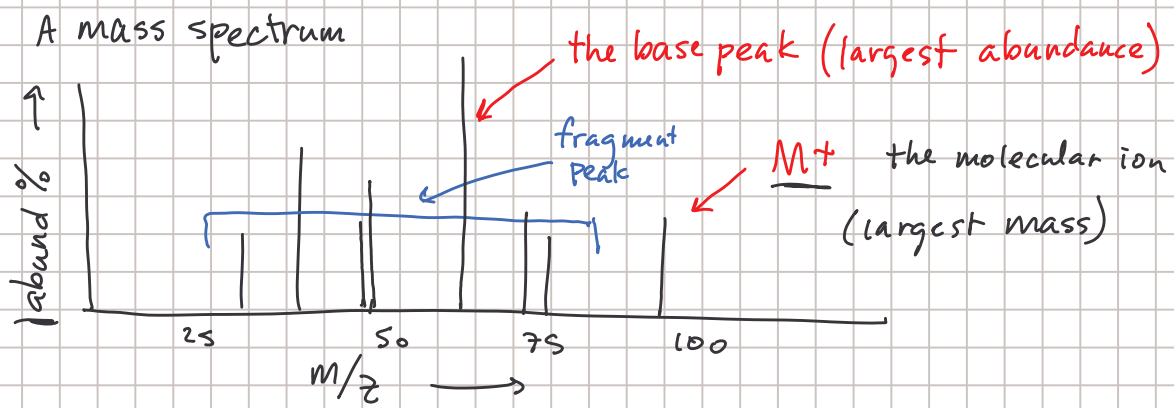


Ch 12 MS

Note Title

10/17/2005



mass-to-charge ratio

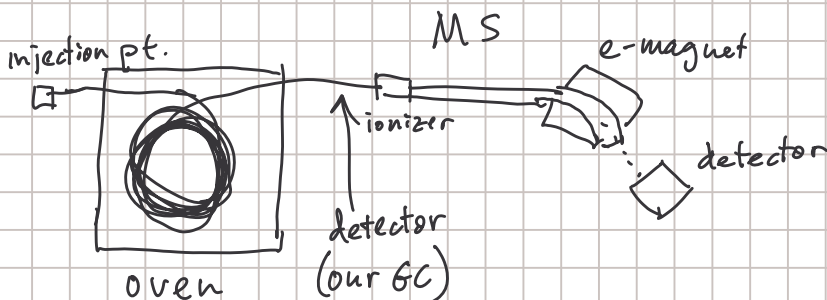
small molecules — usually only single \oplus charge

so $m/z = \text{mass in amu}$

Mass spec of mixtures

GC-MS

gas chromatography/
mass spectrometry



GC separates compounds by boiling point

High-resolution mass spectrometry (HRMS)

gives very precise masses of M^+ & fragments
(often to 4+ decimal places)

^{12}C mass = exactly 12 amu (definition of amu)
 ^1H mass = 1.007825 amu
 ^{16}O mass = 15.994914 amu
 ^{14}N mass = 14.003050 amu

$M^+ = 30$ amu

	<u>exact mass</u>
C_2H_6	30.04695
CH_2O	30.010564
N_2H_2	30.02175

so if HRMS gives $M^+ = 30.011$ amu