QUESTION 1
Which describes the ALLOWED product of this reaction?

A Hückel transition state, suprafacial/suprafacial reaction  
B Hückel transition state, suprafacial/antarafacial reaction  
C Möbius transition state, suprafacial/suprafacial reaction  
D Möbius transition state, suprafacial/antarafacial reaction

QUESTION 2
Which correctly and completely describes the product of the following Diels-Alder reaction?

A  
B  
C  
D
QUESTION 3

MC30g

Give the product of the following reaction under THERMODYNAMIC control conditions (high temperature)

\[
\begin{align*}
\text{CH}_2\text{Br} & \xrightarrow{\text{EtOH, heat}} \\
& \text{A} \quad \text{B} \quad \text{C} \quad \text{D}
\end{align*}
\]

QUESTION 4

MC30h

Give the product of the following reaction under THERMODYNAMICALLY controlled conditions (high temperature)

\[
\begin{align*}
\text{HCl} & \xrightarrow{\text{CCl}_4} \\
& \text{A} \quad \text{B} \quad \text{C} \quad \text{D}
\end{align*}
\]
QUESTION 5
MC40d
Which best describes the following reaction?

\[
\text{Me} \quad \xrightarrow{\text{heat}} \quad \text{Me}
\]

A) Conrotatory
B) Disrotatory
C) Neither Conrotatory or Disrotatory
D) Not Enough Information To Tell

QUESTION 6
MC30w
How many VERTICAL nodes do the Highest Occupied and Lowest Unoccupied \( \pi \)-Molecular Orbitals of the anion formed upon deprotonation of the structure shown?

\[
\text{H}_2\text{N}: \xrightarrow{\text{H}} \rightarrow \text{anion}
\]

A) HOMO = 0 and LUMO = 1
B) HOMO = 1 and LUMO = 2
C) HOMO = 2 and LUMO = 3
D) HOMO = 3 and LUMO = 4
QUESTION 7
MC40o
Which best describes the following reaction?

A suprafacial on the anion and suprafacial on the alkene
B suprafacial on the anion and antarafacial on the alkene
C antafacial on the anion and suprafacial on the alkene
D antarafacial on the anion and antarafacial on the alkene

QUESTION 8
MC30aa
Which answer describes the number of VERTICAL nodes for the HOMO and the LUMO of ozone?

A) HOMO = 0 and LUMO = 1
B) HOMO = 1 and LUMO = 2
C) HOMO = 2 and LUMO = 3
D) HOMO = 3 and LUMO = 4
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