

EXERCISE 11

Chem 10

(Due in lab week of)

10 points

Name KEY
(last) (first)

Lab Section # _____ Lab Instructor _____

A. In column I, write the letter corresponding to the class of organic compounds to which the given compound belongs.

- (A) primary alcohol
(B) secondary alcohol
(C) tertiary alcohol

- (D) ether
(E) aldehyde
(F) ketone

- (G) carboxylic acid
(H) ester
(J) primary amine

In column II, write the correct IUPAC name for the compound.

- | | I | II |
|--|----------|-------------------------------|
| 1. $\begin{array}{c} & & \text{O} & & \\ -\text{C}-\text{C}-\text{C}-\text{C}- \\ & & & & \end{array}$ | <u>F</u> | <u>2-butanone</u> |
| 2. $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{OH}$ | <u>A</u> | <u>1-pentanol</u> |
| 3. $\begin{array}{c} & & \text{-N-} & & \\ & & & & \\ -\text{C}-\text{C}-\text{C}-\text{C}-\text{C}-\text{C}- \\ & & & & & \end{array}$ | <u>J</u> | <u>3-aminohexane</u> |
| 4. $\begin{array}{c} & & \\ -\text{C}-\text{C}-\text{O}-\text{C}- \\ & & \end{array}$ | <u>D</u> | <u>1-methoxyethane</u> |
| 5. $\begin{array}{c} & & \text{O} & & \\ & & & & \\ \text{HO}-\text{C}-\text{C}-\text{C}-\text{C}- \\ & & & \end{array}$ | <u>G</u> | <u>butanoic acid</u> |
| 6. $\begin{array}{c} & & \text{O} & & \\ & & & & \\ \text{CH}_3-\text{O}-\text{C}-\text{CH}_3 \end{array}$ | <u>H</u> | <u>methyl ethanoate</u> |
| 7. $\begin{array}{c} & & \text{NH}_2 & & \\ & & & & \\ \text{CH}_3-\text{CH}-\text{CH}_3 \end{array}$ | <u>J</u> | <u>2-aminopropane</u> |
| 8. $\begin{array}{c} & & & & & & \text{O} & & \\ & & & & & & & & \\ -\text{C}-\text{C}-\text{C}-\text{C}-\text{C}-\text{C}-\text{C}- \\ & & & & & & & & \end{array}$ | <u>E</u> | <u>heptanal</u> |
| 9. $\begin{array}{c} & & \\ -\text{C}-\text{C}-\text{O}-\text{C}-\text{C}-\text{C}- \\ & & & & \end{array}$ | <u>D</u> | <u>1-ethoxypropane</u> |
| 10. $\begin{array}{c} & & & & & & \text{O} & & \\ & & & & & & & & \\ -\text{C}-\text{C}-\text{C}-\text{C}-\text{C}-\text{C}-\text{O}-\text{H} \\ & & & & & \end{array}$ | <u>G</u> | <u>4-methylpentanoic acid</u> |

	I	II
11. $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\overset{\text{O}}{\parallel}\text{CCH}_2\text{CH}_2\text{CH}_3$	<u>F</u>	<u>4-octanone</u>
12. $\begin{array}{c} & & & & & \\ -\text{C} & -\text{C} & -\text{C} & -\text{C} & -\text{O} & -\text{C} & -\text{C}- \\ & & & & & & \end{array}$	<u>H</u>	<u>ethyl butanoate</u>
13. $\begin{array}{c} \text{CH}_3 \\ \\ \text{CH}_3\text{CHCH}_2\text{CH}_2\overset{\text{O}}{\parallel}\text{CH} \end{array}$	<u>E</u>	<u>4-methylpentanal</u>
14. $\begin{array}{c} \text{OH} \\ \\ -\text{C} & -\text{C} & -\text{C}- \\ & & \end{array}$	<u>B</u>	<u>2-propanol</u>

B. Write the full structural formulas for the following organic compounds.

<p>propanoic acid</p> $\begin{array}{c} & & \\ -\text{C} & -\text{C} & -\text{C}-\text{OH} \\ & & \end{array}$	<p>3-methylhexanal</p> $\begin{array}{c} \text{O} \\ \\ -\text{C}-\text{C}-\text{C}-\text{C}-\text{C}-\text{C}- \\ & & & & \\ & & & & \\ & -\text{C}- & & & \end{array}$
<p>2-methoxybutane</p> $\begin{array}{c} & & & \\ -\text{C} & -\text{C} & -\text{C} & -\text{C}- \\ & & & \\ & & & \\ & \text{O} & & \end{array}$	<p>propyl methanoate</p> $\begin{array}{c} & & & \\ -\text{C} & -\text{C} & -\text{C} & -\text{O}-\text{C}- \\ & & & \\ & & & \\ & & & \text{O} \end{array}$
<p>2-butanol</p> $\begin{array}{c} & & & \\ -\text{C} & -\text{C} & -\text{C} & -\text{C}- \\ & & & \\ & & & \\ & \text{OH} & & \end{array}$	<p>3-pentanone</p> $\begin{array}{c} & & & & \\ -\text{C} & -\text{C} & -\text{C} & -\text{C} & -\text{C}- \\ & & & & \\ & & & & \\ & & \text{O} & & \end{array}$