

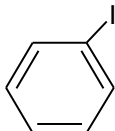


Naming Organic Compounds Practice

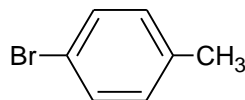
EXERCISES

A. Identify the class of the following compounds. For any alkanes, alkenes, alkynes, aromatic compounds, carboxylic acids or alcohols, provide the IUPAC name of the molecule. For the four special monosubstituted benzenes, use the common name.

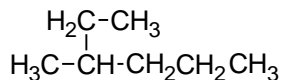
1)



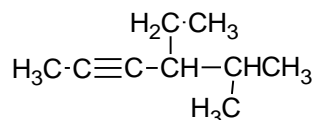
8)



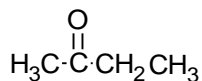
2)



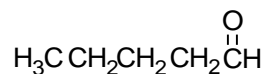
9)



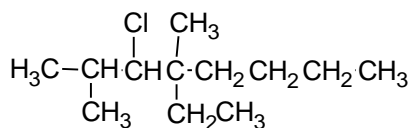
3)



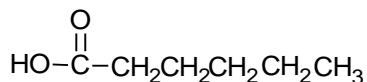
10)



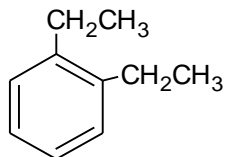
4)



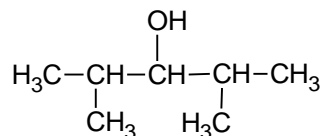
11)



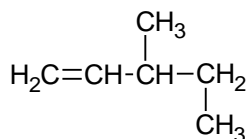
5)



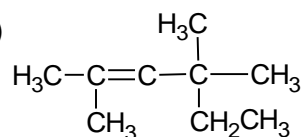
12)



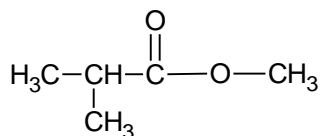
6)



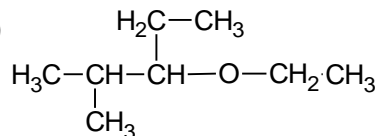
13)



7)



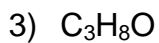
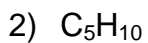
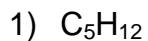
14)



B. Draw the structural formulas for the following compounds:

- | | |
|--------------------------------|-------------------------------------|
| 1) 1-pentene | 7) 4-methylhexanoic acid |
| 2) 2-methyl-3-heptyne | 8) 2,3-dichloro-4-ethyl-2-hexene |
| 3) 3-ethyl-4,5-dimethylpentane | 9) 2,4-dinitrotoluene |
| 4) 2-ethyl-1-pentanol | 10) 3-ethyl-2,3-dimethyl-2-pentanol |
| 5) <i>m</i> -bromophenol | 11) 5-chloro-4-methyl-3-heptanone |
| 6) 3,3,6,6-tetraethyl-4-octyne | 12) 3-phenyl-1-propyne |

C. Draw all possible open-chain structures for the following molecular formulas and name them:



SOLUTIONS

- A. (1) aromatic compound: iodobenzene (2) alkane: 3-methylhexane (3) ketone
 (4) alkane/alkyl halide: 3-chloro-4-ethyl-2,4-dimethyloctane (5) aromatic compound:
o-diethylbenzene or *ortho*-diethylbenzene (6) alkene: 3-methylpentene (7) ester
 (8) aromatic compound: *p*-bromotoluene or *para*-bromotoluene (9) alkyne:
 4-ethyl-5-methyl-2-hexyne (10) aldehyde (11) carboxylic acid: hexanoic acid
 (12) alcohol: 2,4-dimethyl-3-pentanol (13) alkene: 2,4,4-trimethyl-2-hexene
 (14) ether

