
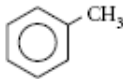


# SCH 4C: Organic Chemistry

## Key Symbols and Equations

**Table 1** Families of Organic Compounds

Family name	General formula	Example
alkanes	$\begin{array}{c}   \quad   \\ -C - C- \\   \quad   \end{array}$	propane $\text{CH}_3 - \text{CH}_2 - \text{CH}_3$
alkenes	$\begin{array}{c}   \quad   \\ -C = C- \\   \quad   \end{array}$	propene (propylene) $\text{CH}_2 = \text{CH} - \text{CH}_3$
alkynes	$-C \equiv C-$	propyne $\text{CH} \equiv \text{C} - \text{CH}_3$
aromatics		methyl benzene (phenyl methane, toluene) 
organic halides	$\text{R} - \text{X}$	chloropropane $\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{Cl}$
alcohols	$\text{R} - \text{OH}$	propanol $\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{OH}$
ethers	$\text{R} - \text{O} - \text{R}'$	methoxyethane (ethyl methyl ether) $\text{CH}_3 - \text{O} - \text{CH}_2 - \text{CH}_3$
aldehydes	$\begin{array}{c} \text{O} \\    \\ \text{R}[\text{H}] - \text{C} - \text{H} \end{array}$	propanal $\text{CH}_3 - \text{CH}_2 - \overset{\text{O}}{\parallel} - \text{C} - \text{H}$
ketones	$\begin{array}{c} \text{O} \\    \\ \text{R} - \text{C} - \text{R}' \end{array}$	propanone (acetone) $\text{CH}_3 - \overset{\text{O}}{\parallel} - \text{C} - \text{CH}_3$
carboxylic acids	$\begin{array}{c} \text{O} \\    \\ \text{R}[\text{H}] - \text{C} - \text{OH} \end{array}$	propanoic acid $\text{CH}_3 - \text{CH}_2 - \overset{\text{O}}{\parallel} - \text{C} - \text{OH}$
esters	$\begin{array}{c} \text{O} \\    \\ \text{R}[\text{H}] - \text{C} - \text{O} - \text{R}' \end{array}$	methyl ethanoate (methyl acetate) $\text{CH}_3 - \overset{\text{O}}{\parallel} - \text{C} - \text{O} - \text{CH}_3$
amines	$\begin{array}{c} \text{R}'[\text{H}] \\   \\ \text{R} - \text{N} - \text{R}''[\text{H}] \end{array}$	propylamine $\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \overset{\text{H}}{\mid} - \text{N} - \text{H}$
amides	$\begin{array}{c} \text{O} \quad \text{R}''[\text{H}] \\    \quad   \\ \text{R}[\text{H}] - \text{C} - \text{N} - \text{R}'[\text{H}] \end{array}$	propanamide $\text{CH}_3 - \text{CH}_2 - \overset{\text{O}}{\parallel} - \text{C} - \overset{\text{H}}{\mid} - \text{N} - \text{H}$