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- (a) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{Br} + \text{NaI} \longrightarrow \text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{I} + \text{NaBr}$
- (b) $\begin{array}{c} \text{CH}_3 \\ | \\ \text{CH}_3\text{CHCH}_2\text{CH}_3 \\ | \\ \text{Cl} \end{array} + \text{NaOCH}_2\text{CH}_3 \longrightarrow \begin{array}{c} \text{CH}_3 \\ | \\ \text{CH}_3\text{CHCH}_2\text{CH}_3 \\ | \\ \text{OCH}_2\text{CH}_3 \end{array} + \text{NaCl}$
- (c) $\begin{array}{c} \text{CH}_3 \\ | \\ \text{CH}_3\text{C}-\text{Br} \\ | \\ \text{CH}_3 \end{array} + \text{CH}_3\text{OH} \longrightarrow \begin{array}{c} \text{CH}_3 \\ | \\ \text{CH}_3\text{C}-\text{OCH}_3 \\ | \\ \text{CH}_3 \end{array} + \text{HBr}$
- (d) $\text{Cl}-\text{C}_6\text{H}_4-\text{CH}_2\text{Cl} + \text{NaCN} \longrightarrow \text{Cl}-\text{C}_6\text{H}_4-\text{CH}_2\text{CN} + \text{NaCl}$
- (e) $\text{CH}_3\text{CH}_2\text{CH}_2\text{I} + \text{NaC}\equiv\text{CH} \longrightarrow \text{CH}_3\text{CH}_2\text{CH}_2\text{C}\equiv\text{CH} + \text{NaI}$
- (f) $\begin{array}{c} \text{CH}_3\text{CHCH}_3 \\ | \\ \text{Cl} \end{array} + \text{NaSH} \longrightarrow \begin{array}{c} \text{CH}_3\text{CHCH}_3 \\ | \\ \text{SH} \end{array} + \text{NaCl}$
- (g) $\text{CH}_2:\text{CHCH}_2\text{Cl} + 2 \text{NH}_3 \longrightarrow \text{CH}_2:\text{CHCH}_2\text{NH}_2 + \text{NH}_4\text{Cl}$
- (h) $\begin{array}{c} \text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2 \\ | \\ \text{Br} \end{array} + 2 \text{NaCN} \longrightarrow \begin{array}{c} \text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2 \\ | \\ \text{CN} \end{array} + 2 \text{NaBr}$
- (i) $\begin{array}{c} \text{Br} \quad \text{CH}_3 \\ \diagdown \quad \diagup \\ \text{C}_6\text{H}_11 \end{array} + \text{H}_2\text{O} \longrightarrow \begin{array}{c} \text{HO} \quad \text{CH}_3 \\ \diagdown \quad \diagup \\ \text{C}_6\text{H}_11 \end{array} + \text{HBr}$