

Correlation of ^1H Chemical Shifts with Environment

Type of hydrogen	Structure	Chemical shift (ppm)
Tetramethylsilane (Reference)		0
Alkyl (primary)		0.7–1.3
Alkyl (secondary)		1.2–1.6
Alkyl (tertiary)		1.4–1.8
Allylic		1.6–2.2
Ketone methyl		2.0–2.4
Benzylic		2.4–2.7
Alkynyl		2.5–3.0
Alkyl halide		2.5–4.0
Alcohol		2.5–5.0
Alpha to alcohol/ether		3.3–4.5
Vinylic		4.5–6.5
Aromatic		6.5–8.0
Aldehyde		9.7–10.0
Carboxylic acid		11.0–12.0