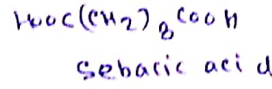
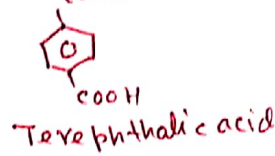
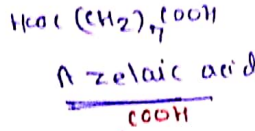
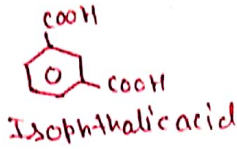
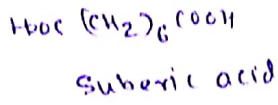
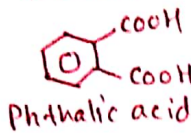
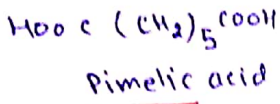
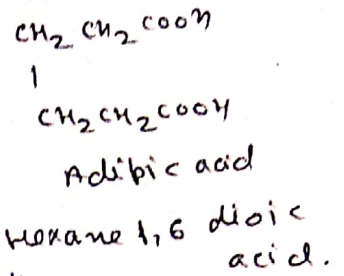
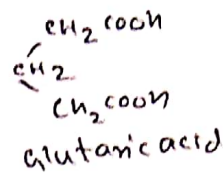
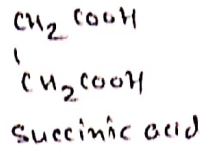
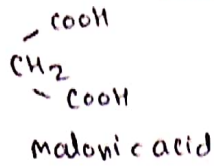
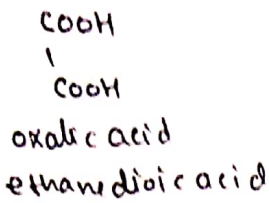


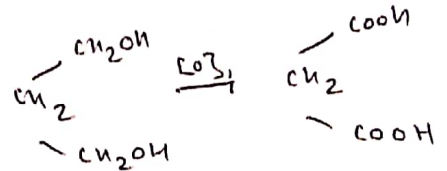
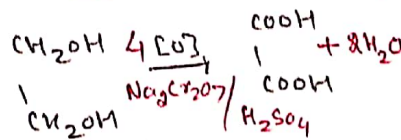
## Dicarboxylic Acid



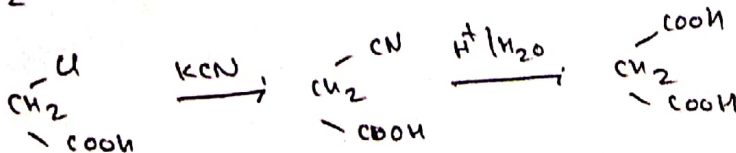
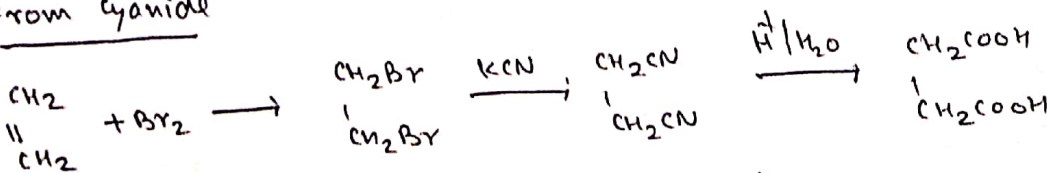
- \* All the dicarboxylic acids are crystalline solid.
- \* Acids containing odd no. of C atoms are more soluble in water than the acids containing even no. of carbon atoms.
- \* M.P of acids with even carbon atoms are higher [due to more closely packed st-] than the acids with odd no. of carbon atom.

### Preparation

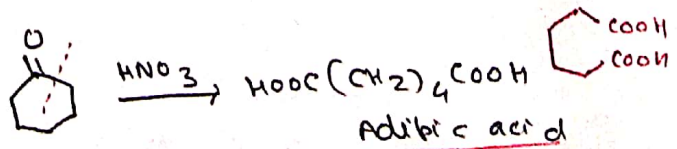
#### 1- oxidation of 1° diol



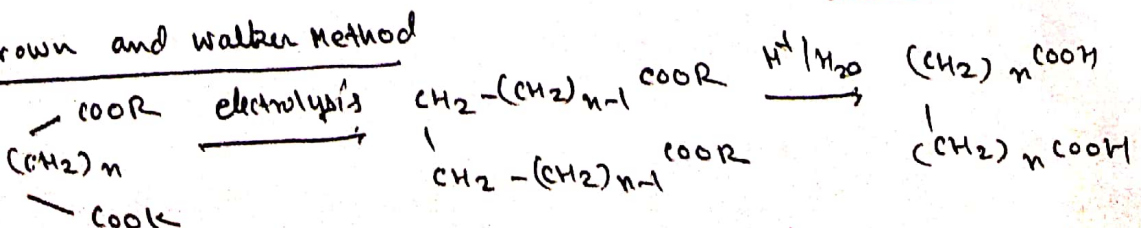
#### 2. From cyanide

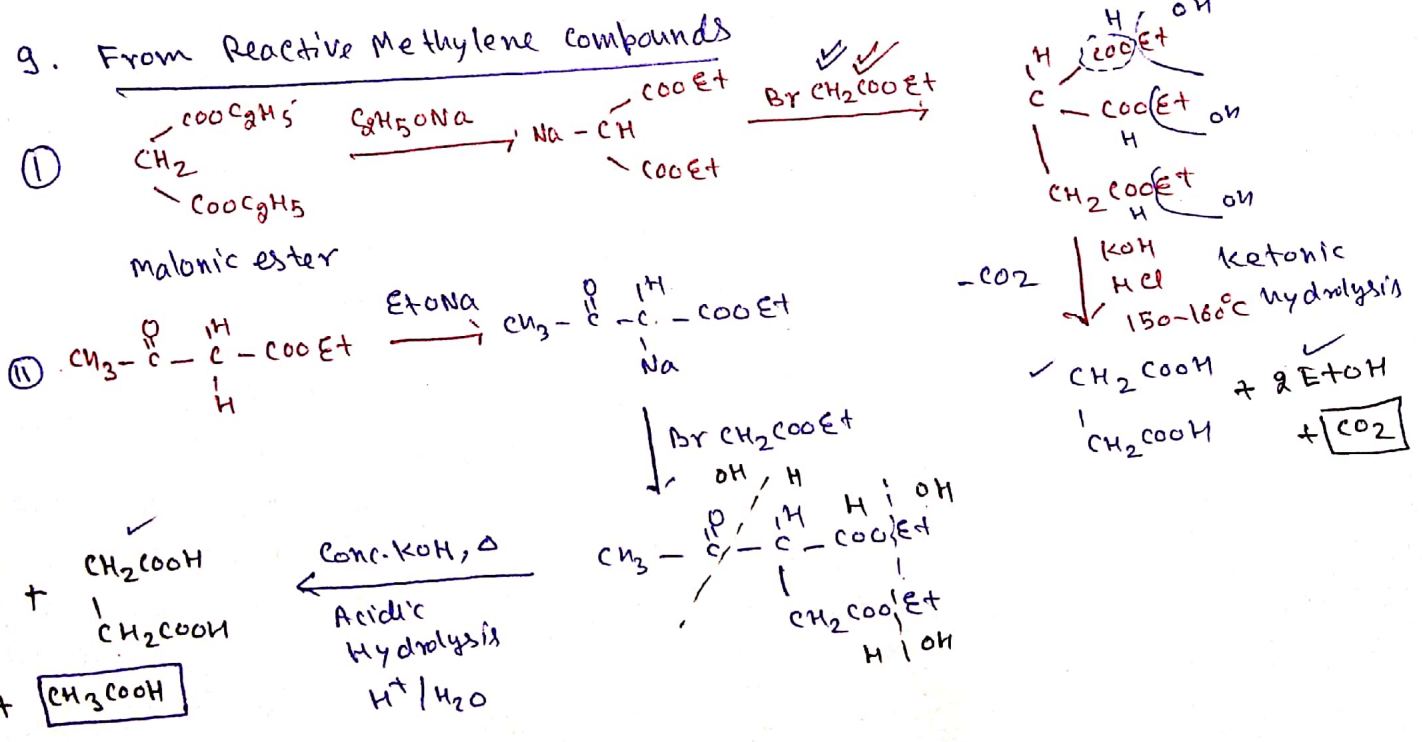
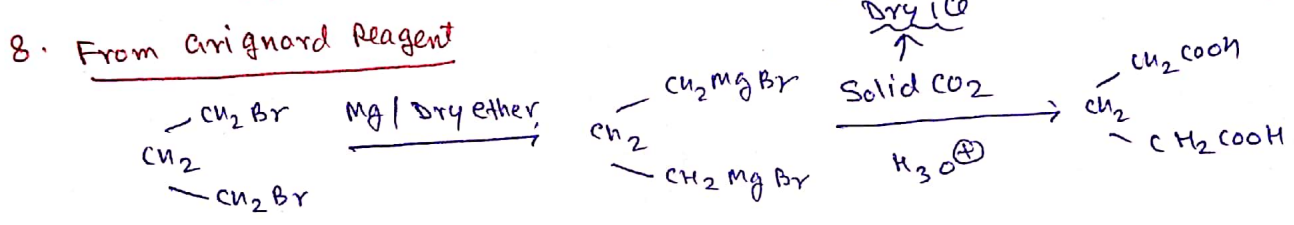
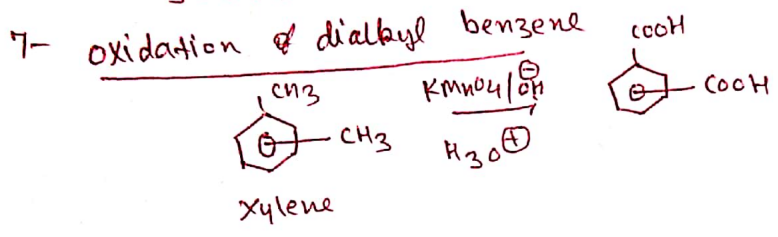
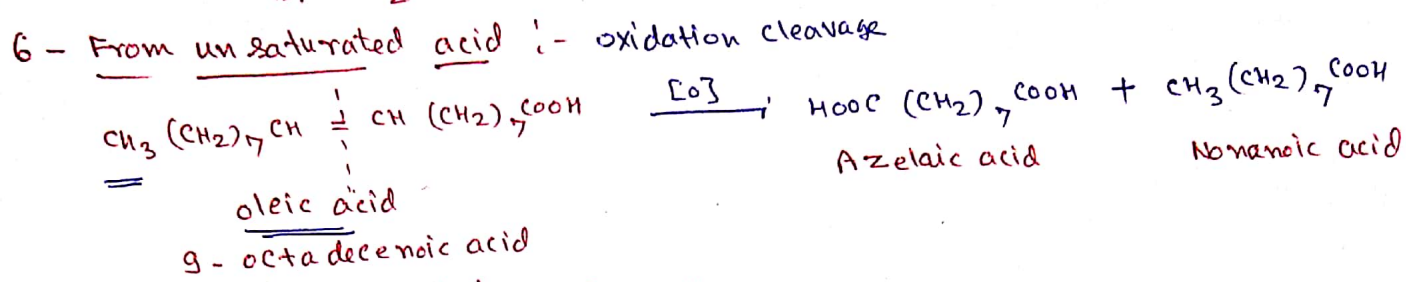
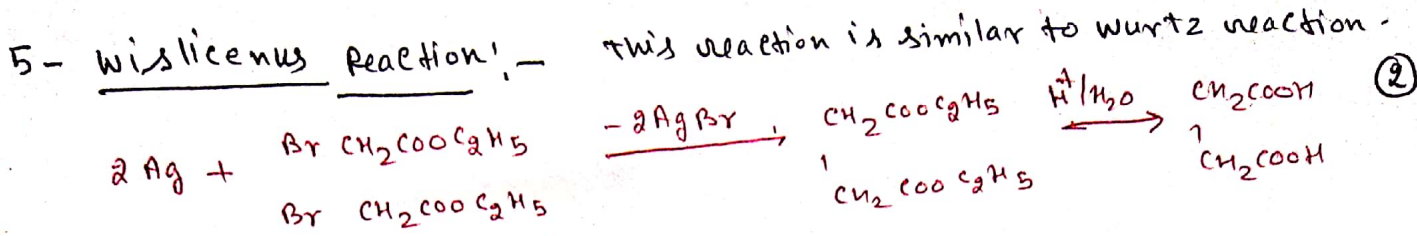


#### 3: oxidation of cyclic ketone (Alicyclic ketone)



#### 4- Crum-Brown and Walker Method

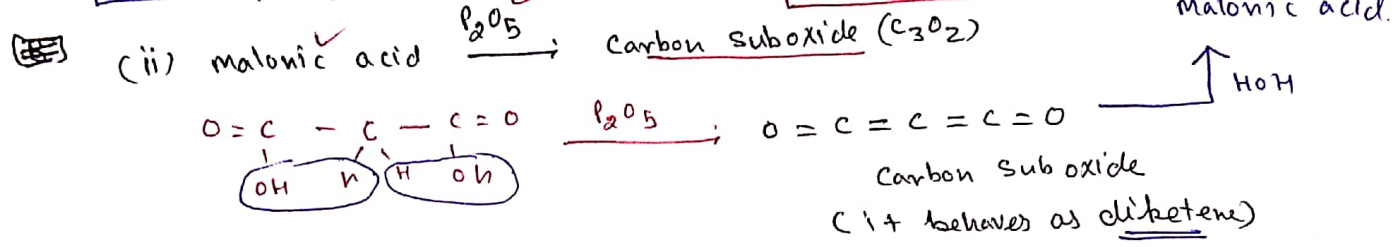
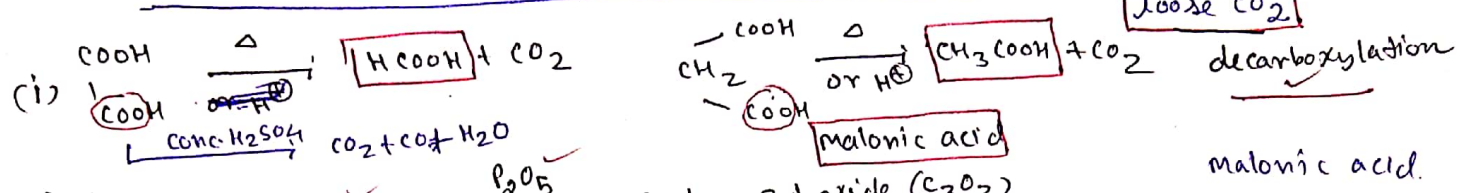




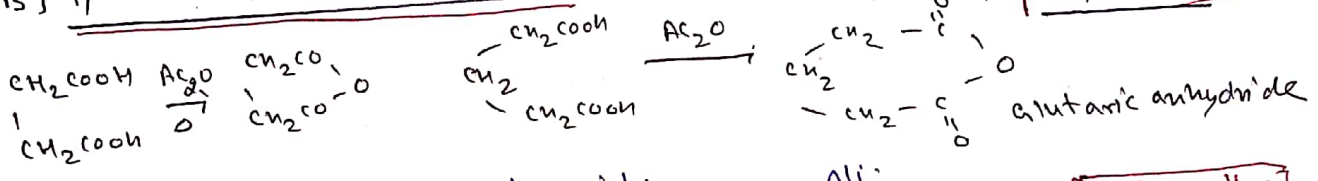
# Chemical Reactions of Dicarboxylic Acid

## ① Effect of Heat and Dehydrating agent

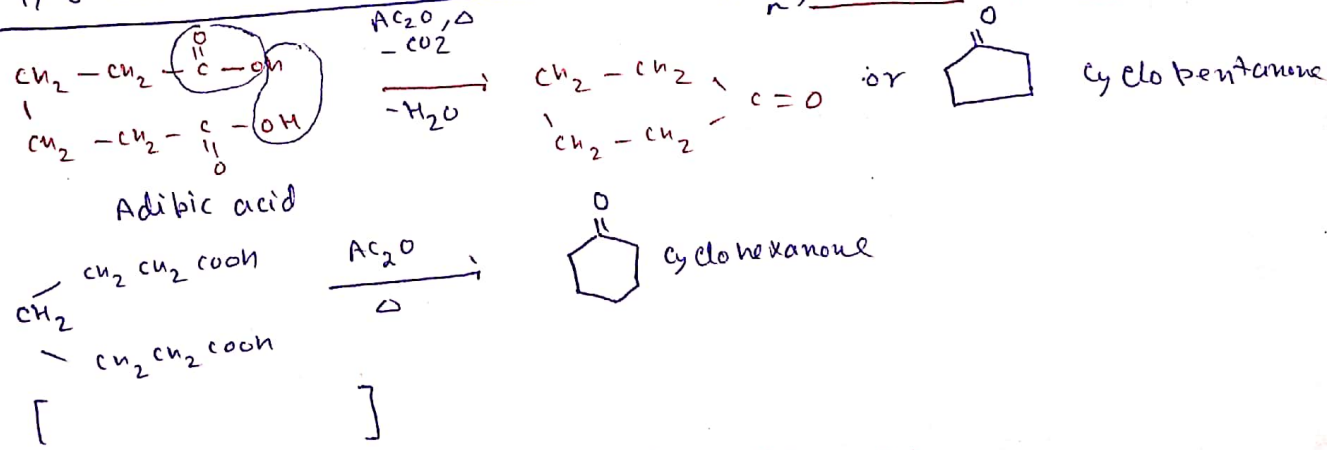
[A] Acid with one or no carbon between two -COOH groups: [ 1,2 or 1,3 - dicarboxylic acid ]



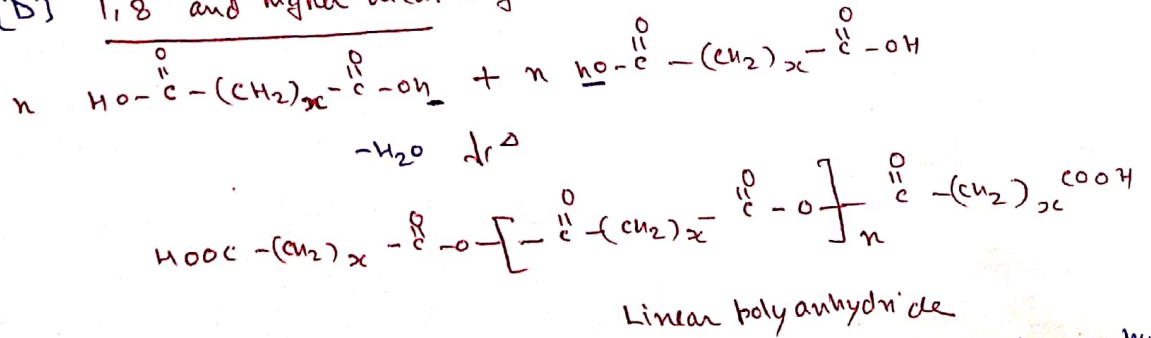
## [B] 1,4 and 1,5-dicarboxylic acid:



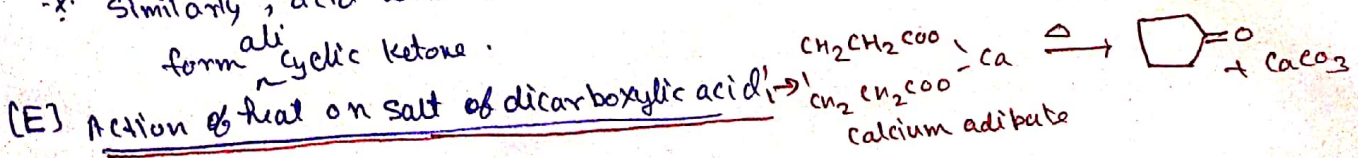
## [C] 1,6 and 1,7-dicarboxylic acid:



## [D] 1,8 and higher dicarboxylic acid $\rightarrow$ linear Poly anhydride



- x 5 or 6-membered anhydride are stable, 3 or 4-membered ring anhydride are unstable.
- x Similarly, acid with 7 or more carbon atom would not form anhydride, they form cyclic ketone.



The salts of lower acid do not give cyclic ketones.