G12 Chemistry: Class 1 Homework

1. Name the following compounds. [5 marks]

(a)
$$CH_3$$
 $|$ CH_2 = C $-CH_3$

(c)
$$CH_3$$
 $|$ $CH = C - CH - CH_2 - CH_3$

$$\begin{array}{c} \text{(d) CH}_3 \\ \text{H} \end{array} \hspace{-0.5cm} C = C \begin{array}{c} CH_3 \\ CH_2 - CH_3 \end{array}$$

(e)
$$CH_3$$
 CH_2 CH_2 CH_3 — CH_2 — CH_3 CH_3 — CH_2 — CH_3 CH_3 — CH_2 — CH — CH_3

2. Name the following isomers of hept-2-ene. [2 marks]

$$CH_{2}-CH_{2}-CH_{2}-CH_{3}$$

$$CH_{3}$$

$$CH_3$$
 $C=C$
 H
 $CH_2-CH_2-CH_2-CH_3$

3. Name the following isomers: [4 marks]

(A)
$$CH_3$$
 $C=C$
 CH_3-CH_2

(B)
$$H$$
 $C = C$ $CH_3 - CH_2$ $CH_2 - CH_3$

(C)
$$CH_3$$
 $C=C$ $CH_2-CH_2-CH_3$

(D)
$$CH_3$$
 $C=C$ H CH_3-CH_2 CH_2-CH_3

- 4. Draw a condensed structural diagram for the compounds below: [3 marks]
 - a) 3-ethylhexane

b) butene

c) 2,3-dimethylpentane

- 5. Draw line structural diagrams for the compounds below: [6 marks]
 - a) 2-methylpropane

b) 1-ethyl-3-propylcyclopentane

c) (3Z)-3-methylhept-3-ene

d) 3-butyl-4-methyloctyne

e) 4-ethylcyclooctene

f) 4-tert-butyl-4-methylhex-2-yne

6. Place the following alkanes in order from lowest to highest boiling point. Explain your reasoning. **[6 marks]**

(a)
$$CH_3 - CH_2 - CH_2 - CH_2 - CH_3$$

7. The following compounds are named incorrectly. Draw the compounds and provide the correct name. [4 marks]

a) 3-propyl-2-butene

b) 1,3-dimethyl-4-hexene