

Some Approximate ^{13}C -NMR chemical shifts

TYPE OF CARBON ATOM	CHEMICAL SHIFT, δ, PPM
1° Alkyl, RCH_3	0-40
2° Alkyl, RCH_2R	10-50
3° Alkyl, RCHR_2	15-50
Alkyl halide or amine, $\text{R}_3\text{C-X}$ ($\text{X} = \text{Cl}, \text{Br}, \text{R}_2\text{N}$)	10-65
Alcohol or ether, $\text{R}_3\text{C-O-}$	50-90
Alkyne, $-\text{C}\equiv$	60-90
Alkene, $\text{R}_2\text{C=}$	100-170
Aryl,	100-170
Nitrile, $-\text{C}\equiv\text{N}$	120-130
Amide, $\text{RC}(=\text{O})\text{NR}_2$	150-180
Carboxylic Acid, Ester, $\text{RC}(=\text{O})\text{OR}$	160-185
Aldehyde, Ketone, $\text{R}_2\text{C=O}$	182-215