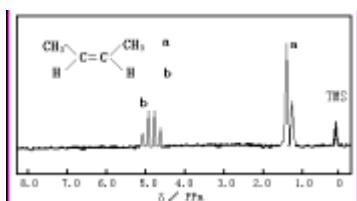


§9.3.1 Analysis of NMR

1. Structural information for NMR spectra

NMR spectrum can provide structural information of compounds:

(1).Number of peaks: Number of kinds of proton in this compound.



(2).Peak area: Number of protons in the compound.

(3).Peak shift(δ): Position of protons in the compound.

(4).Peak splitting: Number of protons on adjacent carbon atoms.

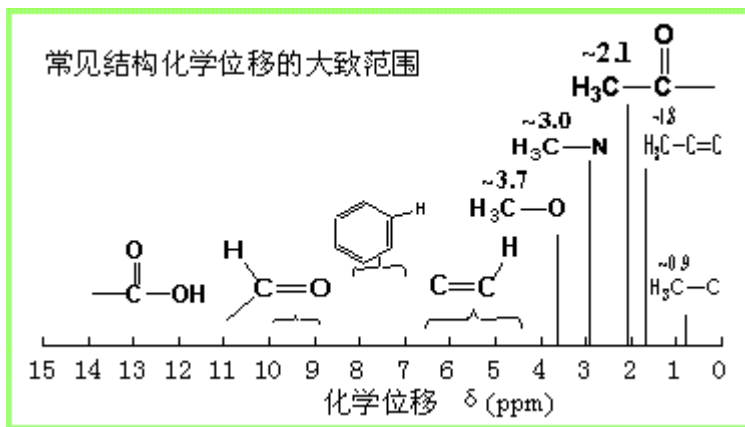
(5).Coupling constant (J): Configuration of compound.

Shortcoming: ^1H -NMR can only provide structural information of ^1H in the compound, it must be used together with IR spectrum to get

the compound structure.

2. Steps to analyze ^1H -NMR spectrum

(1). Determine number of types of ^1H in the compound by number of



adsorption peaks

(2). Determine the relative composition by the adsorption peak area

- (3). Determine the adjacent atoms number and relative position by the splitting
- (4). Determine the type of proton according to the chemical shift.