CHM 233 : Fall 2018

Quiz #6

Question 1

MC11a

How many reasonable resonance contributors can you draw for the provided cation?

A = 2
B = 3
C = 4
D = 5

Question 2

MCresonance3

The actual structure for this cannot be properly drawn using a single Lewis structure. The following are all resonance contributors that when mixed together describe the actual ion. Which is the MAJOR resonance contributor to the mixture?

A

B

C

D

Question 3

MC11b

Which is the most important (major) resonance contributor for N₂O?

A

B

C

D
**Question 4**  
MC11c

The electron distribution in the following ion cannot be properly described using a single Lewis structure. Additional Lewis structures should be mixed together with the one shown to generate the actual ion according to the resonance model. What is the TOTAL number of reasonable resonance contributors that should be mixed together to describe the ion, INCLUDING the one that is shown?

![Lewis structure](image)

A = 2  
B = 3  
C = 4  
D = 5

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**Question 5**  
MC11f

Use resonance arguments to determine which of the following cations would you expect to be LEAST reactive (more resonance = more stability)

![Cations](image)

A  
B  
C  
D

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**Question 6**  
MC11h

Use resonance arguments to determine which of the indicated C-H bonds would have the SMALLEST bond dissociation energy (BDE) (hint, resonance stabilizes, i.e. lowers the energy of, the non-bonding electron in a radical)

![C-H bonds](image)

A  
B  
C  
D
**Question 7**

MCresonance4

What is the total number of REASONABLE resonance contributors (including the one provided below) that can be drawn for ozone? Reasonable resonance contributors will generally not have more than one formal charge per atom and will not violate the "octet" rule for any atom.

\[
\text{Ozone} \quad A = 1 \\
\text{B} = 2 \\
\text{C} = 3 \\
\text{D} = 4
\]

**Question 8**

MCresonance5

Which best represents the order of the bond dissociation energies for the indicated C-H bonds? (hint, non-bonding electrons are more stabilized by more resonance contributors)

\[
\begin{align*}
\text{A} & : \text{H}_a < \text{H}_c < \text{H}_d < \text{H}_b \\
\text{B} & : \text{H}_b < \text{H}_c < \text{H}_d < \text{H}_a \\
\text{C} & : \text{H}_c < \text{H}_d < \text{H}_b < \text{H}_a \\
\text{D} & : \text{H}_b < \text{H}_d < \text{H}_c < \text{H}_a
\end{align*}
\]

**QUESTION 9**

There are NO INCORRECT answers to this question, ALL answers to this question will be considered correct for grading purposes.

I believe I can earn an A grade in organic chemistry

A Never
B Rarely
C Sometimes
D Often
E Always
QUESTION 10
There are NO INCORRECT answers to this question, ALL answers to this question will be considered correct for grading purposes
I am confident that I will do well on organic chemistry tests
A  Never
B  Rarely
C  Sometimes
D  Often
E  Always

QUESTION 11
There are NO INCORRECT answers to this question, ALL answers to this question will be considered correct for grading purposes
I believe that I can master organic chemistry knowledge and skills
A  Never
B  Rarely
C  Sometimes
D  Often
E  Always

QUESTION 12
There are NO INCORRECT answers to this question, ALL answers to this question will be considered correct for grading purposes
I’m sure I can understand organic chemistry
A  Never
B  Rarely
C  Sometimes
D  Often
E  Always
QUESTION 13
There are NO INCORRECT answers to this question, ALL answers to this question will be considered correct for grading purposes
What overall final grade do you really need in this class (note that the question asks about the grade that you need, not the grade you want, these two may not be the same!)?
A
B
C
D

QUESTION 14
There are NO INCORRECT answers to this question, ALL answers to this question will be considered correct for grading purposes
As of today, what final grade would you be realistically willing to accept in this course
A
B
C
D