**Structural formula (aka displayed, expanded structural formula)**

**QUESTIONS:**

**i) Draw the i) structural formula for each organic substance ii) circle the functional group of each substance iii) name the homologous series**

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| ethanol | methylpropanoic acid | 3-methylbutanoic acid  |
| 2,2-difluorobutane | iodoethane | butan-2-amine |
|  2-hydroxypropanoic acid  | propan-2-amine | 2,3-dimethylbutane |
| 3-methylpentanoic acid | propan-1-amine | 2-chlorobutanoic acid  |
| **pentanoic acid** | but-1-yne | 2,2-dichloropentan-1-ol |
| **ethanoic acid** | **2-aminopentane** | 3-methylbut-1-ene  |
| **1-aminopropane** | **butan-1,3-diol** | **3-methylbut-1-yne** |
| **methanol** | **2-chloropent-2-ene** | **2-chlorobutan-2-ol** |
| **3-chlorobutan-1-ol** | C4H8O2 | 2-chloro-3-methylbutanoic acid |
| A branched-chain secondary alcohol C5H11OH | A branched-chain tertiary alcohol C5H11OH | 2-amino-3-methylbutane |

|  |  |  |
| --- | --- | --- |
| 4-chlorobutanoic acid | pentan-2-ol | 4-methylpent-2-yne |
| 3-aminopentane | 2-chloropropan-1-ol | 2-amino-2,3-dimethylbutane |
| pent–2–ene | 3–chloropropan–1–ol | 2–bromo–3–methylbutanoic acid |
| 4–methylpent–2–ene | butanoic acid | 2,4-dichlorobut1ene  |

**Additional questions on structural formula**

1. The organic compound, 4-chloro-3-methylpent-4-ene has been named incorrectly. Draw the implied structure and explain why it is named incorrectly. The correct IUPAC name for this structure is:

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