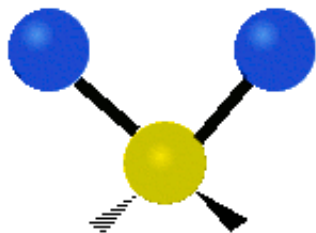
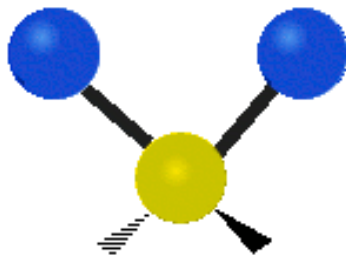


Application of IR & NMR in Organic Chemistry

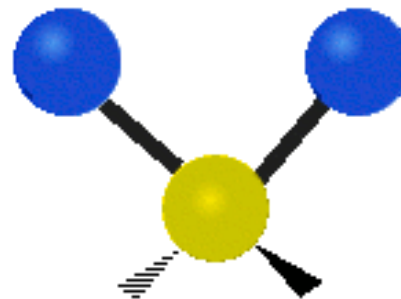
Achintya K Sarkar
Bidhannagar College
08/06/2016



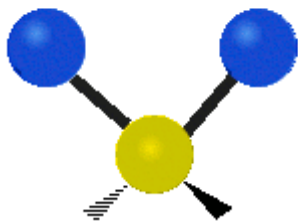
Symmetrical stretching



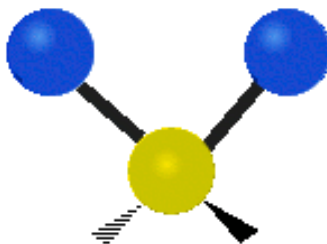
Scissoring



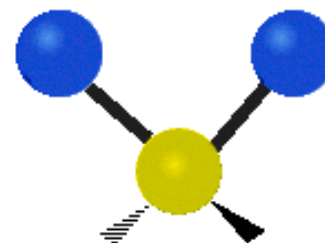
Wagging



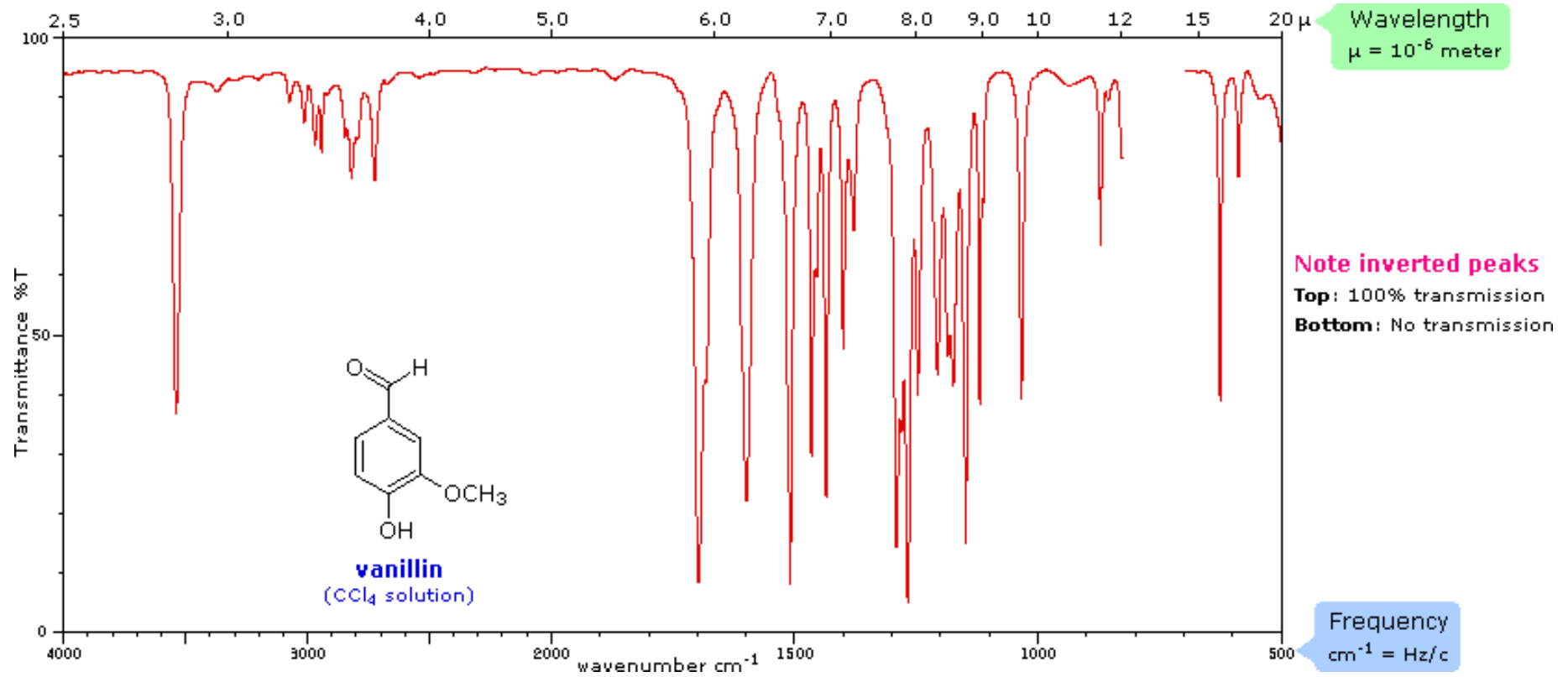
Antisymmetrical stretching

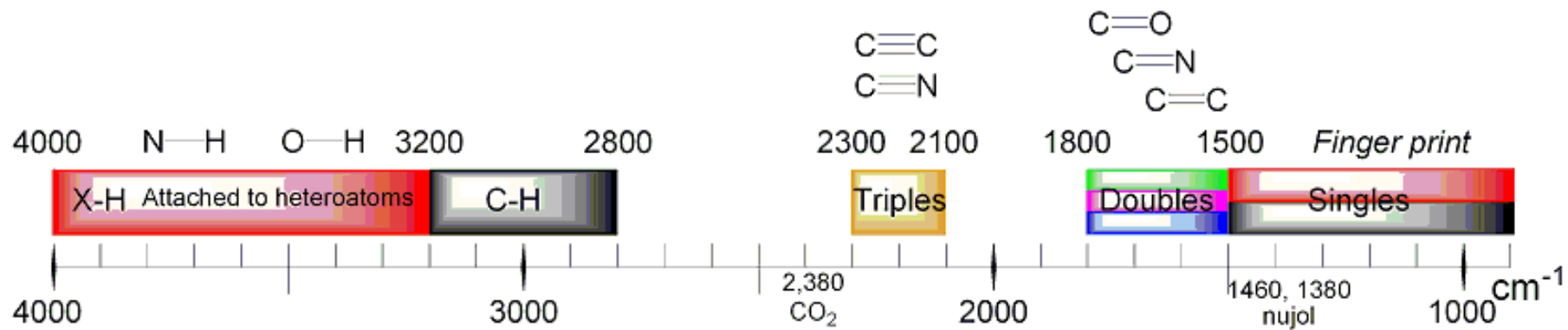


Rocking



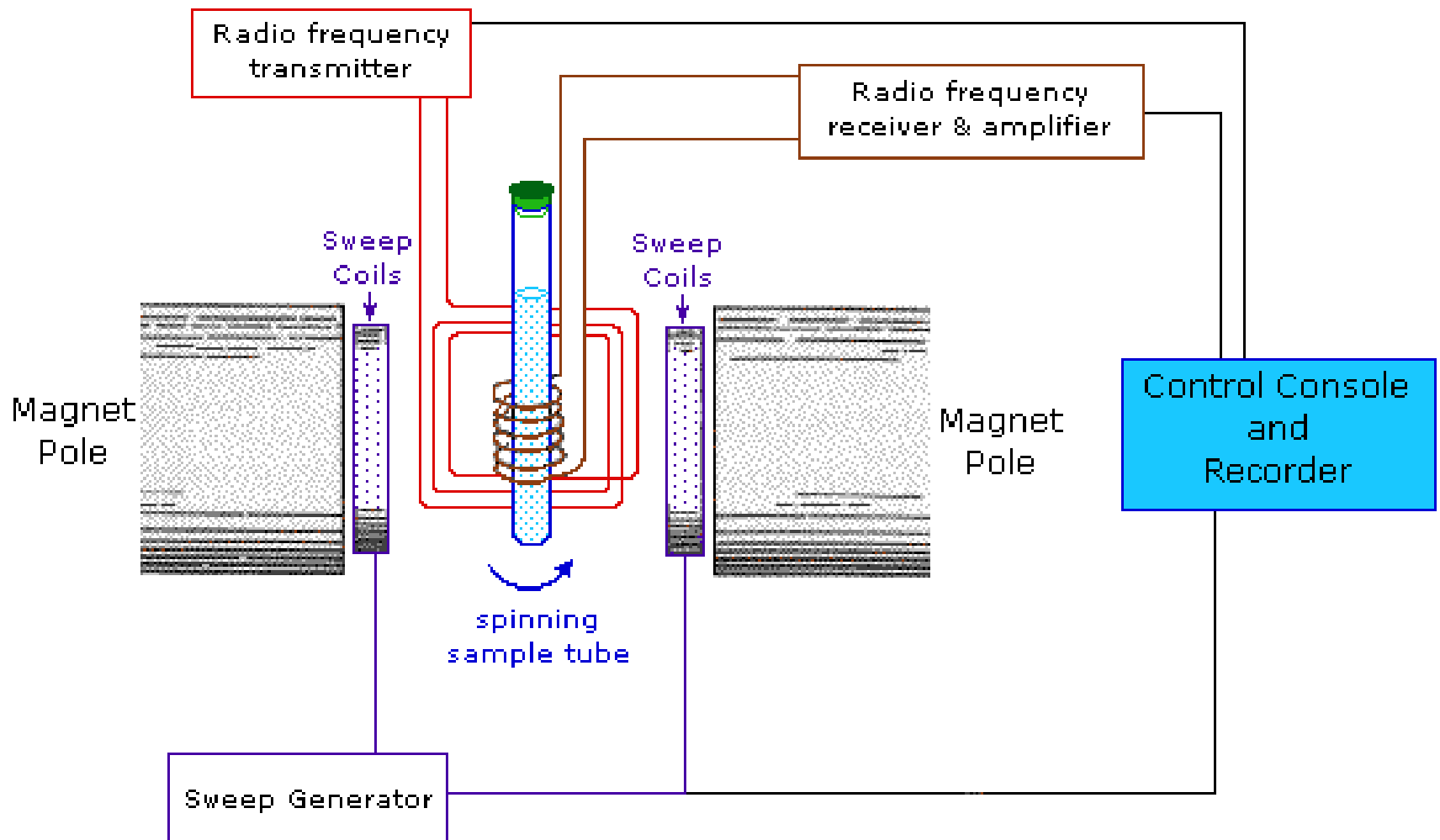
Twisting



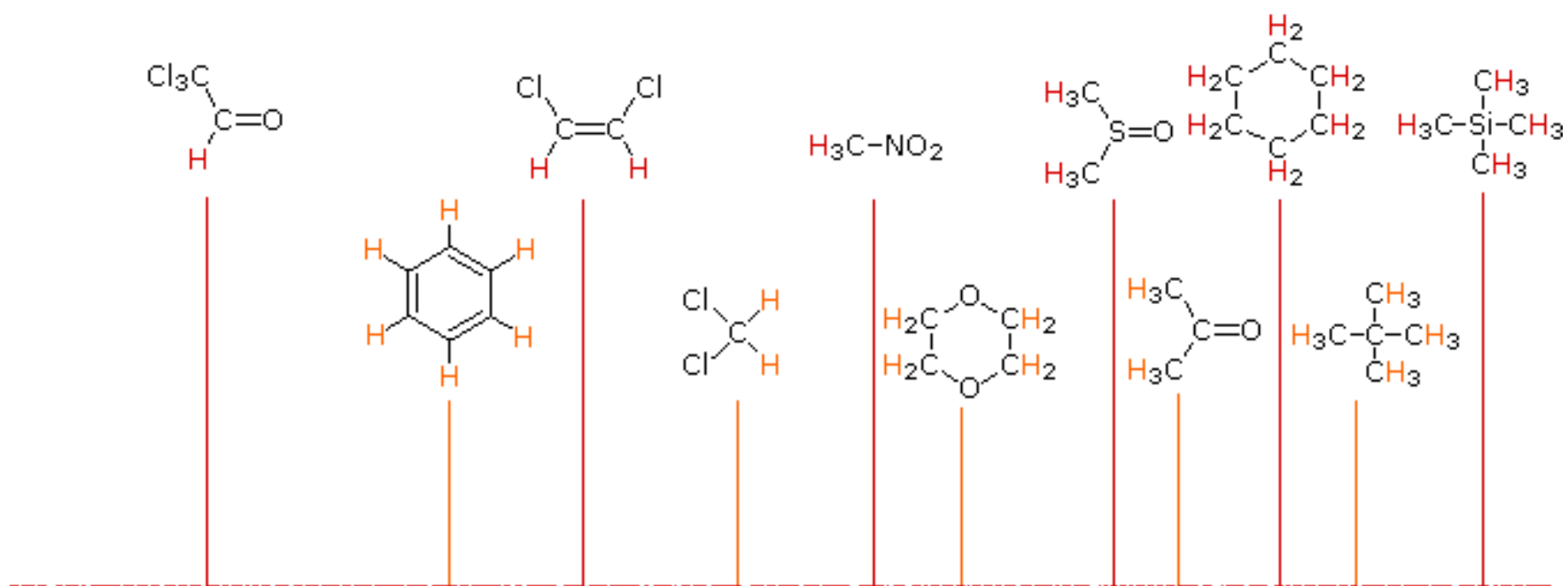




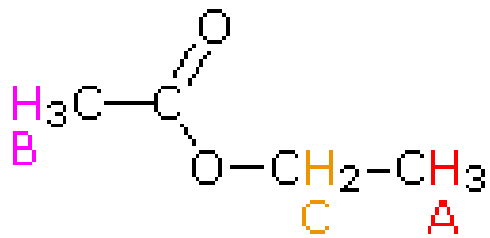




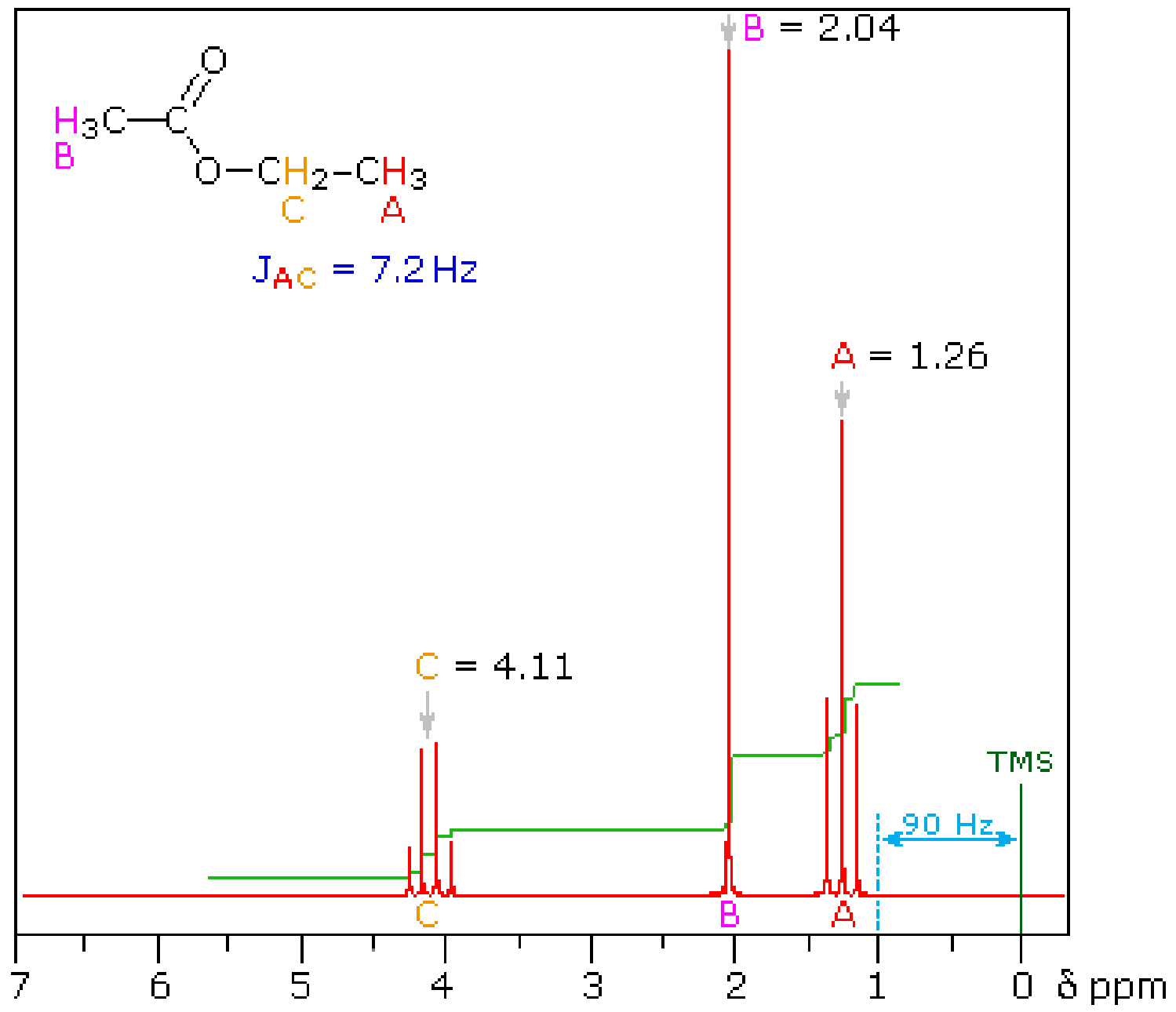
- Increasing Magnetic Field at Fixed Frequency —→
- ← Increasing Frequency at Fixed Magnetic Field ←
- Increased Shielding by Extranuclear electrons —→



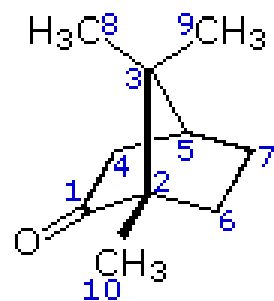
^1H NMR Resonance Signals for some Different Compounds



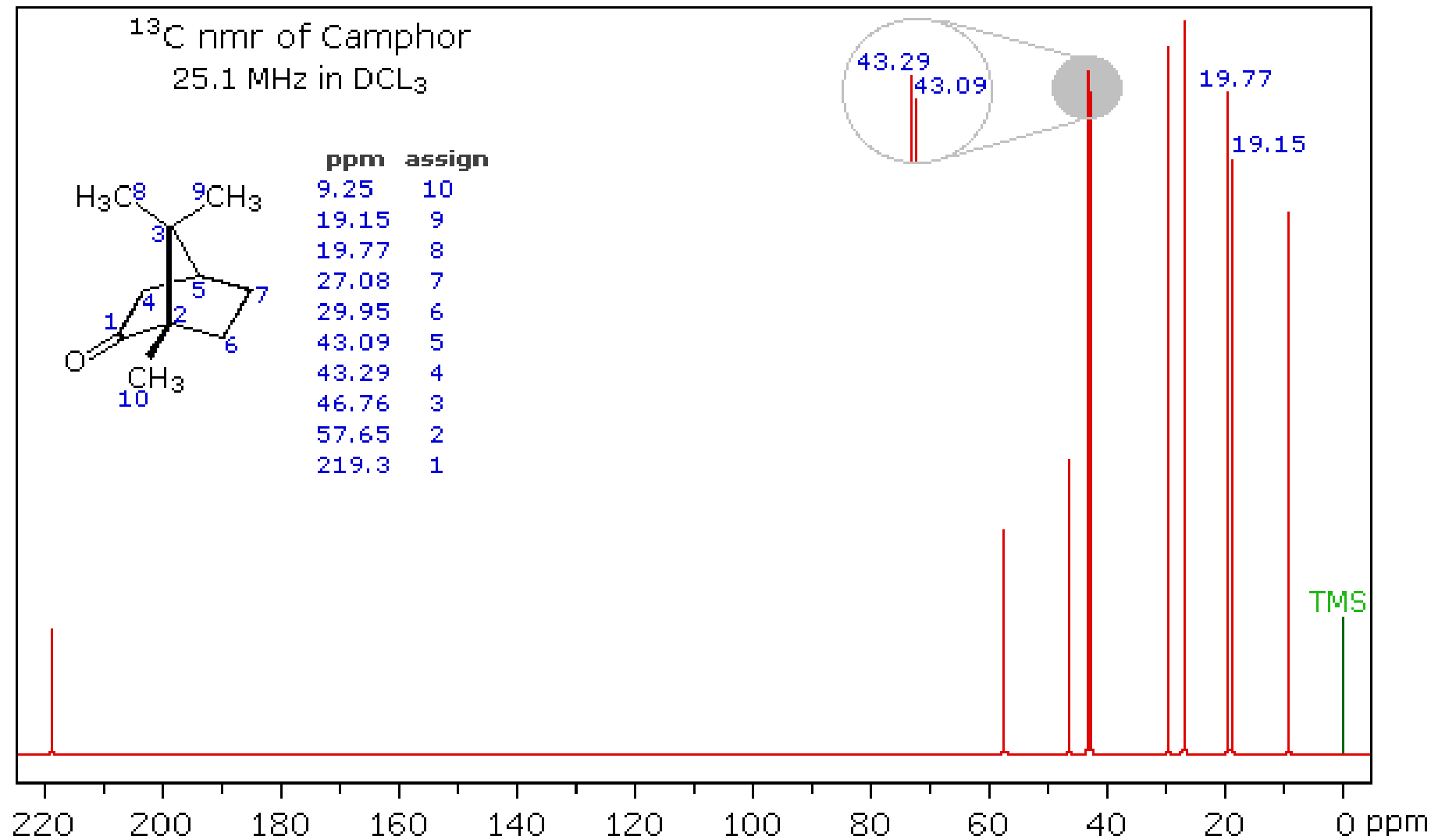
$$J_{AC} = 7.2 \text{ Hz}$$



^{13}C nmr of Camphor
25.1 MHz in DCL_3



ppm	assign
9.25	10
19.15	9
19.77	8
27.08	7
29.95	6
43.09	5
43.29	4
46.76	3
57.65	2
219.3	1



^1H nmr of Camphor
90 MHz in CDCl_3

