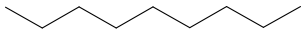
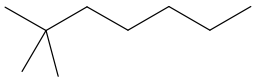
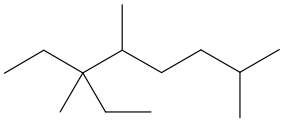
Chem 1020

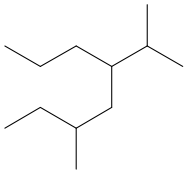
Organic chemistry naming and drawing worksheet (Version 2)

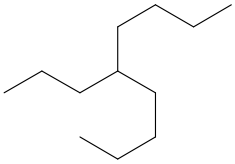
1. Name the following organic compounds drawn as line structures:

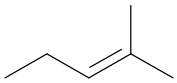
a.  nonane

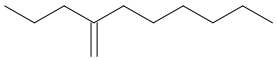
b.  2,2-dimethylheptane

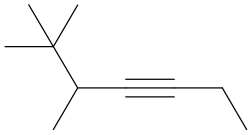
c.  6-ethyl-2,5,6-trimetyloctane

d.  5-isopropyl-3-methyloctane

e.  5-propylnonane

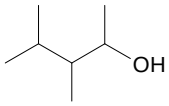
f.  2-methyl-2-pentene

g.  2-propyl-1-octene

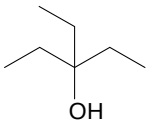
h.  **5,6,6-trimethyl-3-heptyne** (corrected)

i. 

2-methyl-2-propanol

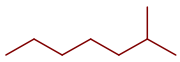
j. 

3,4-dimethyl-2-pentanol (corrected)

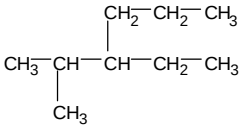
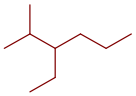
k. 

3-ethyl-3-pentanol

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

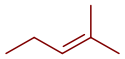
a. $CH_3(CH_2)_4CH(CH_3)_2$ 2-methylheptane 

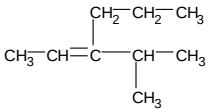
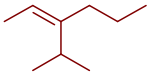
b. $CH_3C(CH_3)_2CH_3$ 2,2-dimethylpropane 

c.  3-ethyl-2-methylhexane 

d. $(CH_3)_4C$ 2,2-dimethylpropane 

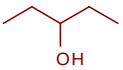
e. $CH_3CH{=}CHCH_2CH_3$ 2-pentene 

f. $CH_3CH_2CH{=}C(CH_3)_2$ 2-methyl-2-pentene 

g.  3-isopropyl-2-hexene 

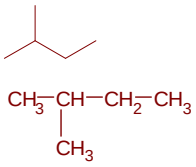
h. $(CH_3)_2CHC{\equiv}CCH_3$ 4-methyl-2-pentyne 

i. $CH_3CH_2CH(OH)CH_3$ 2-butanol 

j. $(CH_3CH_2)_2CHOH$ 3-pentanol 

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

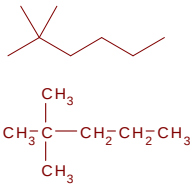
a. 2-methylbutane



$CH_3CH(CH_3)CH_2CH_3$

$(CH_3)_2CHCH_2CH_3$

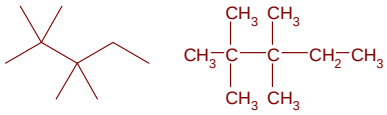
b. 2,2-dimethylhexane



$CH_3C(CH_3)_2CH_2CH_2CH_3$

$(CH_3)_3C(CH_2)_2CH_3$

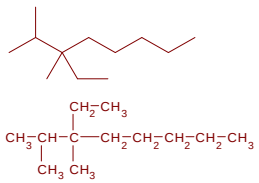
c. 2,2,3,3-tetramethylpentane



$CH_3C(CH_3)_2C(CH_3)_2CH_2CH_3$

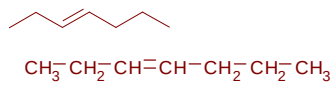
$(CH_3)_3C(CH_3)_2CCH_2CH_3$

d. 3-ethyl-2,3-dimethyloctane



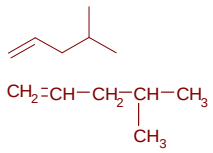
$(CH_3)_2CHC(CH_3)(CH_2CH_3)(CH_2)_4CH_3$

e. 3-heptene



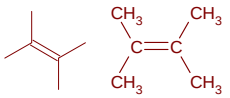
$CH_3CH_2CH{=}CH(CH_2)_2CH_3$

f. 4-methyl-1-pentene



$CH_2{=}CHCH_2CH(CH_3)_2$

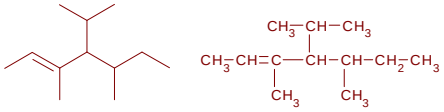
g. 2,3-dimethyl-2-butene



$CH_3C(CH_3){=}C(CH_3)CH_3$

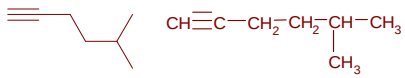
$(CH_3)_2C{=}C(CH_3)_2$

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



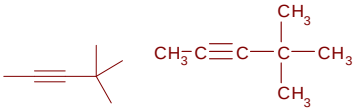
$CH_3CH{=}C(CH_3)CH[CH(CH_3)_2]CH(CH_3)CH_2CH_3$

i. 5-methyl-1-hexyne



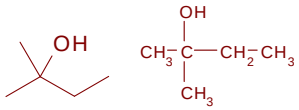
$C{\equiv}CCH_2CH_2C(CH_3)_2$

j. 4,4-dimethyl-2-pentyne



$CH_3C{\equiv}CC(CH_3)_3$

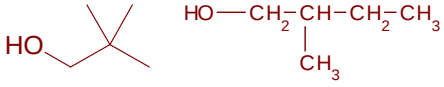
k. 2-methyl-2-butanol



$CH_3C(CH_3)(OH)CH_2CH_3$

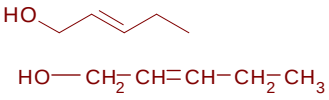
$(CH_3)_2C(OH)CH_2CH_3$

l. 2,2-dimethyl-1-propanol



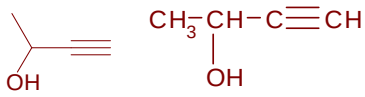
$HOCH_2C(CH_3)_3$

m. 2-penten-1-ol



$HOCH_2CH{=}CHCH_2CH_3$

n. 3-butyn-2-ol



$CH_3CH(OH)C{\equiv}CH$