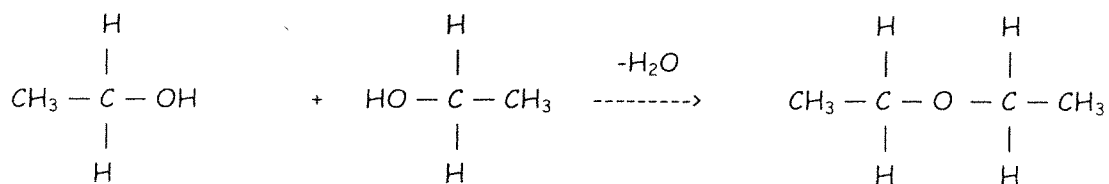


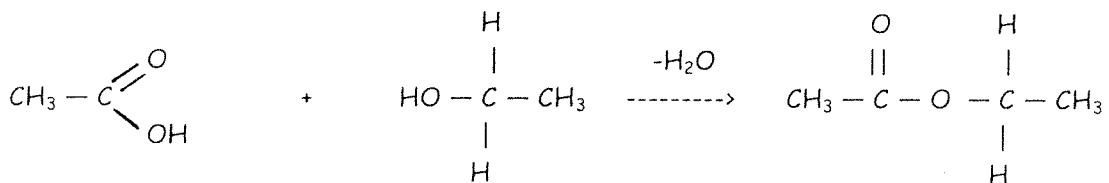
FUNCTIONAL GROUPS

FUNCTIONAL GROUP	COMPOUND WITH GROUP	STRUCTURE
Hydroxyl	Alcohol	$\begin{array}{c} R_1 \\ \\ R_2 - C - OH \\ \\ R_3 \end{array}$
Carboxyl	Carboxylic acid	$\begin{array}{c} O \\ // \\ R - C \\ \backslash \\ OH \end{array}$
Carbonyl	Ketone	$\begin{array}{c} R_2 - C - R_2 \\ \\ O \end{array}$
Aldehyde	Aldehyde	$\begin{array}{c} H \\ \backslash \\ R - C \\ // \\ O \end{array}$
Amino	Amine	$\begin{array}{c} R_3 \\ \\ R_1 - C - R_2 \\ \\ NH_2 \end{array}$
Amino + carboxyl	Amino acid	$\begin{array}{c} H \\ \\ R_1 - C - C \begin{array}{l} // \\ O \\ \backslash \\ OH \end{array} \\ \\ NH_2 \end{array}$
Sulfhydryl	Sulfhydryl/mercaptan	$\begin{array}{c} R_1 \\ \\ R_2 - C - R_2 \\ \\ SH \end{array}$
Phosphate	phosphate	$\begin{array}{c} OH \\ \\ R - O - P - OH \\ \\ O \end{array}$

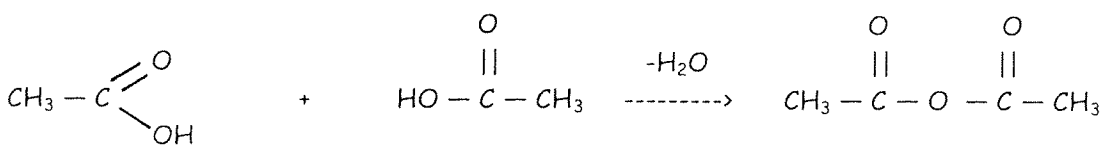
Linkages Resulting from Functional Group Reactions



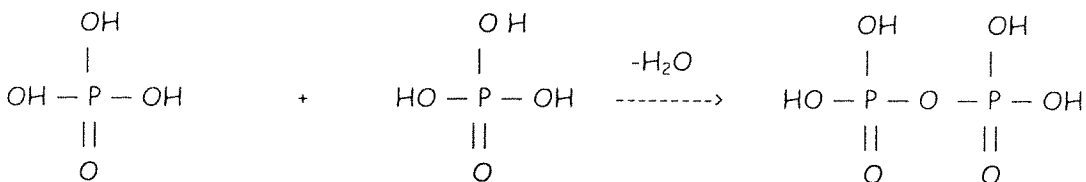
Ether linkage



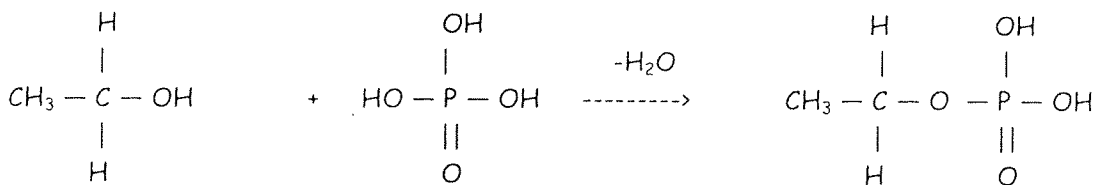
Ester Linkage



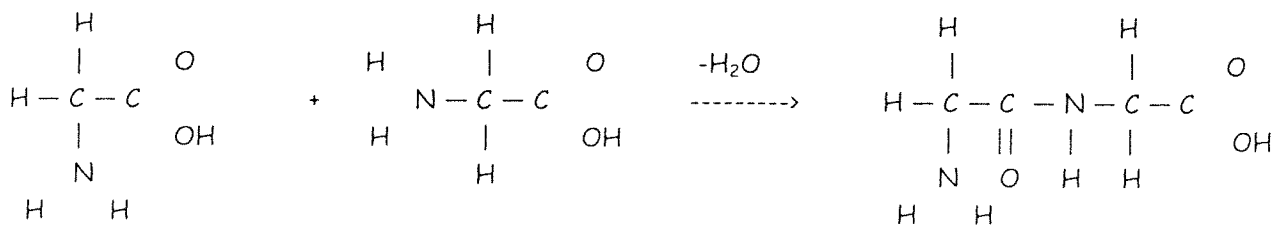
Anhydride Linkage



Anhydride Linkage



Phosphate Ester Linkage



Peptide Linkage