

1. What is the most important factor that determines the mass of a molecule?
 - A. The number of protons in the nucleus
 - B. The number of electrons in the molecule
 - C. The number of neutrons in the nucleus
 - D. The number of protons and neutrons in the nucleus
2. How does the mass of a molecule affect its spectroscopy?
 - A. The mass of a molecule determines the wavelength of the light it emits
 - B. The mass of a molecule determines the frequency of the light it emits
 - C. The mass of a molecule determines the energy of the light it emits
 - D. The mass of a molecule determines the intensity of the light it emits
3. What is the relationship between the mass of a molecule and the wavelength of the light it emits?
 - A. The mass of a molecule is inversely proportional to the wavelength of the light it emits
 - B. The mass of a molecule is directly proportional to the wavelength of the light it emits
 - C. The mass of a molecule is proportional to the square of the wavelength of the light it emits
 - D. The mass of a molecule is inversely proportional to the square of the wavelength of the light it emits
4. What is the relationship between the mass of a molecule and the frequency of the light it emits?
 - A. The mass of a molecule is inversely proportional to the frequency of the light it emits
 - B. The mass of a molecule is directly proportional to the frequency of the light it emits
 - C. The mass of a molecule is proportional to the square of the frequency of the light it emits
 - D. The mass of a molecule is inversely proportional to the square of the frequency of the light it emits
5. What is the relationship between the mass of a molecule and the energy of the light it emits?
 - A. The mass of a molecule is inversely proportional to the energy of the light it emits
 - B. The mass of a molecule is directly proportional to the energy of the light it emits
 - C. The mass of a molecule is proportional to the square of the energy of the light it emits
 - D. The mass of a molecule is inversely proportional to the square of the energy of the light it emits
6. What is the relationship between the mass of a molecule and the intensity of the light it emits?
 - A. The mass of a molecule is inversely proportional to the intensity of the light it emits
 - B. The mass of a molecule is directly proportional to the intensity of the light it emits
 - C. The mass of a molecule is proportional to the square of the intensity of the light it emits

it emits

D. The mass of a molecule is inversely proportional to the square of the intensity of the light it emits

7. Which of the following factors does NOT affect the mass of a molecule?

- A. The number of protons in the nucleus
- B. The number of electrons in the molecule
- C. The number of neutrons in the nucleus
- D. The number of protons and neutrons in the nucleus

8. Which of the following factors does NOT affect the spectroscopy of a molecule?

- A. The mass of a molecule
- B. The number of protons in the nucleus
- C. The number of electrons in the molecule
- D. The number of neutrons in the nucleus

9. Which of the following is NOT a type of spectroscopy?

- A. Mass spectroscopy
- B. Nuclear magnetic resonance spectroscopy
- C. Infrared spectroscopy
- D. X-ray spectroscopy

10. What is the most important factor that determines the spectroscopy of a molecule?

- A. The mass of a molecule
- B. The number of protons in the nucleus
- C. The number of electrons in the molecule
- D. The number of neutrons in the nucleus

Answer Key: 1-D, 2-C, 3-A, 4-B, 5-B, 6-A, 7-D, 8-B, 9-D, 10-C