

Exercises of Nomenclature of organic compounds

1) Draw structures for these compounds:

- | | |
|---------------------------|----------------------------------|
| a) 3,3,5-trimethylheptane | b) 3-ethyl-2,3-dimethylpentane |
| c) 2-methylpentane | d) 3,4-diethyl-3-methylhexane |
| e) 2,4-dimethylpentane | f) Dimethylpropane or neopentane |

2) Name the following compounds:

- | | |
|--|---|
| a) $\begin{array}{ccccccc} & & \text{CH}_3 & & \text{CH}_2-\text{CH}_3 & & \\ & & & & & & \\ \text{CH}_3 & - & \text{CH} & - & \text{CH} & - & \text{CH}_2-\text{CH}_3 \end{array}$ | b) $\text{CH}_3-\text{CH}_2-\text{CH}_3$ |
| c) $\begin{array}{ccccccc} & & \text{CH}_2-\text{CH}_3 & & & & \\ & & & & & & \\ \text{CH}_3 & - & \text{CH} & - & \text{CH} & - & \text{CH}-\text{CH}_3 \\ & & & & & & \\ & & \text{H}_3\text{C} & & \text{CH}_3 & & \end{array}$ | d) $\begin{array}{ccccccc} & & \text{CH}_3 & & \text{CH}_2-\text{CH}_3 & & \\ & & & & & & \\ \text{CH}_3 & - & \text{CH} & - & \text{C} & - & \text{CH}_2-\text{CH}_3 \\ & & & & & & \\ & & & & \text{CH}_3 & & \end{array}$ |
| e) $\begin{array}{ccccccc} & & \text{CH}_3 & & \text{CH}_3 & & \text{CH}_3 \\ & & & & & & \\ \text{CH}_3 & - & \text{CH} & - & \text{CH} & - & \text{CH}-\text{CH}_3 \end{array}$ | f) $\begin{array}{ccccccc} & & \text{CH}_3 & & & & \text{CH}_3 \\ & & & & & & \\ \text{CH}_3 & - & \text{CH} & - & \text{CH}_2 & - & \text{CH}-\text{CH}_2\text{CH}_2\text{CH}_3 \\ & & & & & & \\ & & & & & & \text{CH}_3 \end{array}$ |

3) Draw structures for these compounds:

- | | |
|-------------------------------|------------------------------------|
| a) 3-iodo-1-butene | b) 3-iodo-2-methyl-1-propene |
| c) 4-ethyl-5-methyl-2-hexene | d) 1-butene |
| e) 1,1-difluoro-1-buten-3-yne | f) 3-ethyl-3-methyl-1-penten-4-yne |

4) Name the following compounds:

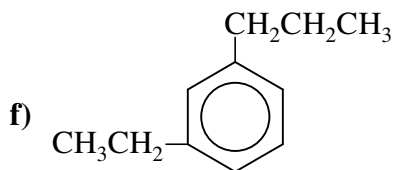
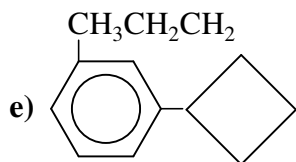
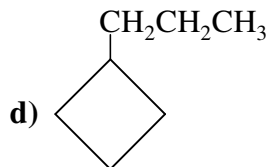
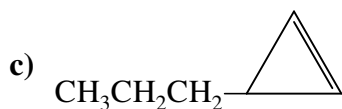
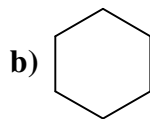
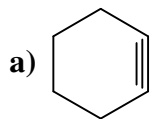
- | | |
|--|---|
| a) $\begin{array}{ccccccc} & & \text{CH}_2-\text{CH}_3 & & & & \\ & & & & & & \\ \text{CH}_2=\text{CH} & - & \text{C} & - & \text{CH}=\text{CH}-\text{CH}_3 \\ & & & & & & \\ & & \text{CH}_2-\text{CH}_3 & & & & \end{array}$ | b) $\text{CH}_3-\text{CH}_2-\text{CH}=\text{CH}_2$ |
| c) $\begin{array}{ccccccc} & & \text{H}_3\text{C} & & \text{CH}_2-\text{CH}_3 & & \\ & & & & & & \\ \text{CH}_3 & - & \text{CH} & - & \text{CH} & - & \text{CH}=\text{C}=\text{CH}_2 \end{array}$ | d) $\text{H}_2\text{C}=\text{C}=\text{CH}_2$ |
| e) $\begin{array}{ccccccc} & & \text{CH}=\text{CH}_2 & & & & \\ & & & & & & \\ \text{CH}_3 & - & \text{C} & - & \text{C}\equiv\text{C} & - & \text{C}\equiv\text{CH} \\ & & & & & & \\ & & \text{CH}_3 & & & & \end{array}$ | f) $\begin{array}{ccccccc} & & & & & & \text{CH}_3 \\ & & & & & & \\ \text{CH}_3\text{CH}_2 & - & \text{CH} & = & \text{C} & = & \text{C}-\text{CH}_2\text{CH}_3 \\ & & & & & & \\ & & & & & & \text{CH}_3 \end{array}$ |

5) Draw structures for these compounds:

- | | |
|----------------------------|--------------------------------|
| a) Methylcyclopropane | b) 1-cyclobutyl-3-ethylbenzene |
| c) 3-ethylcyclopropene | d) 1-ethyl-3-propylbenzene |
| e) 3-cyclopentyl-1-propene | f) 1,3-diphenylpropane |

Exercises of Nomenclature of organic compounds

6) Name the following compounds:



7) Draw structures for these compounds:

a) Propanoic / propionic acid

b) Propenal / acrolein

c) Cyclopropanone

d) Dicyclobutyl ether

e) 2-ethylphenol

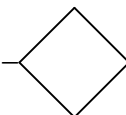
f) Methyl phenyl ether

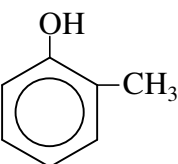
8) Name the following compounds:

a) $\text{CH}_3\text{-COOH}$

b) $\text{CH}_3\text{CH}_2\text{-}\overset{\text{O}}{\parallel}\text{C-H}$

c) $\text{CH}_3\text{-CH}_2\text{-}\overset{\text{O}}{\parallel}\text{C-CH}_3$

d) $\text{CH}_3\text{CH}_2\text{CH}_2\text{-}\overset{\text{O}}{\parallel}\text{C-O-}$ 

e) 

f) $\text{CH}_3\text{-O-CH}_2\text{CH}_2\text{CH}_3$

9) Draw structures for these compounds:

a) Triethylamine

b) 4-oxobutanamide

c) Ethylamine

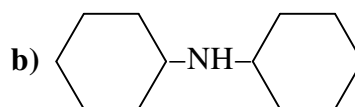
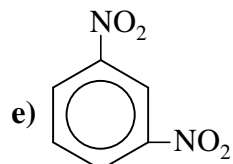
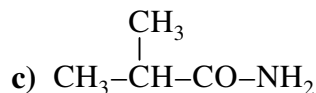
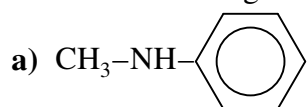
d) Ethanenitrile

e) Nitrocyclohexane

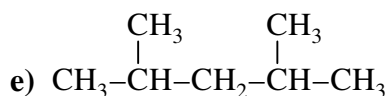
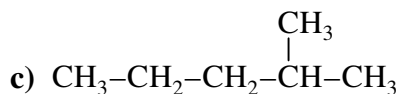
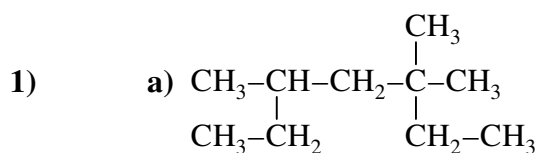
f) 3-aminobutanoic acid

Exercises of Nomenclature of organic compounds

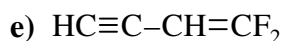
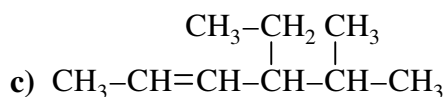
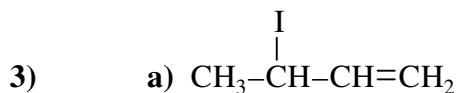
10) Name the following compounds:



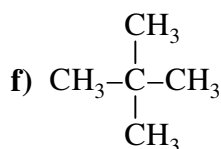
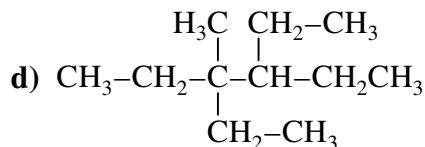
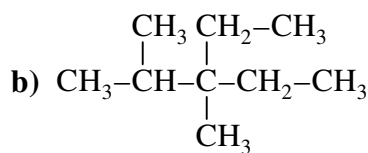
Answers:



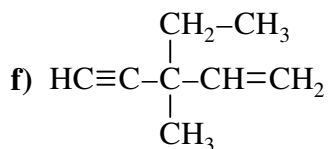
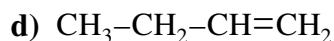
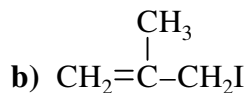
- 2) a) 3-ethyl-2-methylpentane
c) 2,3,4-trimethylhexane
e) 2,3,4-trimethylpentane



- 4) a) 3,3-diethyl-1,4-hexadiene
c) 4-ethyl-5-methyl-1,2-hexadiene
e) 5,5-dimethyl-6-hepten-1,3-diyne

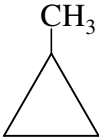
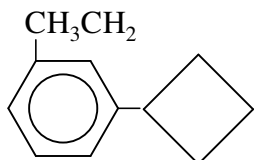
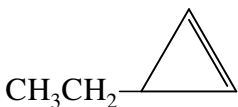
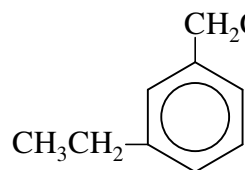
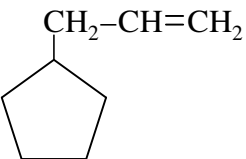
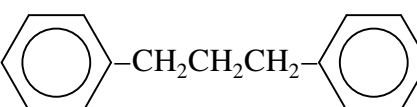
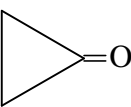
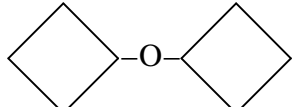
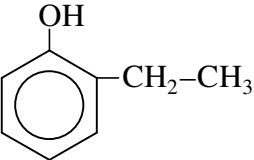
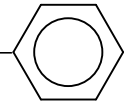
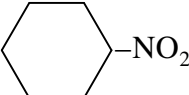


- b) Propane
d) 3-ethyl-2,3-dimethylpentane
f) 2,4-dimethylheptane



- b) 1-butene
d) Propadiene
f) 3-methyl-3,4-heptadiene

Exercises of Nomenclature of organic compounds

- 5) a) 
- b) 
- c) 
- d) 
- e) 
- f) 
- 6) a) Cyclohexyne
c) 3-propylcyclopropene
e) 1-cyclobutyl-3-propylbenzene
- b) Cyclohexane
d) Propylcyclobutane
f) 1-ethyl-3-propylbenzene
- 7) a) $\text{CH}_3\text{-CH}_2\text{-COOH}$
c) 
- b) $\text{CH}_2\text{=CH-C(=O)-H}$
d) 
- e) 
- f) $\text{CH}_3\text{-O-}$ 
- 8) a) Ethanoic / acetic acid
c) Butanone
e) 2-methylphenol
- b) Propanal
d) Cyclobutyl butanoate
f) Methyl propyl ether
- 9) a) $\text{CH}_3\text{-CH}_2\text{-N(CH}_2\text{-CH}_3)_2$
c) $\text{CH}_3\text{CH}_2\text{-NH}_2$
e) 
- b) $\text{CHO-CH}_2\text{-CH}_2\text{-CONH}_2$
d) $\text{CH}_3\text{-C}\equiv\text{N}$
f) $\text{CH}_3\text{-CH(NH}_2\text{)-CH}_2\text{-COOH}$
- 10) a) N-methyl phenyl amine
c) Methylpropanamide
e) 1,3-dinitrobenzene
- b) Dicyclohexylamine
d) Ethanedinitrile
f) 2-hydroxypropanamide