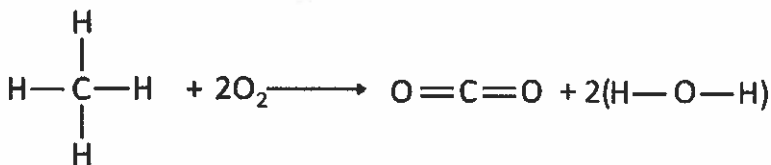
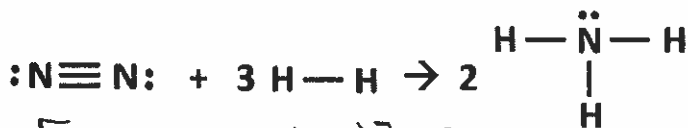


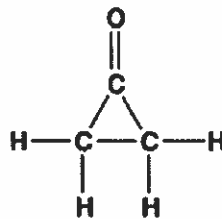
$$\begin{aligned}
 1. & \quad [6(413) + 397 + 607 + 9/2(498)] - [6(745) + 6(460)] \\
 & = (2478 + 397 + 607 + 2241) - (4470 + 2760) \\
 & = 5673 - 7230 \\
 & = -1557 \text{ kJ}
 \end{aligned}$$



$$\begin{aligned}
 2. & \quad [4(413) + 2(498)] - [2(745) + 4(460)] \\
 & = (1652 + 996) - (1490 + 1840) \\
 & = 2648 - 3330 \\
 & = -682 \text{ kJ}
 \end{aligned}$$



$$\begin{aligned}
 3. & \quad [942 + 3(436)] - [6(391)] \\
 & = (2250) - (2346) \\
 & = -96 \text{ kJ}
 \end{aligned}$$



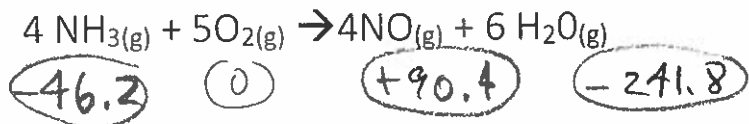
$$\begin{aligned}
 4. & \quad [2(413) + 1072 + 436 + 745] - [3(347) + 4(413) + 745] \\
 & = (3079) - (3438) \\
 & = -359 \text{ kJ}
 \end{aligned}$$

Bond	Energy
H-H	436 kJ/mol
H-O	460 kJ/mol
H-F	570 kJ/mol
H-Cl	432 kJ/mol
C-H	413 kJ/mol
C-C	347 kJ/mol
C=C	607 kJ/mol
C-O	358 kJ/mol
O=O	498 kJ/mol
C=O	745 kJ/mol
Cl-Cl	243 kJ/mol
N=N	418 kJ/mol
N=O	631 kJ/mol

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N=N	418 kJ/mol
N=O	631 kJ/mol

$\text{N}\equiv\text{N}$ 941
 $\text{N}-\text{H}$ 391
 $\text{C}\equiv\text{C}$ 1072

1. USE THE THERMODYNAMIC BLUE TABLE SHOWING ΔH_f° to calculate the enthalpy this reaction.



-904.

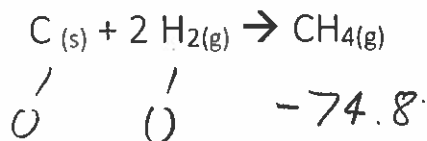
$$\Delta H = \text{products} - \text{reactants}$$

$$= [4(90.4) + 6(-241.8)] - [4(-46.2)]$$

$$= [361.6 + (-1450.8)] - (-184.8)$$

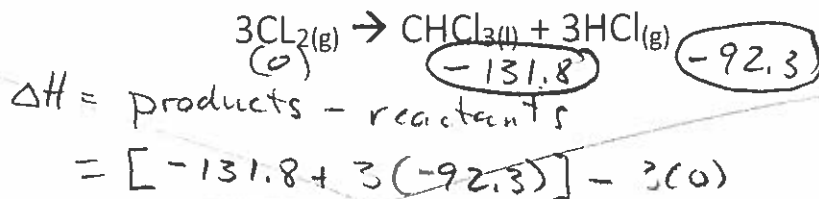
$$\Delta H = -904.4 \text{ kJ}$$

2. USE THE THERMODYNAMIC BLUE TABLE SHOWING ΔH_f° to calculate the enthalpy this reaction.



$$\Delta H = -74.8 \text{ kJ}$$

3. USE THE THERMODYNAMIC BLUE TABLE SHOWING ΔH_f° to calculate the enthalpy this reaction.

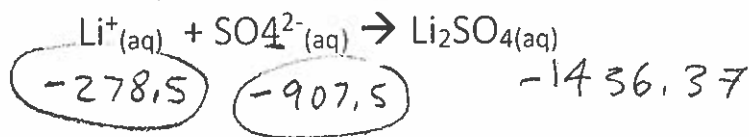


Omit

$$\Delta H = -408.7 \text{ kJ}$$

4. Use the thermodynamic blue table showing ΔH_f° to calculate the enthalpy this reaction.

ΔH_f° of $\text{Li}_2\text{SO}_4(\text{aq}) = -1436.37 \text{ kJ/mol}$



$$\Delta H = \text{prod} - \text{react}$$

$$= (-1436.37) - (-278.5 + -907.5)$$

$$= -1436.37 - (-1186)$$

$$\Delta H = -250.37 \text{ kJ/mol}$$