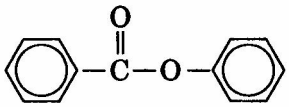
REVIEW QUESTIONS

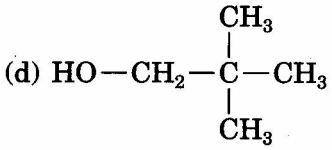
Chapter 19

1. Circle and identify each functional group in the structures below:

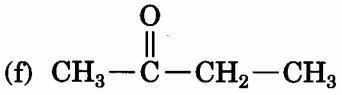
(a)

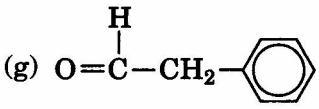
(b) 

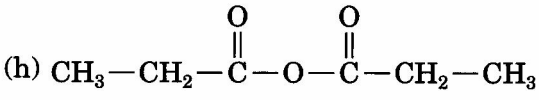
(c) 

(d) 

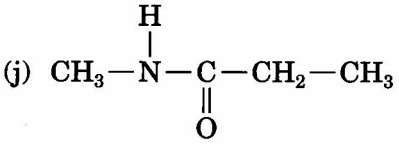
(e)

(f) 

(g) 

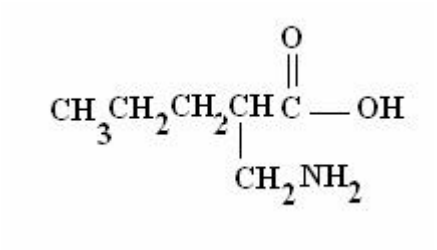
(h) 

(i)

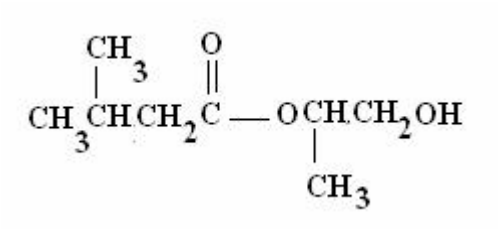
(j) 

2. Identify the functional groups and draw stick diagrams for each structural formula shown below:

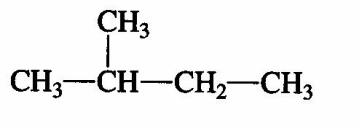
a)

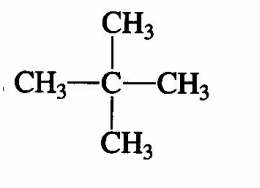


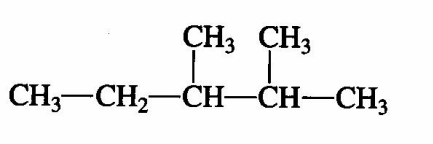
b)

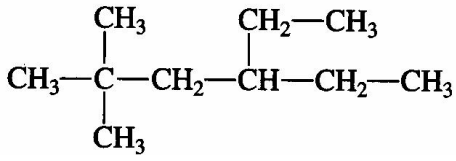


3. Name each of the following alkanes using the IUPAC system:

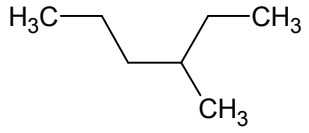
a)  _____

b)  _____

c)  _____

d)  _____

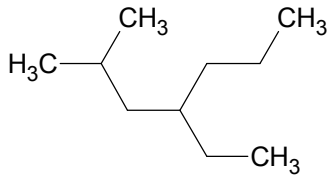
4. For each stick diagram shown below, write condensed structural and molecular formulas and name using the IUPAC system:

a) 

Molecular formula: _____

Structural formula:_____

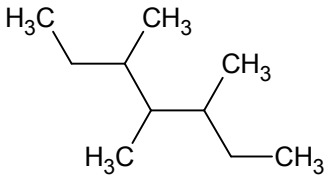
Name:_____

b) 

Molecular formula: _____

Structural formula:_____

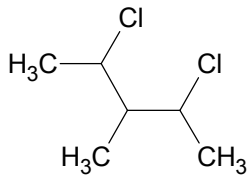
Name: _____

c) 

Molecular formula: _____

Structural formula:_____

Name: _____

d) 

Molecular formula: _____

Structural formula:_____

Name: _____

5. Write the condensed structural formulas for each of the following compounds:

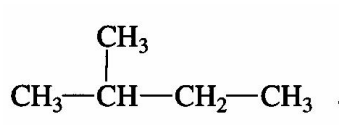
a) 3-ethylhexane

b) 2,3-dimethylpentane

c) 1,3-dichloro-3-methylpentane

6. For each hydrocarbon shown below, identify carbons and hydrogens as primary (1°), secondary (2°) or tertiary (3°).

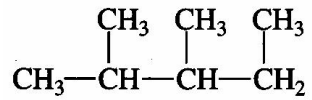
a)



1°C: _____ # 2°C:_____ # 3°C: _____

1°H: _____ # 2°H:_____ # 3°H: _____

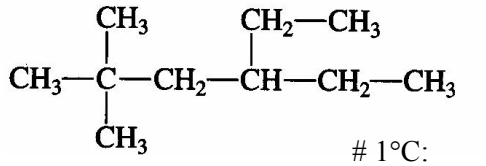
b)



1°C: _____ # 2°C:_____ # 3°C: _____

1°H: _____ # 2°H:_____ # 3°H: _____

c)



1°C: _____ # 2°C:_____ # 3°C: _____

1°H: _____ # 2°H:_____ # 3°H: _____

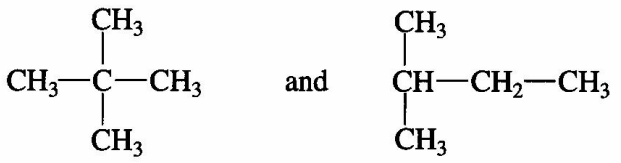
7. Complete each of the reactions shown below. If reactions produce more than one isomer, draw structure and name each isomer.

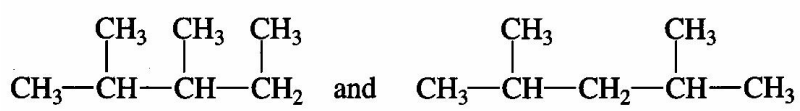
a) $CH_3CH_2CH_2CH_2CH_3 + Br_2 \xrightarrow{h\upsilon}$ (all mono-brominated products)

b) $CH_3CH_2CH_2CH_2CH_3 \xrightarrow{\Delta}$

c) $CH_3CH_2CH_2CH_3 + Cl_2 \xrightarrow{h\upsilon}$ (all di-chlorinated products)
(excess)

8. Indicate whether each of the following pairs of structural formulas represent isomers or the same molecule:

a) 

b) 

c)