Chem 1020

ОН

Organic chemistry naming and drawing worksheet (Version 2)

1. Name the following organic compounds drawn as line structures:

a.		nonane
b.		2,2-dimethylheptane
c.		6-ethyl-2,5,6-trimetyloctane
d.		5-isopropyl-3-methyloctane
e.		<u> 5-propylnonane</u>
f.		2-methyl-2-pentene
g.		2-propyl-1-octene
h.		5,6,6-trimethyl-3-heptyne (corrected)
i.	ОН	2-methyl-2-propanol
j.	ОН	3,4-dimethyl-2-pentanol (corrected)
k.		3-ethyl-3-pentanol

2. Name the following organic molecules drawn as condensed structures:

b. $CH_3C(CH_3)_2CH_3$ 2,2-dimethylpropane

c.
$$CH_3$$
— CH — CH — CH — CH — CH 2— CH_3

C. CH_3 — CH — CH — CH 2— CH_3

3-ethyl-2-methylhexane

d. (CH₃)₄C <u>2,2-dimethylpropane</u>

e. CH₃CH=CHCH₂CH₃ <u>2-pentene</u>

f. CH₃CH₂CH=C(CH₃)₂ <u>2-methyl-2-pentene</u>

$$g. \quad \overset{\mathsf{CH}_2^-\mathsf{CH}_2^-\mathsf{CH}_3}{\mathsf{CH}_3^-\mathsf{CH}^-\mathsf{CH}_3} \qquad \underline{ \qquad \qquad } \\ \underline{$$

h. (CH₃)₂CHC=CCH₃ 4-methyl-2-pentyne

, OH

2-butanol

j. (CH₃CH₂)₂CHOH <u>3-pentanol</u>

OH

3. Draw the following molecules as a line structure **and** a condensed structure.

a. 2-methylbutane

i.

CH₃CH₂CH(OH)CH₃

CH₃CH(CH₃)CH₂CH (CH₃)₂CHCH₂CH₃

c. 2,2,3,3-tetramethylpentane

 $CH_3C(CH_3)_2C(CH_3)_2CH_2CH_3$ $(CH_3)_3C(CH_3)_2CCH_2CH_3$

b. 2,2-dimethylhexane

 $CH_3C(CH_3)_2CH_2CH_2CH_3$ $(CH_3)_3C(CH_2)_2CH_3$

d. 3-ethyl-2,3-dimethyloctane

(CH₃)₂CHC(CH₃)(CH₂CH₃)(CH₂)₄CH₃

e. 3-heptene

$$CH_3$$
 CH_2 $CH=CH$ CH_2 CH_3 CH_3 CH_3 CH_3 CH_3

g. 2,3-dimethyl-2-butene

$$CH_3$$
 CH_3 CH_3 CH_3 CH_3 CH_3 CH_3 CH_3 CCH_3 $CCCC$ CCC CC CC

i. 5-methyl-1-hexyne

k. 2-methyl-2-butanol

 $CH_3C(CH_3)(OH)CH_2CH_3$ $(CH_3)_2C(OH)CH_2CH_3$

m. 2-penten-1-ol

f. 4-methyl-1-pentene

h. 3,5-dimethyl-4-isopropyl-2-heptene

j. 4,4-dimethyl-2-pentyne

l. 2,2-dimethyl-1-propanol

HO
$$CH_2$$
 CH_3 CH_3 CH_3

n. 3-butyn-2-ol