Chemistry Formula Sheet

Chapter by chapter, topic by topic. Written by the PadhoNa team for quick revision.

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CHAPTER 25

Haloalkanes and Haloarenes

SN1, SN2 and elimination

SN2

$$\text{rate} = k[\text{RX}][\text{Nu}^-];\ \text{inversion};\ \ \text{CH}_3\text{X} > 1^\circ > 2^\circ > 3^\circ$$

SN1

$$\text{rate} = k[\text{RX}];\ \text{racemisation};\ \ 3^\circ > 2^\circ > 1^\circ;\ \text{polar protic solvent}$$

LEAVING GROUP

$$\text{I}^- > \text{Br}^- > \text{Cl}^- > \text{F}^-$$

SAYTZEFF

$$\text{elimination gives the more substituted alkene}$$

Preparation and named reactions

$$\text{Finkelstein: } \text{RCl} + \text{NaI} \rightarrow \text{RI};\qquad \text{Swarts: } \text{RBr} + \text{AgF} \rightarrow \text{RF}$$

$$\text{Sandmeyer: } \text{ArN}_2^+ \xrightarrow{\text{CuX}} \text{ArX};\qquad \text{Wurtz–Fittig: } \text{ArX} + \text{RX} + \text{Na} \rightarrow \text{ArR}$$

Haloarenes

$$\text{less reactive to nucleophiles (C–X has partial double-bond character);}\ \ \text{EWG at } o/p \text{ speeds up SNAr}$$

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