9. Arrange the following alkyl halides in decreasing order of the rate of β elimination reaction with alcoholic KOH.

(A)
$$CH_3 - C - CH_2Br$$
 (B) $CH_3 - CH_2 - Br$

$$CH_3$$
(C) $CH_3 - CH_2 - CH_2 - Br$
(a) $A > B > C$ (b) $C > B > A$ (c) $B > C > A$ (d) $A > C > B$

$$H$$
Sol. (d) $CH_3 - C - CH_2Br > CH_3CH_2CH_2Br > CH_3CH_2Br$

$$CH_3$$
The order of rate of β -elimination with alcoholic KOH.

is the order of rate of β -elimination with alcoholic KOH.

CH₃—CH₂Br

CH₃—CH₂Br

CH₃—CH₂—Br

CH₃

(has 2
$$\beta$$
-substituents) (has no β -substituent)

CH₃—CH₂— α

(C)

(has 1 β -substituent)

More the number of β-substituents (alkyl groups), more stable alkene will be formed on β -elimination and more will be the reactivity. Thus, the decreasing order of the rate of β -elimination reaction with alcoholic KOH is: A > C > B.