TEST BANK

ORGANIC CHEMISTRY

1st Edition Binder

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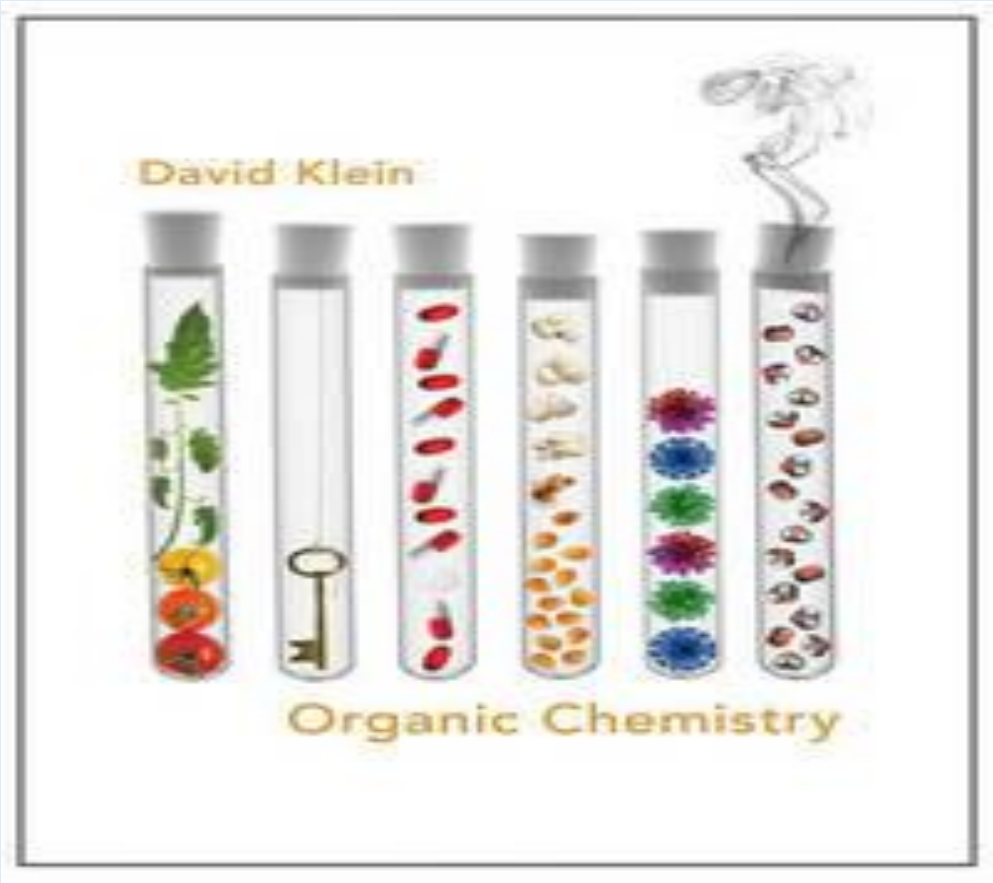
(Chapter 1-23)



Chapter One

Topic: Introduction to Organic Chemistry
Section: 1.1
Difficulty Level: Easy

1. Chemical reactions occur as a result of:
A) Attraction between opposite charges
B) Nucleus–Nucleus interactions
C) Motion of electrons
D) Like atoms interacting
E) Combining two chemicals
Ans: C

Topic: Introduction to Organic Chemistry
Section: 1.1
Difficulty Level: Easy

2. Credit for the first synthesis of an organic compound from an inorganic precursor is generally ascribed to:
A) Berzelius
B) Arrhenius
C) Kekulé
D) Wöhler
E) Lewis
Ans: D

Topic: Introduction to Organic Chemistry
Section: 1.1
Difficulty Level: Easy

3. What was long thought to be the difference between inorganic and organic compounds?
A) The number of atoms
B) The synthesis of organic compounds required a vital force
C) The molecular weight
D) Inorganic compounds exhibited a strong nuclear force
E) Inorganic compounds were composed exclusively of transition metals
Ans: B

Topic: The Structural Theory of Matter
Section: 1.2
Difficulty Level: Easy

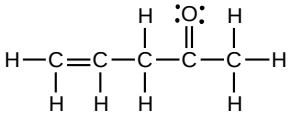
4. Constitutional isomers may *not* differ in what aspects?

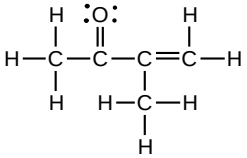
A) Physical properties
B) Atomic connectivity
C) Molecular formula
D) Name
E) Constitution

Ans: C

Topic: The Structural Theory of Matter
Section: 1.2
Difficulty Level: Easy

5. What is the relationship between the following compounds?



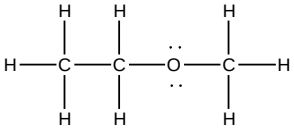


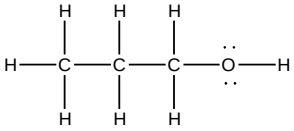
A) They are isotopes
B) They are constitutional isomers
C) They are the same structure
D) They are composed of different elements
E) There is no relationship

Ans: B

Topic: The Structural Theory of Matter
Section: 1.2
Difficulty Level: Easy

6. What is the relationship between the following compounds?





A) Resonance isomers
B) Constitutional isomers
C) Empirical isomers
D) There is no relationship

Ans: B

Topic: The Structural Theory of Matter
Section: 1.2
Difficulty Level: Easy

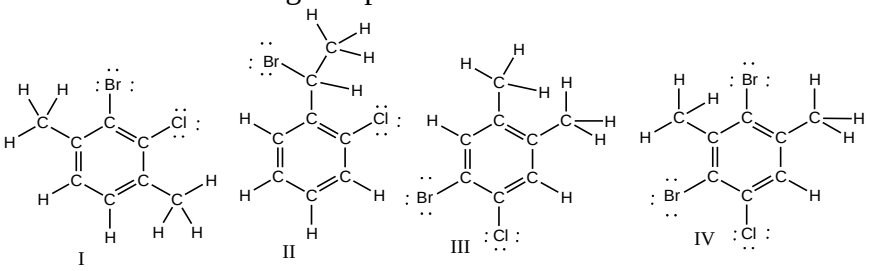
7. Carbon generally forms four bonds and is considered:

A) Tetravalent
B) Divalent
C) Trivalent
D) Monovalent
E) Qudravalent

Ans: A

Topic: The Structural Theory of Matter
Section: 1.2
Difficulty Level: Medium

8. Which of the following compounds are constitutional isomers of each other?

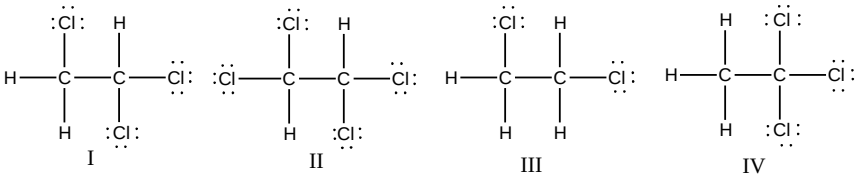


A) I & II
B) III & IV
C) I, II & III
D) II, III & IV
E) All of these

Ans: E

Topic: The Structural Theory of Matter
Section: 1.2
Difficulty Level: Medium

9. Which of the following compounds are constitutional isomers of each other?



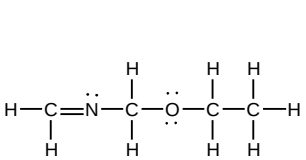
A) I & II
B) III & IV
C) II & III
D) I & IV
E) All of these

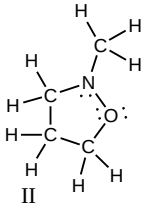
Ans: D

Topic: The Structural Theory of Matter
Section: 1.2

Difficulty Level: Medium

10. Which of the following compounds are constitutional isomers of each other?


I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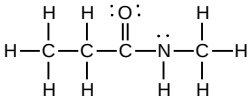
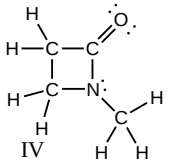
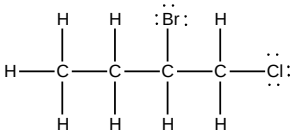
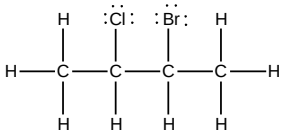
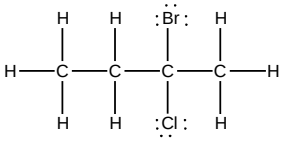

III


IV

A) I & II
B) III & IV
C) I, II & III
D) I & IV
E) All of these
Ans: C

Topic: The Structural Theory of Matter
Section: 1.2
Difficulty Level: Medium

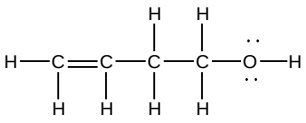
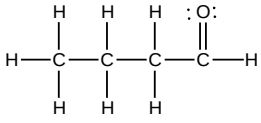
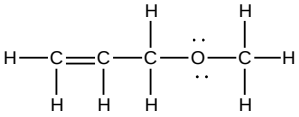
11. Draw three constitutional isomers that have molecular formula C_4H_8BrCl
Ans:

There are additional correct answers.

Topic: The Structural Theory of Matter
Section: 1.2
Difficulty Level: Hard

12. Draw three constitutional isomers that have molecular formula C_4H_8O.
Ans:

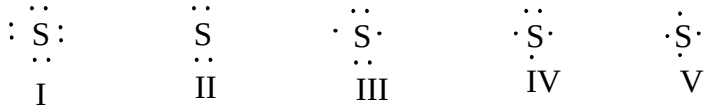
There are additional correct answers

Topic: Electrons, bonds, and Lewis structures
Section: 1.3
Difficulty Level: Easy

13. What force is *not* taken into account in the formation of a covalent bond?
A) Repulsion between two positively charged nuclei
B) Repulsion between electron clouds on individual atoms
C) Force of attraction between positively charged nuclei and electrons
D) Repulsion of electrons by neutrons
E) All forces listed are involved in forming a covalent bond
Ans: D

Topic: Electrons, bonds, and Lewis structures
Section: 1.3
Difficulty Level: Easy

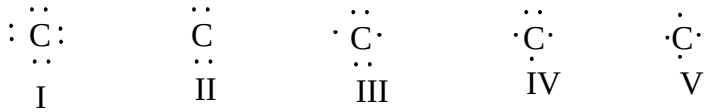
14. What is the correct Lewis dot structure for S?



A) I
B) II
C) III
D) IV
E) V
Ans: C

Topic: Electrons, bonds, and Lewis structures
Section: 1.3
Difficulty Level: Easy

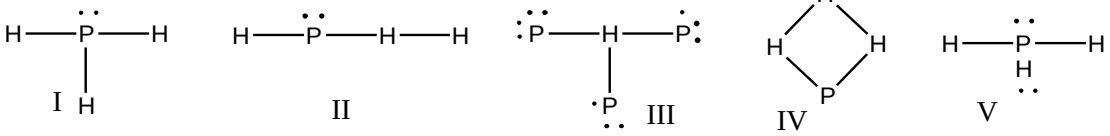
15. What is the correct Lewis dot structure for C?



A) I
B) II
C) III
D) IV
E) V
Ans: E

Topic: Electrons, bonds, and Lewis structures
Section: 1.3
Difficulty Level: Easy

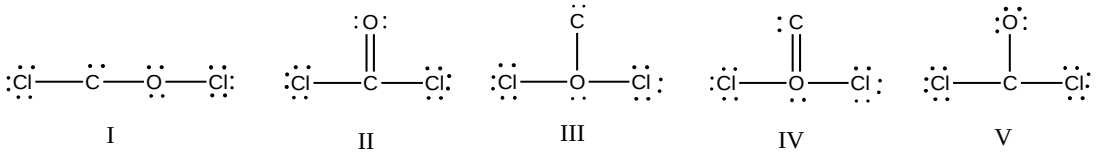
16. What is the correct Lewis structure for PH_3?



A) I
B) II
C) III
D) IV
E) V
Ans: A

Topic: Electrons, bonds, and Lewis structures
Section: 1.3
Difficulty Level: Easy

17. What is the correct Lewis structure for $COCl_2$?



A) I
B) II
C) III
D) IV
E) V
Ans: B

Topic: Electrons, bonds, and Lewis structures
Section: 1.3
Difficulty Level: Medium