What is the IUPAC name for the following molecule?

A 2,2-dimethyl-6-ethylheptane  
B 6,6-dimethyl-2-ethylheptane  
C 2,2,6-trimethyloctane  
D 2,2,2-trimethyl-6-ethylhexane

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

Which is the most important (major) resonance contributor for \( \text{N}_2\text{O} \)?

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?

\[
\begin{align*}
\text{NH}_2 & \quad A = 2 \\
\text{O} & \quad B = 3 \\
\text{C} & \quad C = 4 \\
\text{D} & \quad D = 5
\end{align*}
\]

**Question 5**

MC11f

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

\[\text{A} \quad \text{B} \quad \text{C} \quad \text{D}\]

**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)

\[\begin{align*}
\text{A} & \quad \text{B} & \quad \text{C} & \quad \text{D}
\end{align*}\]
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.

\[
\begin{array}{c}
\text{ozone} \\
\end{array}
\]

A = 1  
B = 2  
C = 3  
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)

A  \( H_a < H_c < H_d < H_b \)  
B  \( H_b < H_c < H_d < H_a \)  
C  \( H_c < H_d < H_b < H_a \)  
D  \( H_b < H_d < H_c < H_a \)

Question 9
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 expect to earn in this class?
A  
B  
C  
D
QUESTION 10
There are NO INCORRECT answers to this question, ALL answers to this question will be considered correct for grading purposes
何 hard did you work on organic chemistry this week (not including watching/attending lectures)

A  Very Hard
B  Hard
C  Somewhat Hard
D  Not very Hard this week