$$n + C - H \xrightarrow{-\frac{-2}{2}} CH_{2} - O \xrightarrow{-\frac{1}{2}} + (n-1) H_{2}O$$

$$n + C - CH - COOH \xrightarrow{\text{($d$-$d$)}} H \xrightarrow{-\frac{1}{2}} O - CH - C \xrightarrow{-\frac{1}{2}} OH + (n-1) H_{2}O$$

1) H<sub>2</sub>O

$$\begin{array}{c|c} \hline - \operatorname{CH}_2 - \operatorname{CH} & \longrightarrow & + n \operatorname{CH}_3 \operatorname{OH} & \xrightarrow{\operatorname{NaOH}} & - \operatorname{CH}_2 - \operatorname{CH} & \longrightarrow \\ & \operatorname{CH}_3 \operatorname{COO} & & \operatorname{OH} & \\ & + n \operatorname{CH}_3 \operatorname{COOCH}_3 & & & & \end{array}$$

$$\begin{array}{c} \text{CH}_2-\text{OH}+\text{RCHO} \longrightarrow \text{H}+\begin{array}{c} \text{CH}_2\\ \text{CH}_2-\text{OH} \end{array}$$

$$3 ext{ H}_2 ext{N}$$
  $\overline{\mathbb{C}}$   $\mathbb{R}$   $\mathbb{H}_2$   $\mathbb{N}$   $\mathbb{$ 

$$R - \overset{1}{C}H - COOH + HCl \longrightarrow R - \overset{1}{C}H - COOH + Cl^{-1}$$

$$\begin{matrix} NH_2 & NH_3Cl \\ | & | \\ R-CH-COOH+HCl \longrightarrow R-CH-COOH \end{matrix}$$

$$\begin{matrix} \text{NH}_2 & \text{NH}_2 \\ | & | \\ \text{R--CH--COOH} + \text{NaOH} \longrightarrow \text{R--CH--COONa} + \text{H}_2\text{O} \end{matrix}$$