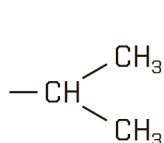


RESUMO 3.1 QUÍMICA – PROF FELIPE FIANI

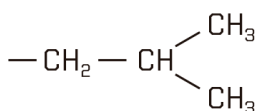
FUNÇÕES ORGÂNICAS

Composto	Ramificação
CH ₄ (metano)	— CH ₃ (metil)
CH ₃ — CH ₃ (etano)	— CH ₂ — CH ₃ (etil)
CH ₃ — CH ₂ — CH ₃ (propano)	— CH ₂ — CH ₂ — CH ₃ (propil) (ou normal propil ou n-propil)
CH ₃ — CH ₂ — CH ₂ — CH ₃ (butano)	— CH ₂ — CH ₂ — CH ₂ — CH ₃ (butil) (ou normal butil ou n-butil)

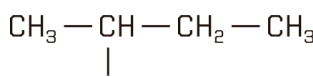
A Iupac considera também os seguintes grupos, cujos nomes foram consagrados pelo uso:



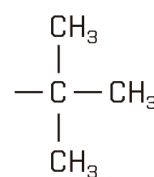
Isopropil



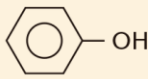
Isobutil



Sec-butil ou s-butil



Terciobutil, terc-butil
ou t-butil

	Funções	Grupos funcionais	Exemplos	Fórmulas gerais
	Álcool	— OH (ligado a carbono saturado)	CH ₃ — CH ₂ — OH	R — OH
	Fenol	— OH (ligado a carbono aromático)	 — OH	Ar — OH
	Éter	— O —	CH ₃ — O — CH ₂ — CH ₃	R — O — R'
Compostos carbonílicos	Aldeído	$\begin{array}{c} \text{O} \\ \\ -\text{C} \\ \\ \text{H} \end{array}$	$\begin{array}{c} \text{O} \\ \\ \text{CH}_3 - \text{C} \\ \\ \text{H} \end{array}$	$\begin{array}{c} \text{O} \\ \\ \text{R} - \text{C} \\ \\ \text{H} \end{array}$
	Cetona	$\begin{array}{c} -\text{C}- \\ \\ \text{O} \end{array}$	$\begin{array}{c} \text{CH}_3 - \text{C} - \text{CH}_3 \\ \\ \text{O} \end{array}$	$\begin{array}{c} \text{R} - \text{C} - \text{R}' \\ \\ \text{O} \end{array}$
	Ácido	$\begin{array}{c} \text{O} \\ \\ -\text{C} \\ \\ \text{OH} \end{array}$	$\begin{array}{c} \text{O} \\ \\ \text{CH}_3 - \text{CH}_2 - \text{C} \\ \\ \text{OH} \end{array}$	$\begin{array}{c} \text{O} \\ \\ \text{R} - \text{C} \\ \\ \text{H} \end{array}$ ou R — COOH
Derivados dos ácidos	Éster	$\begin{array}{c} \text{O} \\ \\ -\text{C} \\ \\ \text{O}- \end{array}$	$\begin{array}{c} \text{O} \\ \\ \text{CH}_3 - \text{C} \\ \\ \text{O} - \text{CH}_2 - \text{CH}_3 \end{array}$	$\begin{array}{c} \text{O} \\ \\ \text{R} - \text{C} \\ \\ \text{O} - \text{R}' \end{array}$
	Anidrido	$\begin{array}{c} \text{O} \\ \\ -\text{C} \\ \\ \text{O} \\ \\ -\text{C} \\ \\ \text{O} \end{array}$	$\begin{array}{c} \text{O} \\ \\ \text{CH}_3 - \text{C} \\ \\ \text{O} \\ \\ \text{CH}_3 - \text{C} \\ \\ \text{O} \end{array}$	$\begin{array}{c} \text{O} \\ \\ \text{R} - \text{C} \\ \\ \text{O} \\ \\ \text{R}' - \text{C} \\ \\ \text{O} \end{array}$
	Cloreto de ácido (é função oxi-halogenada)	$\begin{array}{c} \text{O} \\ \\ -\text{C} \\ \\ \text{Cl} \end{array}$	$\begin{array}{c} \text{O} \\ \\ \text{CH}_3 - \text{CH}_2 - \text{C} \\ \\ \text{Cl} \end{array}$	$\begin{array}{c} \text{O} \\ \\ \text{R}' - \text{C} \\ \\ \text{Cl} \end{array}$

Funções	Grupos funcionais	Exemplos	Fórmulas gerais
Amina	—NH_2	$\text{CH}_3\text{—CH}_2\text{—NH}_2$	R—NH_2
	$\begin{array}{c}\text{—NH} \\ \\ \text{CH}_3\end{array}$	$\begin{array}{c}\text{CH}_3\text{—CH}_2\text{—NH} \\ \\ \text{CH}_3\end{array}$	$\begin{array}{c}\text{R—NH} \\ \\ \text{R}'\end{array}$
	$\begin{array}{c}\text{—N—} \\ \\ \text{CH}_3\end{array}$	$\begin{array}{c}\text{CH}_3\text{—N—CH}_3 \\ \\ \text{CH}_3\end{array}$	$\begin{array}{c}\text{R—N—R}'' \\ \\ \text{R}'\end{array}$
Amida	$\begin{array}{c}\text{O} \\ // \\ \text{—C} \\ \\ \text{NH}_2\end{array}$	$\begin{array}{c}\text{O} \\ // \\ \text{CH}_3\text{—C} \\ \\ \text{NH}_2\end{array}$	$\begin{array}{c}\text{O} \\ // \\ \text{R—C} \\ \\ \text{NH}_2\end{array}$
Nitrila (ou cianeto)	$\text{—C}\equiv\text{N}$	$\text{CH}_3\text{—CH}_2\text{—CN}$	R—CN
Nitrocomposto	$\begin{array}{c}\text{O} \\ // \\ \text{—N} \\ \\ \text{O}\end{array}$	$\text{CH}_3\text{—NO}_2$	R—NO_2

Funções sulfuradas (Troca o oxigênio pelo enxofre)	Grupos funcionais	Exemplos	Fórmulas gerais
Tioácido ou tiol ou mercaptano	—SH	$\text{CH}_3\text{—CH}_2\text{—SH}$	R—SH
Tioéter ou sulfeto	—S—	$\text{CH}_3\text{—S—CH}_2\text{—CH}_3$	$\text{R—S—R}'$
Sulfóxido	$\begin{array}{c}\text{—S—} \\ \\ \text{O}\end{array}$	$\begin{array}{c}\text{CH}_3\text{—S—CH}_3 \\ \\ \text{O}\end{array}$	$\begin{array}{c}\text{R—S—R}' \\ \\ \text{O}\end{array}$
Sulfona	$\begin{array}{c}\text{O} \\ \uparrow \\ \text{—S—} \\ \\ \text{O}\end{array}$	$\begin{array}{c}\text{O} \\ \uparrow \\ \text{CH}_3\text{—S—CH}_3 \\ \\ \text{O}\end{array}$	$\begin{array}{c}\text{O} \\ \uparrow \\ \text{R—S—R}' \\ \\ \text{O}\end{array}$
Ácido sulfônico	$\begin{array}{c}\text{O} \\ \uparrow \\ \text{—S—OH} \\ \\ \text{O}\end{array}$	$\text{CH}_3\text{—CH}_2\text{—SO}_3\text{H}$	$\text{R—SO}_3\text{H}$