

Correlation of ^1H Chemical Shift with Environment

<i>Type of Proton</i>	<i>Formula</i>	<i>Chemical Shift (δ)</i>
Reference Peak	$(\text{CH}_3)_4\text{Si}$	0
Saturated primary	$-\text{CH}_3$	0.7-1.3
Saturated secondary	$-\text{CH}_2-$	1.2-1.4
Saturated tertiary	$\text{R}_3-\text{C}-\text{H}$	1.4-1.7
Allylic primary	$\text{R}_2\text{C}=\text{CR}-\text{CH}_3$	1.6-1.9
Methyl ketones	$-\text{C}(=\text{O})-\text{CH}_3$	2.1-2.4
Aromatic methyl	$\text{Ar}-\text{CH}_3$	2.5-2.7
Alkyl chloride	$\text{Cl}-\text{CR}_2-\text{H}$	3.0-4.0
Alkyl bromide	$\text{Br}-\text{CR}_2-\text{H}$	2.5-4.0
Alkyl iodide	$\text{I}-\text{CR}_2-\text{H}$	2.0-4.0
Alcohol, ether	$-\text{O}-\text{CR}_2-\text{H}$	3.3-4.0
Alkynyl	$-\text{C}\equiv\text{C}-\text{H}$	2.5-2.7
Vinylic	$\text{R}_2\text{C}=\text{CR}-\text{H}$	5.0-6.5
Aromatic	$\text{Ar}-\text{H}$	6.5-9.0
Aldehyde	$-\text{C}(=\text{O})-\text{H}$	8.0-12.0
Carboxylic acid	$-\text{C}(=\text{O})-\text{O}-\text{H}$	11.0-15.0
Alcohol	$\text{R}_3-\text{O}-\text{H}$	Extremely variable (2.5-6.0)