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 |

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|      http://www.kayelaby.npl.co.uk/images/ch30-314.jpg |

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