

E Question 1 (1 points) For which of the following reactions is the enthalpy change equal to the second ionization energy of nitrogen?

- A. $N^{2+}(g) \rightarrow N^{3+}(g) + e^{-}$
- B. $N^{2+}(g) + e^{-} \rightarrow N^{+}(g)$
- C. $N(g) \rightarrow N^{2+}(g) + 2e^{-}$
- D. $N^{-}(g) + e^{-} \rightarrow N^{2-}(g)$
- E. $N^{+}(g) \rightarrow N^{2+}(g) + e^{-}$

B Question 2 (1 points) The successive ionization energies of a certain element are $I_1 = 577.9$ kJ/mol, $I_2 = 1820$ kJ/mol, $I_3 = 2750$ kJ/mol, $I_4 = 11,600$ kJ/mol, and $I_5 = 14,800$ kJ/mol. This pattern of ionization energies suggests that the unknown element is

- A. K
- B. Al
- C. Cl
- D. Se
- E. Kr

Question 3 (3 points): Given the information below for $MgSO_3$, what is the percent of Oxygen in this compound (Report answer to the hundredths place)?

<u>Element</u>	<u>MM (g/ mol)</u>
Mg	24.00
S	32.00
O	16.00

$$\frac{3(16)}{24+32+3(16)} = 46.15\%$$