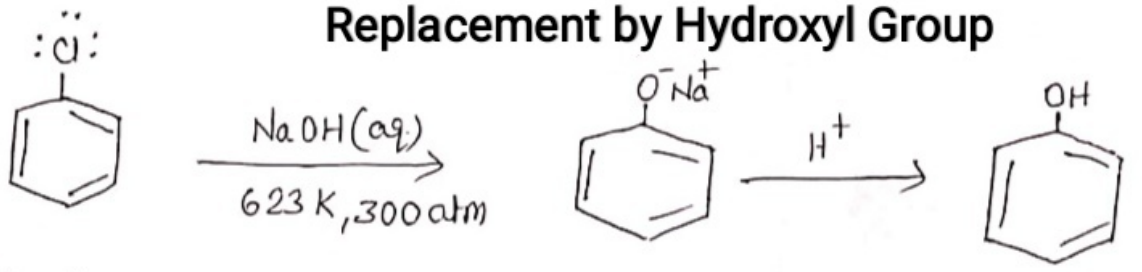
HALOALKANES & HALOARENES

Lecture -17

CHEMISTRY , CLASS-XII ,UNIT-10 ,18-07-2020

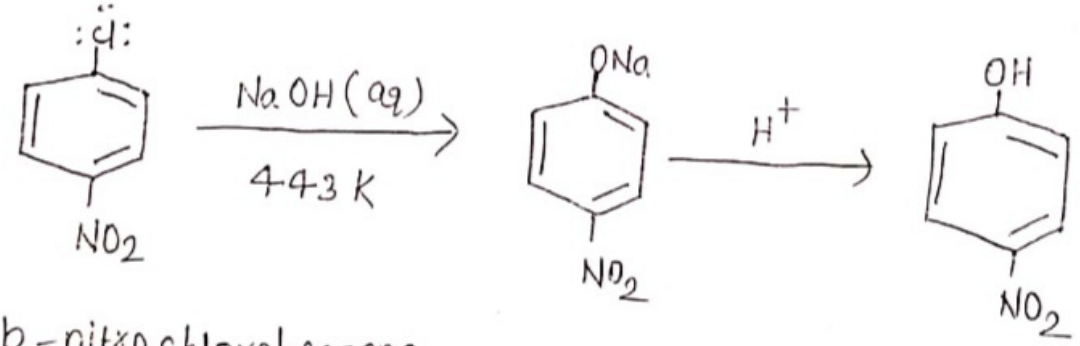
Topic - Reactions of Haloarenes

Replacement by Hydroxyl Group

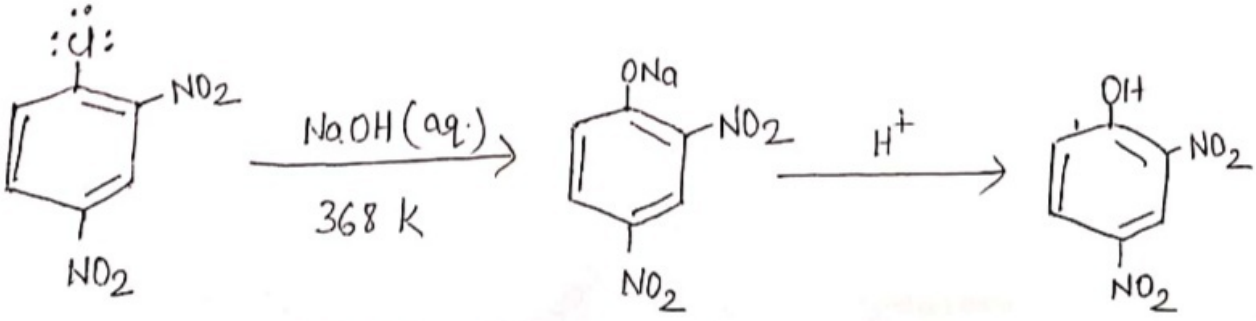


Chlorobenzene — Sodium Phenoxide — Phenol

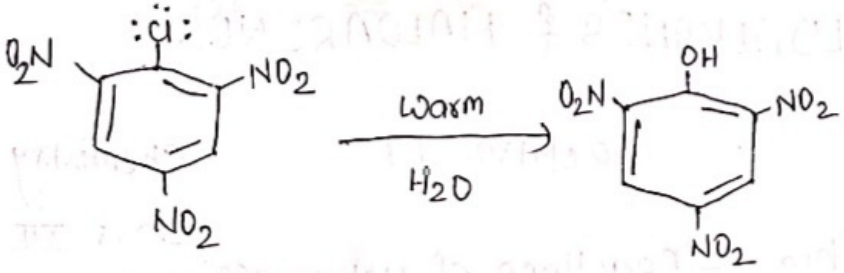
* The presence of an electron withdrawing group ($-NO_2$) at ortho- and para- positions increases the reactivity of haloarenes.



p-nitro chlorobenzene



2.



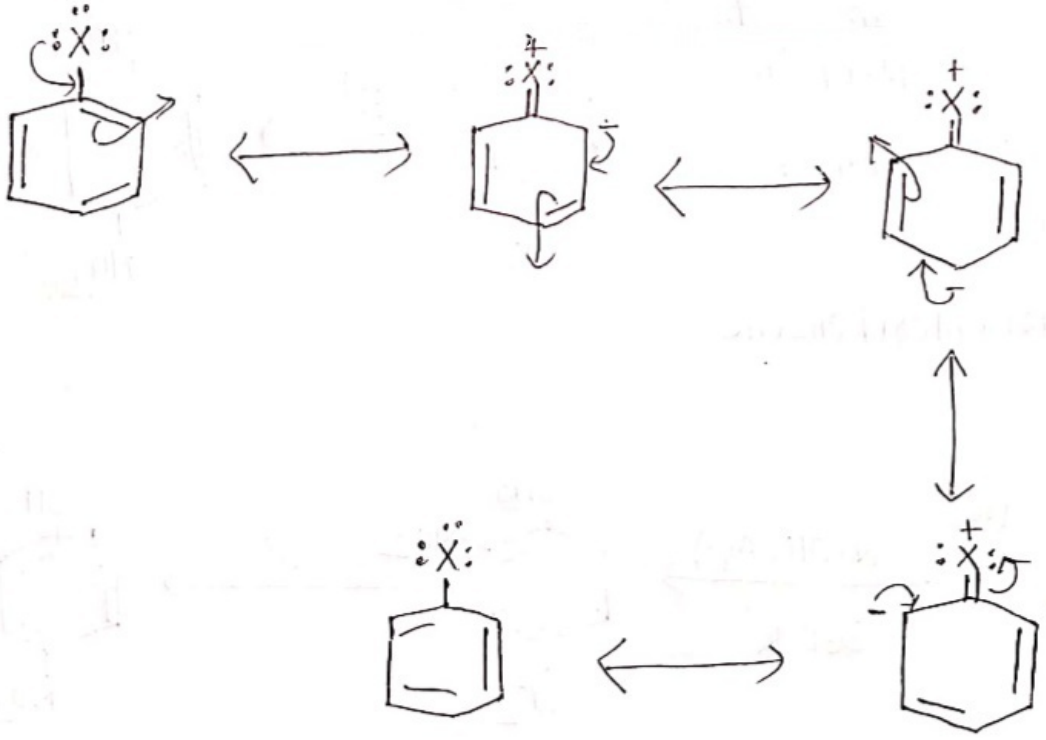
2, 4, 6 - trinitrophenol

(Picric acid)

Electrophilic Substitution Reaction

Halogen atom besides being slightly deactivating is o-, p-directing; Therefore, further substitution occurs at ortho- and para positions with respect to the halogen atom.

Resonating Structures Of Halobenzene



Due to resonance the electron density increases more at ortho and para - positions than at meta positions.

Further, the halogen atom because of its -I effect has some tendency to withdraw electrons from the benzene ring. As a result, the ring gets somewhat deactivated as compared to benzene and hence the electrophilic substitution reactions in haloarenes occurs slowly and require more drastic conditions as compared to those in benzene.

To be continued in next lecture...

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