

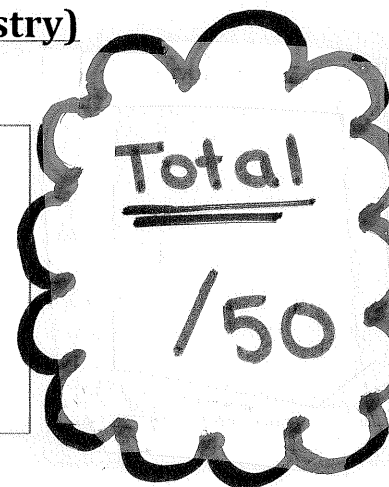
Name : _____ Period : Chem 30 Block _____

Chemistry 30 Take Home Quiz (Organic Chemistry)

1.

Use the following information to answer the next question.

Carbon-Containing Compounds			
1	$\text{CCl}_4(\text{l})$	5	$\text{CO}(\text{g})$
2	$\text{Fe}_3\text{C}(\text{s})$	6	$\text{C}_3\text{H}_8(\text{g})$
3	$\text{C}_2\text{H}_2(\text{g})$	7	$\text{NaCN}(\text{s})$
4	$\text{C}_2\text{H}_5\text{OH}(\text{l})$	8	$\text{MgCO}_3(\text{s})$



Numerical Response

The compounds numbered above that can be classified as organic are _____, _____, _____, and _____.

(Record all four digits of your answer in lowest-to-highest numerical order in the numerical-response section on the answer sheet.)

2.




Use the following information to answer the next two questions.

Hexane and hex-1-ene are both colourless liquids. One method used to differentiate between hexane and hex-1-ene is to add a few drops of orange-coloured aqueous bromine to samples of each organic compound.

Hexane is i hydrocarbon, and hex-1-ene is ii hydrocarbon.

The statement above is completed by the information in row

Row	<i>i</i>	<i>ii</i>
A.	a saturated	a saturated
B.	a saturated	an unsaturated
C.	an unsaturated	a saturated
D.	an unsaturated	an unsaturated

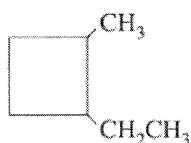
I hope you had fun at winter formal. 
Quiz will be marked in class Monday.  

Quiz Marked By _____

1/2

3. Use the following information to answer the next question.

A student drew the structural diagram shown below.



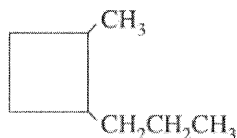
The IUPAC name for the structural diagram the student drew is 1- i -2- ii .

The statement above is completed by the information in row

Row	<i>i</i>	<i>ii</i>
A.	methyl	ethylbutane
B.	methyl	ethylcyclobutane
C.	ethyl	methylbutane
D.	ethyl	methylcyclobutane

4. Use the following information to answer the next question.

A student drew the structural diagram shown below.



The IUPAC name for the structural diagram the student drew is 1- i -2- ii .

The statement above is completed by the information in row

Row	<i>i</i>	<i>ii</i>
A.	methyl	propylbutane
B.	methyl	propylcyclobutane
C.	propyl	methylbutane
D.	propyl	methylcyclobutane

5

Use the following information to answer the next question.

Organic Compounds

- | | |
|--|--|
| <p>1 3-methylcyclohexene</p> <p>2 1,2-dibromopentane</p> <p>3 2,2-dimethylbutane</p> | <p>4 5-ethylhept-3-yne</p> <p>5 cyclopropane</p> <p>6 butan-1-ol</p> |
|--|--|

Numerical Response

The organic compound numbered above that

is an alkene is _____ (Record in the **first** column)

is an alcohol is _____ (Record in the **second** column)

contains a triple bond is _____ (Record in the **third** column)

is cyclic and saturated is _____ (Record in the **fourth** column)

6.

Cycloheptane is *i* hydrocarbon, and cycloheptene is *ii* hydrocarbon.

The statement above is completed by the information in row

Row	<i>i</i>	<i>ii</i>
A.	a saturated	a saturated
B.	a saturated	an unsaturated
C.	an unsaturated	a saturated
D.	an unsaturated	an unsaturated

7. Use the following information to answer the next question.

Carbon-Containing Compounds

1	$C_2H_4(g)$	5	$CO_2(g)$
2	$CaC_2(s)$	6	$HCN(g)$
3	$CH_3Cl(g)$	7	$C_8H_{18}(l)$
4	$CH_3OH(l)$	8	$CuCO_3(s)$

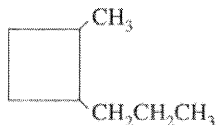
Numerical Response

The compounds numbered above that can be classified as organic are _____, _____, _____, and _____.

(Record all four digits of your answer in lowest-to-highest numerical order in the numerical-response section on the answer sheet.)

8. Use the following information to answer the next two questions.

A student drew the structural diagram shown below.

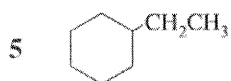
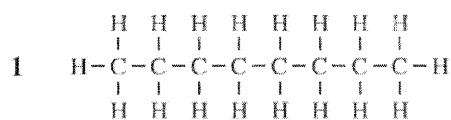


The compound represented by the structural diagram that the student drew can be described as an

- A. aliphatic alkane containing a three-carbon parent
- B. aromatic compound containing a four-carbon ring structure
- C. alkane containing a double-bonded four-carbon ring structure
- D. alkane containing a four-carbon parent with only single bonds

9.

Compounds that Contain Eight Carbons



2 oct-3-ene

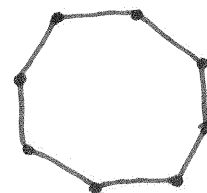
6 2,3-dimethyl-1-propylcyclopropane

3 2,3-dimethylhex-2-ene



4 3,3-dimethylhexane

Student
Diagram



Numerical Response

The compounds above that are isomers of the structural diagram that the student drew are numbered _____, _____, _____, and _____.

10.

Use the following information to answer the next question.

Molecules

- 1 pent-2-ene
- 2 pent-2-yne
- 3 cyclopentane
- 4 methylpropane
- 5 dimethylpropane
- 6 ethylcyclopropane
- 7 methylcyclobutane


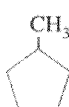
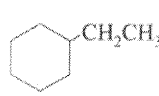
Numerical Response

The four molecules listed above that are isomers of $\text{C}_5\text{H}_{10}(\text{l})$ are numbered _____, _____, _____, and _____.

(Record all four digits of your answer in any order in the numerical-response section on the answer sheet.)

11.

Use the following information to answer the next question.

Structures and Descriptions			
1		4 Branched	7 Unsaturated
2		5 Unbranched	8 Alkane
3		6 Saturated	9 Alkene

Numerical Response

The structures and descriptions above that apply to methylcyclopentane are numbered _____, _____, _____, and _____.

12.

Use the following information to answer the next question.

Ethene is a plant hormone that causes fruits and vegetables to ripen. Ethene can be produced artificially by the reaction represented by the following equation.



Ethene can be described as both an *i* compound and *ii* molecule.

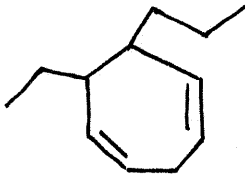
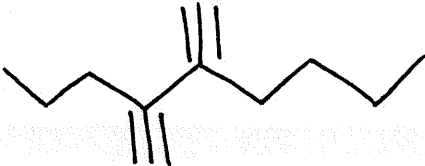
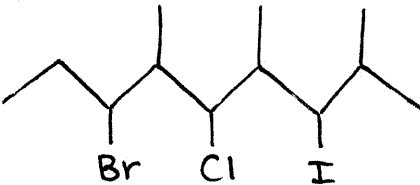
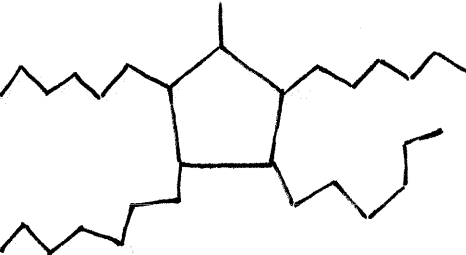
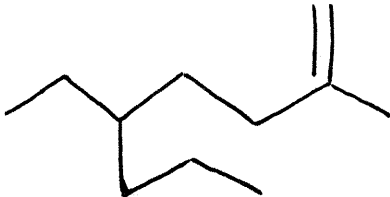
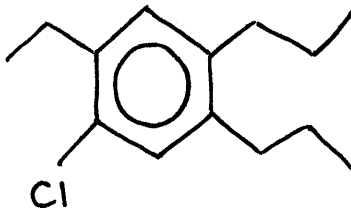
The statement above is completed by the information in row

Row	<i>i</i>	<i>ii</i>
A.	aliphatic	a saturated
B.	aliphatic	an unsaturated
C.	aromatic	a saturated
D.	aromatic	an unsaturated

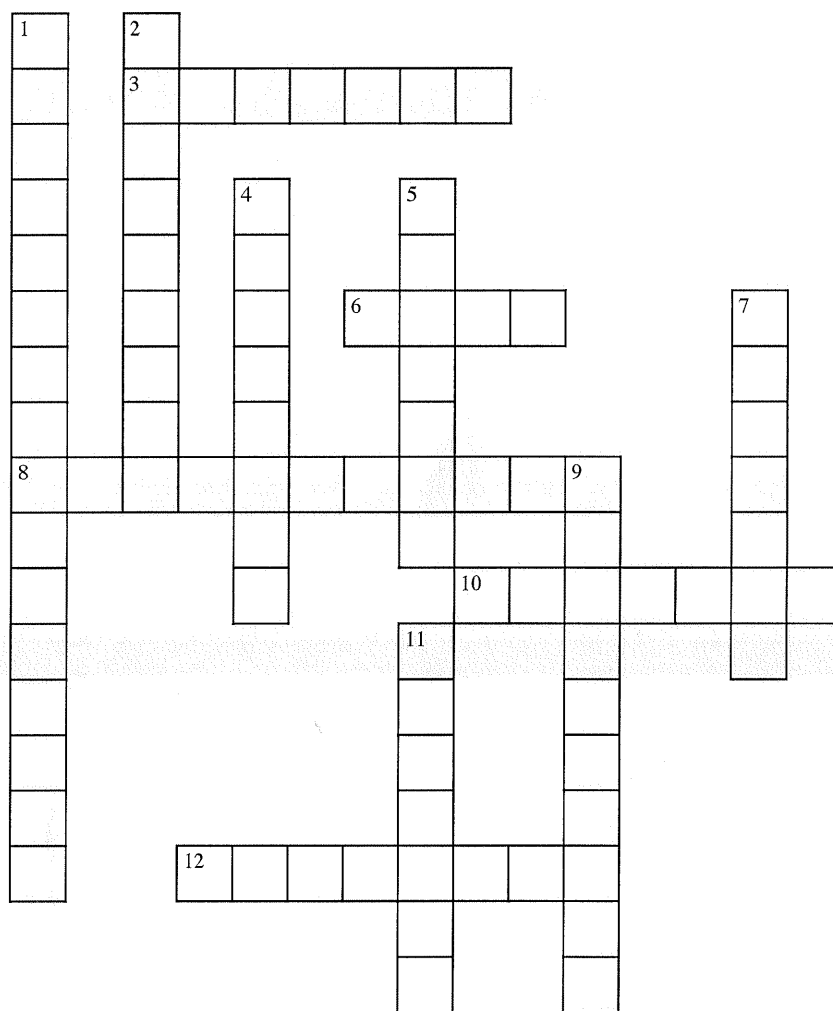
Draw the following compounds. If the name is incorrect, write the correct name. Also, determine the molecular formula for each molecule.

Compound	Molecular Formula	Drawing	Fix
1,2,3-tetrapropyl cyclo non-6-ene			
4,5-dimethyl 3-propyl heptane			
1,2-dipentyl 3-propyl cyclopentene			
3-nonyl 2-octyl but-1,3-diene			
1-ethyl 3,4-dimethyl hex-5-yne			

Name the following molecules and determine the molecular formula of each.

Compound	Name	Molecular Formula
		
		
<p>* challenge !!</p> 		
		
		
		

ORGANIC CHEMISTRY



ACROSS

- 3 Hydrocarbons containing double bonded carbons.
- 6 Carbon compounds that are mined.
- 8 Compounds containing carbon atoms bonded with hydrogen atoms.
- 10 Oil sands.
- 12 Technology that includes physical and chemical processes for separating complex mixtures into simpler mixtures.

DOWN

- 1 Carbon chemistry excluding oxides, carbonates, cyanide and carbide ions.
- 2 Compounds with only single bonds.
- 4 Processed in a hydrocracker and catalytic reformer to produce gasoline.
- 5 Compounds with the same molecular formula, but with different structures.
- 7 Hydrocarbons containing only single bonded carbon.
- 9 Used to heat buildings and extracted using natural underground pressure.
- 11 Hydrocarbons containing triple bonded carbons.

11