

## Common Abbreviations and Terms

## Functional Groups

## Common abbreviations and terms (carbon chains, functional groups)

Me	$-\text{CH}_3$	Methyl	Ac		acetyl
Et	$-\text{CH}_2\text{CH}_3$	Ethyl	Ts		toluenesulfonyl (tosyl)
Pr	$-\text{CH}_2\text{CH}_2\text{CH}_3$	Propyl	Ts		methanesulfonyl (mesyl)
Bu	$-\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$	Butyl	Ms		benzenesulfonyl (bosyl)
i-Pr		isopropyl			
i-Bu		isobutyl	Bs		allyl
t-Bu		t-butyl			
Ph ( $\text{C}_6\text{H}_5-$ )		phenyl	Vinyl		Vinyl
Bn ( $\text{C}_6\text{H}_5\text{CH}_2-$ )		benzyl	Propargyl		Propargyl

LG leaving group

*N*- denotes a substituent directly bound to nitrogen

Nu: nucleophile

EWG electron withdrawing group

B: base

Acyl

R: any carbon substituent

Carbonyl

Ar: an aromatic substituent

$\text{H}_3\text{C}-\overset{\text{H}_2}{\underset{\text{C}}{\text{C}}}-\text{CH}_3$				$\text{R}-\ddot{\text{F}}$ : $\text{R}-\ddot{\text{Cl}}$
alkane	alkene	alkyne	benzene ring (phenyl)	$\text{R}-\ddot{\text{Br}}$ : $\text{R}-\ddot{\text{I}}$
$\text{R}-\ddot{\text{O}}-\text{H}$	$\text{R}-\ddot{\text{O}}-\text{R}$	$\text{HO}-\text{C}(=\text{O})-\text{OR}$	$\text{R}-\text{O}-\text{C}(=\text{O})-\text{R}$	
alcohol	ether	hemiacetal	acetal	
$\text{R}-\text{C}(=\text{O})-\text{H}$	$\text{R}-\text{C}(=\text{O})-\text{R}$	$\text{R}-\text{C}(=\text{O})-\text{O}-\text{R}$	$\text{R}-\text{C}(=\text{O})-\text{OH}$	$\text{R}-\text{C}(=\text{O})-\text{N}(\text{H}, \text{R})_2$
aldehyde	ketone	ester	carboxylic acid	amide
$\text{R}-\text{C}(=\text{O})-\text{Cl}$	$\text{R}-\text{C}(=\text{O})-\text{O}-\text{C}(=\text{O})-\text{R}$	$\text{R}-\text{N}(\text{H}, \text{R})_2$	$\text{R}-\text{C}(=\text{O})-\text{N}(\text{H}, \text{R})_2$	$\text{R}-\text{C}(=\text{O})-\text{N}(\text{H}, \text{R})-\text{CH}_2-\text{H}$
acid chloride	anhydride	amine	imine	enamine
$\text{R}-\text{C}(=\text{O})-\text{OH}$	$\text{R}-\text{C}(=\text{O})-\text{N}(\text{H}, \text{R})-\text{CH}_2-\text{H}$	$\text{R}-\text{C}(=\text{O})-\text{N}(\text{H}, \text{R})_2$	$\text{HO}-\text{C}(=\text{O})-\text{N}(\text{H}, \text{R})-\text{CH}_2-\text{H}$	$\text{R}-\text{C}(=\text{O})-\text{N}(\text{H}, \text{R})-\text{O}-\text{R}$
oxime	hydrazone	nitrile	cyanohydrin	nitro
$\text{R}-\text{S}-\text{R}$	$\text{R}-\text{S}-\text{H}$	$\text{R}-\text{S}-\text{S}-\text{R}$	$\text{R}-\text{S}(=\text{O})-\text{R}$	$\text{R}-\text{S}(=\text{O})-\text{O}-\text{R}$
sulfide (thioether)	thiol	disulfide	sulfoxide	sulfone
$\text{R}-\text{S}(=\text{O})-\text{OH}$	$\text{R}-\text{S}(=\text{O})-\text{Cl}$			
sulfonic acid	sulfonyl chloride			