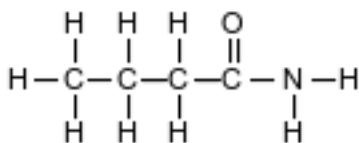


Organic Chemistry

1 Given the formula for a compound:



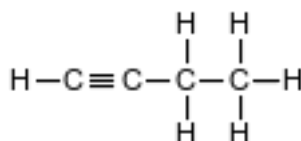
What is a chemical name for the compound?

- | | |
|------------------|-------------------|
| (1) 1-butanamine | (3) butanamide |
| (2) 1-butanol | (4) butanoic acid |

2 Which organic prefix is matched with the number of carbon atoms that it represents?

- | | |
|--------------|--------------|
| (1) hept-, 7 | (3) pent-, 3 |
| (2) non-, 8 | (4) prop-, 4 |

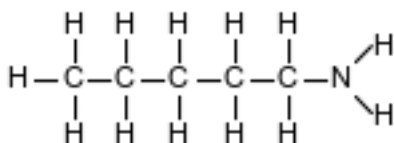
3 Given the formula for a compound:



This compound is classified as an

- | | |
|--------------|-------------|
| (1) aldehyde | (3) alkyne |
| (2) alkene | (4) alcohol |

4 Given the formula representing a molecule:



A chemical name for this compound is

- | | |
|----------------|-------------------|
| (1) pentanone | (3) 1-pentanamine |
| (2) 1-pentanol | (4) pentanamide |

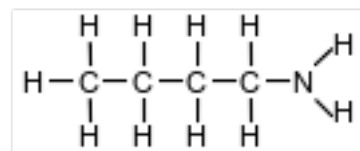
5 What is the general formula for the homologous series that includes ethene?

- | | |
|---------------------------------|---------------------------------|
| (1) C_nH_{2n} | (3) $\text{C}_n\text{H}_{2n-2}$ |
| (2) $\text{C}_n\text{H}_{2n-6}$ | (4) $\text{C}_n\text{H}_{2n+2}$ |

6 The atoms of which element bond to one another in chains, rings, and networks?

- | | |
|------------|-------------|
| (1) barium | (3) iodine |
| (2) carbon | (4) mercury |

7 Given the formula for a compound:



What is a chemical name for this compound?

- | | |
|------------------|------------------|
| (1) 1-butanamide | (3) 1-butanamine |
| (2) 4-butanamide | (4) 4-butanamine |

8 What is the chemical name for the compound $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3$?

- | | |
|------------|------------|
| (1) butane | (3) decane |
| (2) butene | (4) decene |

9 Which formula can represent an alkyne?

- | | |
|----------------------------|----------------------------|
| (1) C_2H_4 | (3) C_3H_4 |
| (2) C_2H_6 | (4) C_3H_6 |

10 A molecule of any organic compound has at least one

- | | |
|-----------------|-----------------|
| (1) ionic bond | (3) oxygen atom |
| (2) double bond | (4) carbon atom |

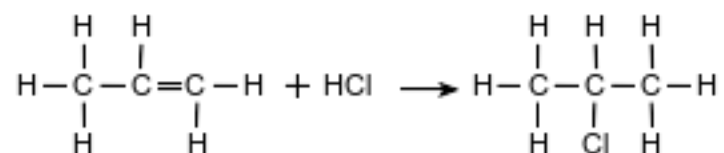
Base your answers to questions 11 on the information below and on your knowledge of chemistry.

The electrical conductivity of three aqueous solutions was tested at room temperature. A 0.1 M HCl(aq) solution conducted, but a 6.0 M HCl(aq) solution was a better conductor. A 0.1 M C₆H₁₂O₆(aq) solution was also tested. During this laboratory activity, appropriate safety equipment was used and safety procedures were followed.

11 Identify the element in $\text{C}_6\text{H}_{12}\text{O}_6$ that allows it to be classified as an organic compound.

Base your answers to questions 12 on the information below and on your knowledge of chemistry.

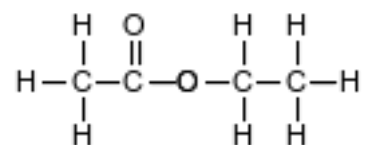
The solvent 2-chloropropane can be made when chemists react propene with hydrogen chloride, as shown in the equation below.



12 Identify the element in propene that is in all organic compounds.

Base your answers to questions 13 on the information below and on your knowledge of chemistry.

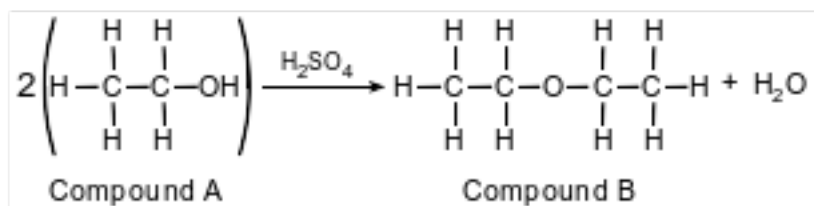
Ethyl ethanoate is used as a solvent for varnishes and in the manufacture of artificial leather. The formula below represents a molecule of ethyl ethanoate.



13 Identify the element in ethyl ethanoate that makes it an organic compound.

Base your answers to questions 14 on the information below and on your knowledge of chemistry.

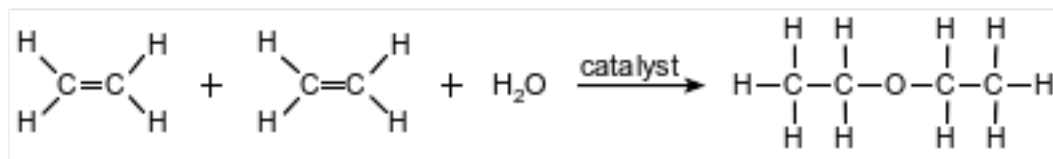
The equation below represents an industrial preparation of diethyl ether.



14 Identify the element in compound B that makes it an organic compound.

Base your answers to questions 15 on the information below and on your knowledge of chemistry.

Diethyl ether is used as a laboratory and industrial solvent. The boiling point of diethyl ether at standard pressure is 34.6°C. The equation below represents a reaction that produces diethyl ether.



15 Identify the element in diethyl ether that allows it to be classified as an organic compound.

Answer Keys

1 3

2 1

3 3

4 3

5 1

6 2

7 3

8 1

9 3

10 4

11 Allow 1 credit for C or carbon.

12 Allow 1 credit for C or carbon.

13 Allow 1 credit for C or carbon.

14 Allow 1 credit for C or carbon.

15 Allow 1 credit for carbon or C.