PHARMACEUTICAL ORGANIC CHEMISTRY-II- BP301T

UNIT: 1 Benzene and its derivatives

CLASS: 6

TOPIC: Effect of substituent on orientation:

A second substituent can occupy any of the remaining five positions in mono substituted benzene.

The positions 2 & 6 are equivalent and gives ortho product.

The positions 3 & 5 are equivalent and gives Meta product.

The position 4 is unique and gives ortho product.

There are 2 ortho, 2 Meta, 1 Para substitution with respect to substituent which is already present.

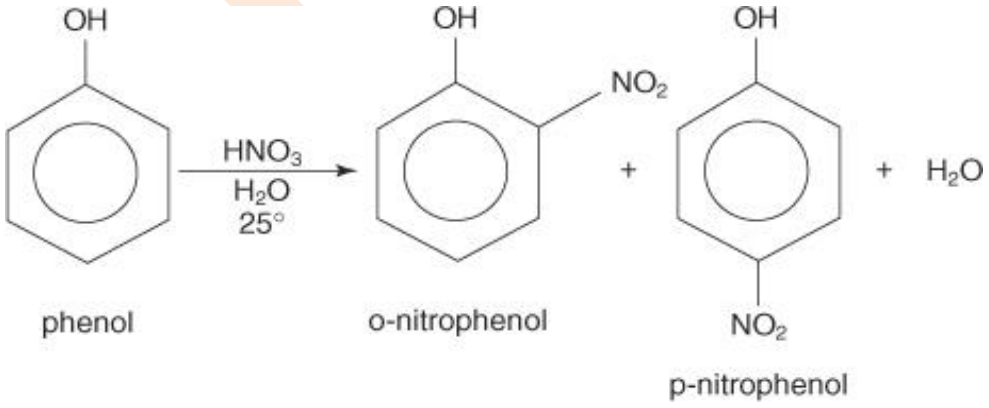
Ortho and Para directing groups:

These groups direct the incoming group to ortho and Para positions.

Ex: Alkyl (R), Phenyl (-C_6H_5), Halogens (R-X)

These groups direct the incoming group to Meta position.

Ex: Nitro (NO_2), Cyano (CN), Aldehydes (R-CHO)



Phenol is reacting with nitric acid to form ortho and Para nitro phenol.