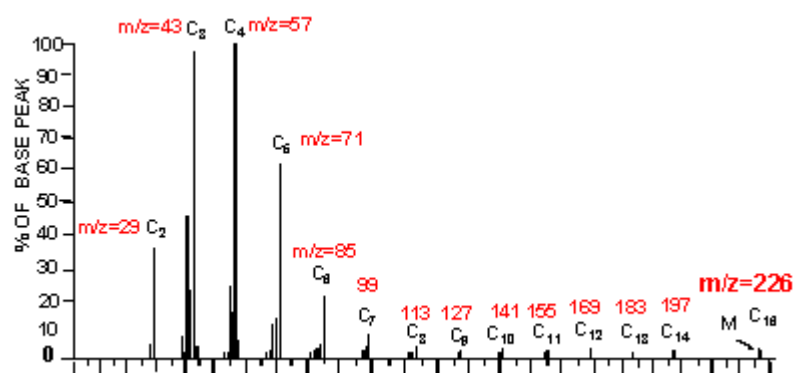
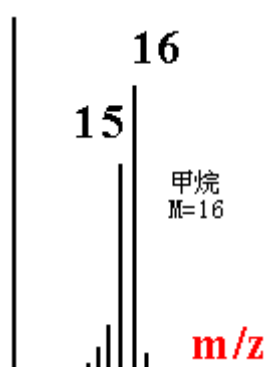
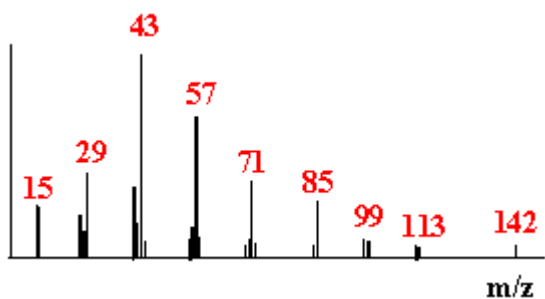


§10.4.1 Analysis of mass spectrum of saturated alkanes

1. Chain alkane

n-decane methane



Intensity of molecular ion of chain alkanes will decrease as the chain length increase.

Molecular ion: C_1 (100%), C_{10} (6%), C_{16} (undetectable), $C_{45}(0)$

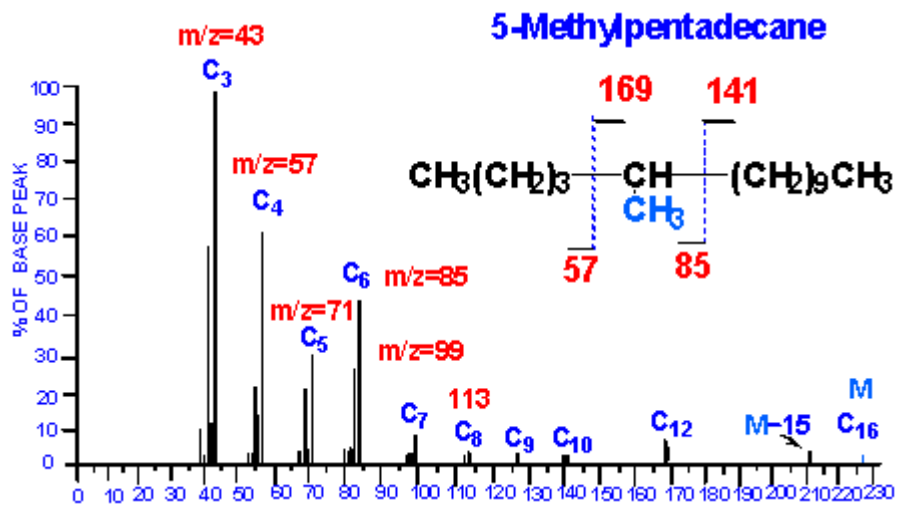
m/z : 29, 43, 57, 71, $\dots\dots C_nH_{2n+1}$ peaks (σ -break)

m/z : 27, 41, 55, 69, $\dots\dots C_nH_{2n-1}$ peaks

$C_2H_5^+$ ($m/z = 29$) \rightarrow $C_2H_3^+$ ($m/z = 27$) + H_2

m/z : 28, 42, 56, 70, $\dots\dots C_nH_{2n}$ peaks (4-membered ring reconstruction)

2. Branched alkanes



3. Cyclo-alkanes

