Mass spectral fragments of common hydrocarbons

Mass Spectral peaks can be identified to have originated from the fragmentation of specific hydrocarbon sources including:

Alkanes: 57 / 43.
Alkenes: 55 / 41
Per fluorinated hydrocarbons: 69
Aromatics: 75-78, /130-138.

Some common ions

Compound type	Common lines
Alkanes	29, 43, 57, 71, 85, 99
Alkenes/cycloalkanes	27, 41, 55, 69, 83, 97
Aliphatic alcohols	31, 45, 59, 73, 87, 101
Aromatics	38, 39, 50-2, 63-5, 75-8
Acids/esters	45, 59, 73, 87, 101
Alkyl amines	30, 44, 58, 72, 86, 100
Chloroalkyl	49, 63, 77, 91, 105
Alkyl silanes	31, 45, 59, 73, 87, 101

Some Common Fragments at m/z include:

14 CH2
15 CH3
16 O
17 OH
18 H2O, NH4
19 F
26 CN, C2H2
27 C2H3
28 C2H4, CO
29 C2H5, CHO
30 CH2NH2
31 CH2OH
32 O2
33 SH
34 H2S
35 Cl
36 HCl
39 C3H3
41 C3H5
42 C3H6, C2H2O
43 C3H7, CH3C=O
44 CH2CHO
45 CH3CHOH, CH2CH2OH, CH2OCH2
46 NO2
47 CH2SH
48 CH3S + H
49 CH2Cl
51 CHF2, C3H3
53 C4H5
54 CH2CH2CN
55 C4H7
56 C4H8
57 C4H9, C2H5C=O
58 CH3C (=O) CH2 + H, C2H5CHNH2
59 C3H6OH, CH2OC2H5
60 CH2COOH
61 CH3COO
65 C5H5
66 C5H6
67 C5H7
68 CH2CH2CH2CN
69 C5H9, CF3
70 C5H10
71 C5H11, C3H7C=O
76 C6H4
77 C6H5
78 C6H5 + H
79 C6H5 + 2H Br

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