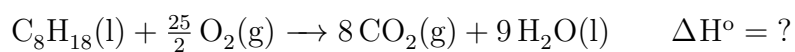


WORKSHEET 2 - QUESTION 1



$$Q = ?$$

$$m = 10.0 \text{ L} \Rightarrow 10\,000 \text{ mL} \Rightarrow 10\,000 \text{ g}$$

$$c = 4.184 \frac{\text{J}}{\text{g}^\circ\text{C}}$$

$$\Delta\text{T} = (35.447 - 20.000) ^\circ\text{C} = 15.447 ^\circ\text{C}$$

$$Q = mc\Delta\text{T}$$

$$Q = 10\,000 \text{ g} \times 4.184 \frac{\text{J}}{\text{g}^\circ\text{C}} \times 15.447 ^\circ\text{C}$$

$$Q = 646302 \text{ J}$$

$$Q = 646.302 \text{ kJ}$$

$$\frac{646.302 \text{ kJ}}{13.50 \text{ g C}_8\text{H}_{18}} \times \frac{114.26 \text{ g C}_8\text{H}_{18}}{1 \text{ mol C}_8\text{H}_{18}} = \frac{5470.1 \text{ kJ}}{1 \text{ mol C}_8\text{H}_{18}}$$

$$\Delta\text{H} = -Q$$

$$\Delta\text{H} = -5470.1 \text{ kJ/1 mol C}_8\text{H}_{18}$$

