The table below is for guidance only since at any given mass isobaric ions of many different elemental compositions can occur.

|  |  |  |
| --- | --- | --- |
| *m*/*z* | *Possible associated      group* | *Possible inference* |
|  |  |  |
| 15 | CH3 | — |
| 18 | H2O | — |
| 26 | C2H2 | Hydrocarbon |
| 27 | C2H3 | Hydrocarbon |
| 28 | CO | Carbonyl |
| 28 | C2H4 | Ethyl |
| 28 | N2 | Azo |
| 29 | CHO | Aldehyde |
| 29 | C2H5 | Ethyl |
| 30 | CH2http://www.kayelaby.npl.co.uk/images/equal11.gifNH2 | Primary amine |
| 30 | NO | Nitro or nitroso |
| 31 | CH2http://www.kayelaby.npl.co.uk/images/equal11.gifOH | Primary alcohols or methoxy |
| 32 | CH4O | — |
| 35/37 (3:1) | 35Cl, 37Cl | Chloro |
| 36/38 (3:1) | 35ClH, 37ClH | Chloro |
| 39 | C3H3 | Hydrocarbon |
| 40 | Ar | Air constituent |
| 40 | C3H4 | Hydrocarbon |
| 41 | C3H5 | Hydrocarbon |
| 42 | C2H2O | Acetates or acetyl |
| 42 | C3H6 | Hydrocarbon |
| 43 | CH3CO | CH3COX |
| 43 | C3H7 | C3H7X |
| 44 | CO2 | Background (air), carbonates or anhydrides |
| 44 | C2H6N | Some aliphatic amines |
| 44 | Ohttp://www.kayelaby.npl.co.uk/images/equal11.gifChttp://www.kayelaby.npl.co.uk/images/equal11.gifNH2 | Primary amides |
| 44 | CH2http://www.kayelaby.npl.co.uk/images/equal11.gifCH(OH) | Some aldehydes |
| 45 | CH2http://www.kayelaby.npl.co.uk/images/equal11.gifOCH3 | Some ethers |
| 45 | CH3CHhttp://www.kayelaby.npl.co.uk/images/equal11.gifOH | Some alcohols |
| 45 | OCH2CH3 | Ethoxy |
| 45 | CO2H | Acids |
| 46 | NO2 | Nitro |
| 47 | CH2http://www.kayelaby.npl.co.uk/images/equal11.gifSH | Aliphatic thiol |
| 47 | Phttp://www.kayelaby.npl.co.uk/images/equal11.gifO | Phosphoryl |
| 49/51 (3:1) | CH2Cl | Chloromethyl |
| 50 | C4H2 | Aromatic |
| 51 | C4H3 | C6H5X |
| 55 | C4H7 | Some hydrocarbons |
| 55 | C3H3O | Some cyclic ketones |
| 56 | C4H8 | Hydrocarbon |
| 57 | C4H9 | C4H9X |
| 57 | C2H5CO | Ethyl ketone or propionate ester |
| 58 | CH2http://www.kayelaby.npl.co.uk/images/equal11.gifC(OH)CH3 | Some methyl ketones or dialkyl ketones |
| 58 | C3H8N | Some aliphatic amines |
| 59 | COOCH3 | Methyl ester |
| 59 | CH2http://www.kayelaby.npl.co.uk/images/equal11.gifC(OH)NH2 | Some primary amides |
| 59 | C2H5CHhttp://www.kayelaby.npl.co.uk/images/equal11.gifOH | C2H5CH(OH)—X |
| 59 | CH2http://www.kayelaby.npl.co.uk/images/equal11.gifO—C2H5 | Some ethers |
| 60 | CH2http://www.kayelaby.npl.co.uk/images/equal11.gifC(OH)OH | Some carboxylic acids |
| 61 | CH3CO(OH2) | Acetate esters CH3COOCnH2n+1 (n >1) |
| 61 | CH2CH2SH | Aliphatic thiol |
| 65 | C5H5 | Benzyl, phenols or anilines |
| 66 | C5H6 | Aromatic |
| 66 | H2S2 | Dialkyl disulphide |
| 68 | CH2CH2CH2CN | Some pyrroles |
| 69 | C5H9 | Some hydrocarbons |
| 69 | CF3 | Fluorinated alkanes |
| 70 | C5H10 | Hydrocarbons |
| 71 | C5H11 | C5H11X |
| 71 | C3H7CO | Propyl ketone or butanoate ester |
| 72 | CH2http://www.kayelaby.npl.co.uk/images/equal11.gifC(OH)C2H5 | Some ethyl alkyl ketones |
| 72 | C3H7CHhttp://www.kayelaby.npl.co.uk/images/equal11.gifNH2 | Some amines |
| 73 | C4H9O | Alcohols, ethers |
| 73 | COOC2H5 | Ethyl esters |
| 73 | CH2http://www.kayelaby.npl.co.uk/images/equal11.gifCHC(OH)http://www.kayelaby.npl.co.uk/images/equal11.gifOH | Aliphatic acids |
| 73 | (CH3)3Si | (CH3)3SiX |
| 74 | CH2http://www.kayelaby.npl.co.uk/images/equal11.gifC(OH)OCH3 | Some methyl esters |
| 75 | (CH3)2Si http://www.kayelaby.npl.co.uk/images/equal11.gifOH | (CH3)3SiOX |
| 75 | C2H5CO(OH2) | C2H5COOCnH2n + 1 (n > 1) |
| 76 | C6H4 | C6H5X or XC6H4Y |
| 77 | C6H5 | C6H5X |
| 78 | C6H6 | C6H5X |
| 78 | C5H4N | Some pyridines |
| 79 | C6H7 | C6H5X |
| 79/81 (1:1) | Br | Bromo compounds |
| 80 | C5H6N | Pyrroles |
| 80/82 (1:1) | HBr | Bromo compounds |
| 81 | C5H5O | Furans |
| 83 | C4H3S | Monosubstituted thiophenes |
| 83/85/87 | HCCl2 | CHCl3 or X—CHCl2 |
| (9:6:1) |  |  |
| 85 | C6H13 | C6H13X |
| 85 | C4H9CO | C4H9COX |
| 85 | http://www.kayelaby.npl.co.uk/images/benzene01-313.jpg | http://www.kayelaby.npl.co.uk/images/benzene02-313.jpg |
| 85 | http://www.kayelaby.npl.co.uk/images/benzene03-313.jpg | http://www.kayelaby.npl.co.uk/images/benzene04-313.jpg |
| 86 | CH2http://www.kayelaby.npl.co.uk/images/equal11.gifC(OH)C3H7 | Some propyl alkyl ketones |
| 86 | C4H9CHhttp://www.kayelaby.npl.co.uk/images/equal11.gifNH2 | Some amines |
| 87 | CH2http://www.kayelaby.npl.co.uk/images/equal11.gifCHC(OH)OCH3 | XCH2CH2COOCH3 |
| 88 | CH3CH2CH2COOH | C3H7COOCnH2n+1 (n > 1) |
| 89 | C7H5 | Heterocyclics containing N and O |
| 90 | C7H6 | Heterocyclics containing N and O |
| 91 | C7H7 | C6H5CH2X |
| 91/93 (3:1) | C4H8Cl | n-alkyl chloride ( http://www.kayelaby.npl.co.uk/images/greaterr.gif hexyl) |
| 92 | C7H8 | C6H5CH2X |
| 92 | C6H6N | Monoalkylpyridines |
| 93 | C6H5O | Phenols or nitrobenzenes |
| 93 | C6H7N | C6H5NHX |
| 93 | C7H9 | Mono and sesquiterpenes |
| 93/95 (1:1) | CH2Br | — |
| 94 | C6H6O | C6H5O-alkyl (alkyl ≠ CH3) |
| 95 | C6H7O | http://www.kayelaby.npl.co.uk/images/benzene05-313.jpg |
|  |  |  |
| 95 | C7H11 | Mono and sesquiterpenes |
| 96 | C5H4NO | http://www.kayelaby.npl.co.uk/images/nh-cox.gif |
| 97 | C5H5S | Methyl or mono-alkyl thiophenes |
| 99 | C7H15 | C7H15X |
| 103 | C6H5CHhttp://www.kayelaby.npl.co.uk/images/equal11.gifCH | C6H5CHhttp://www.kayelaby.npl.co.uk/images/equal11.gifCHX |
| 105 | C6H5CO | C6H5COX |
| 105 | C8H9 | CH3—C6H4CH2X |
| 106 | C7H8N | http://www.kayelaby.npl.co.uk/images/ch3-314.jpg |
| 107 | C7H7O |  |
|  |  | http://www.kayelaby.npl.co.uk/images/ch2oh.jpg |
| 107/109 (1:1) | C2H4Br | BrCH2CH2-X |
| 111 | C5H3OS |  |
|  |  | http://www.kayelaby.npl.co.uk/images/coxs-314.jpg |
| 121 | C6H5CO2 | C6H5CO2X |
| 121 | C8H9O | CH3OC6H4CH2X |
| 122 | C6H5COOH | Alkyl benzoates |
| 123 | C6H5COOH2 | Alkyl benzoates |
| 127 | C10H7 | Naphthyl |
| 127 | I | Iodo compounds |
| 128 | HI | Iodo compounds |
| 130 | C9H8N | http://www.kayelaby.npl.co.uk/images/nh-313.jpg |
| 131 | C6H5CHhttp://www.kayelaby.npl.co.uk/images/equal11.gifCHCO | C6H5CHhttp://www.kayelaby.npl.co.uk/images/equal11.gifCHCOX |
| 135/137 (1:1) |  | n-alkyl bromide ( > hexyl) |
|  | http://www.kayelaby.npl.co.uk/images/br-314.jpg |  |
| 141 | CH2I | CH2IX |
| 147 | (CH3)2Sihttp://www.kayelaby.npl.co.uk/images/equal11.gifOSi(CH3)3 | [(CH3)3SiO]n derivatives, n > 1 |
| 149 |  | Dialkyl phthalates |
|  | http://www.kayelaby.npl.co.uk/images/coooh-314.jpg | http://www.kayelaby.npl.co.uk/images/nhch2-313.jpg |
| 160 | C10H10NO |  |
| 190 | C11H12NO2 | |  | | --- | | http://www.kayelaby.npl.co.uk/images/ch30-314.jpg | |
|  |  |

<http://www.kayelaby.npl.co.uk/chemistry/3_8/3_8_6.html>