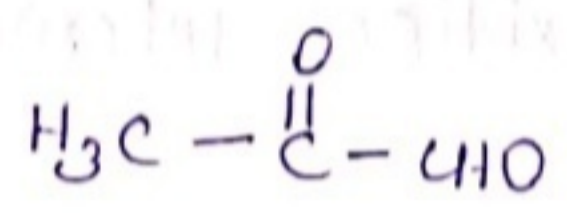
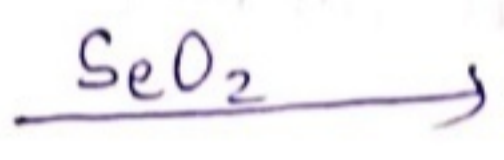
Acetophenone



1,2-cyclohexanedione



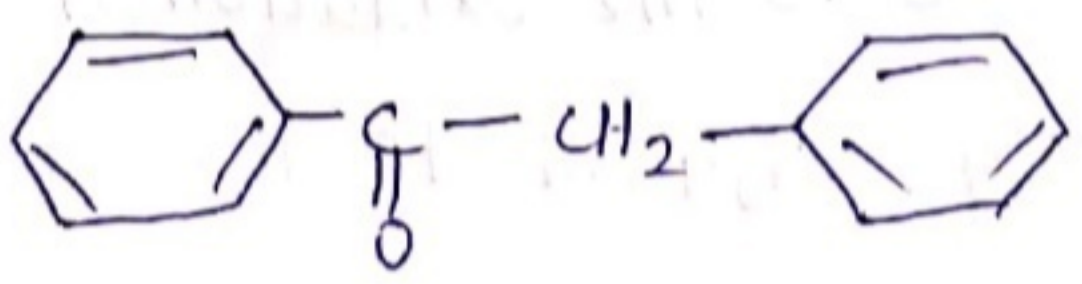
Acetone



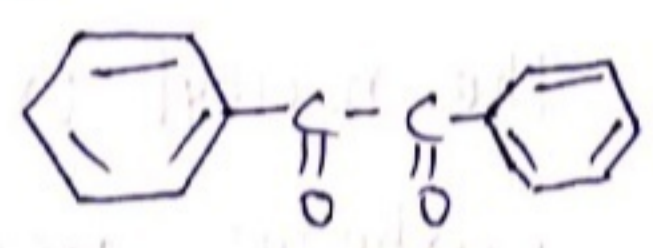
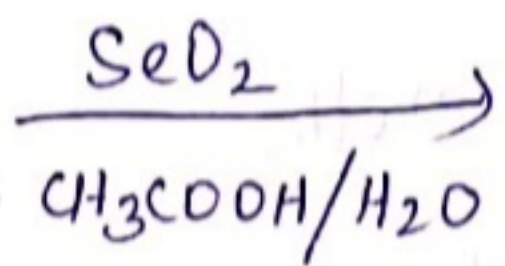
Methylglyoxal

The method is used for the synthesis of benzils.

For example, Benzil is obtained by the oxidation of phenylbenzyl ketone (Deoxybenzoin) with selenium dioxide



Deoxybenzoin



Benzil

To be continued in next lecture..