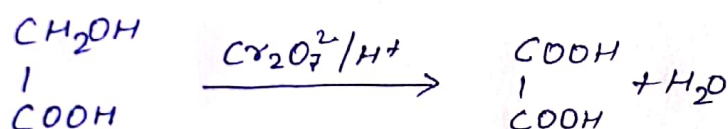
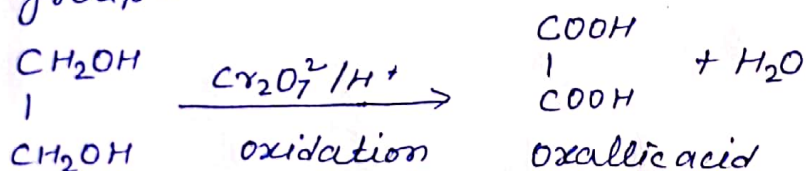


Q Describe the general methods of preparation and properties of aliphatic dicarboxylic acids.

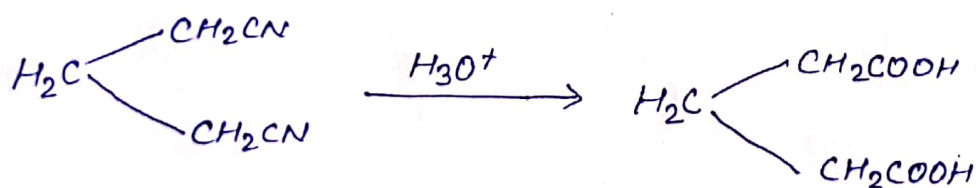
Ans Preparation

1. Oxidation of glycol and hydroxy acids containing a -CH₂OH group -

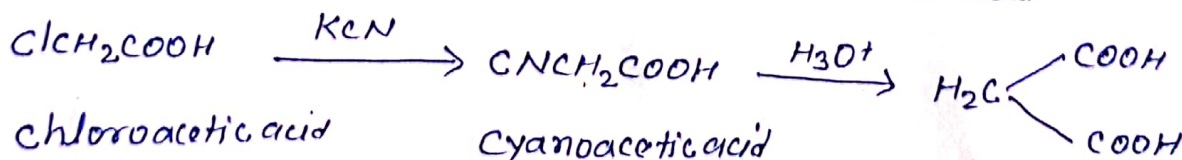


Glycollic acid

2 Hydrolysis of dicyanides or cyanocarboxylic acids -



Glutaric acid



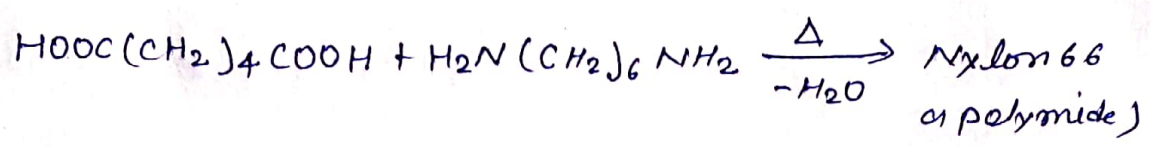
Chloroacetic acid

Cyanoacetic acid

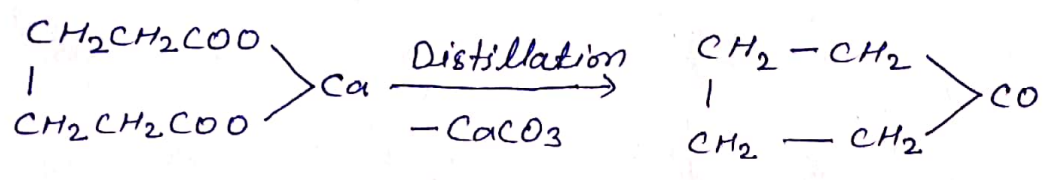
Malonic acid

Properties:

- (i) Dicarboxylic acids are stronger than monocarboxylic acids.
- (ii) They form salts, acid chlorides, esters, amides etc.
- (iii) They form useful polymers when treated with a diamine or a glycol.



3 Ca, Ba or Th - salts of acids higher than adipic acid yield cyclic ketones on heating -



4. Action of heat: whenever two -COOH groups are attached to the same carbon atom, the acid on heating decarboxylates and thus one -COOH is eliminated when two COOH groups are separated by two and three C-atom, They dehydrate to form cyclic anhydrides, when two -COOH groups are separated by more than three C-atoms, They yield linear anhydride and also char-

