PHARMACEUTICAL ORGANIC CHEMISTRY-II- BP301T

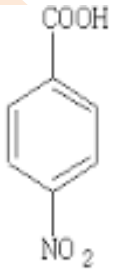
UNIT: 2 Aromatic acids

CLASS: 10

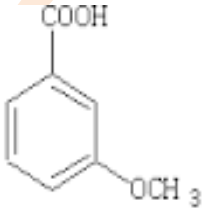
TOPIC Group showing + M and – I effect:

Groups like –OH, -NH_2, -OCH_3 having electron releasing mesomeric effect and electron with drawing inductive effect so different behavior at ortho and meta and para positions. At ortho and para positions electron releasing mesomeric effect dominate over inductive effect and decrease the acid strength.

4-methoxy benzoic acid



4-nitrobenzoic acid



3-methoxybenzoic acid

Benzoic acid:

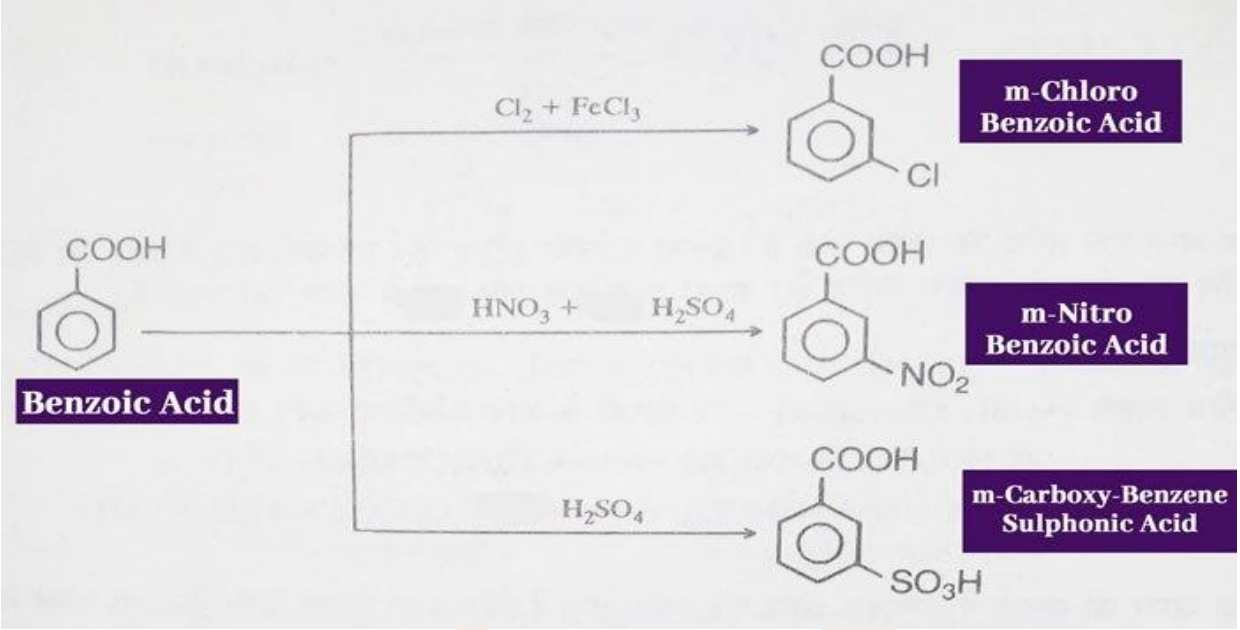
Benzoic acid is the simplest benzene ring containing carboxylic acid. Its most common natural source is gum benzoin. This gum benzoin is a resin found in the bark of trees of the genus Styrax. Benzoic acid is a commonly seen product in many industrial and household applications. It has a certain pleasant smell.

The following article will inform you about the aromatic compound benzoic acid.

Benzoic Acid Structure

It is an aromatic compound with molecular or structural benzoic acid formula C_6H_5COOH and an empirical benzoic acid formula $C_7H_6O_2$. The structure consists of a carboxylic acid group connected to a benzene ring.

The benzoic acid structure comprises six hydrogen atoms, seven carbon atoms, and two oxygen atoms. Six carbon rings have alternate single and double covalent bonds and the -COOH group.


COOH
Benzoic Acid
$Cl_2 + FeCl_3$
COOH
Cl
m-Chloro Benzoic Acid
$HNO_3 +$ H_2SO_4
COOH
NO_2
m-Nitro Benzoic Acid
H_2SO_4
COOH
SO_3H
m-Carboxy-Benzene Sulphonic Acid