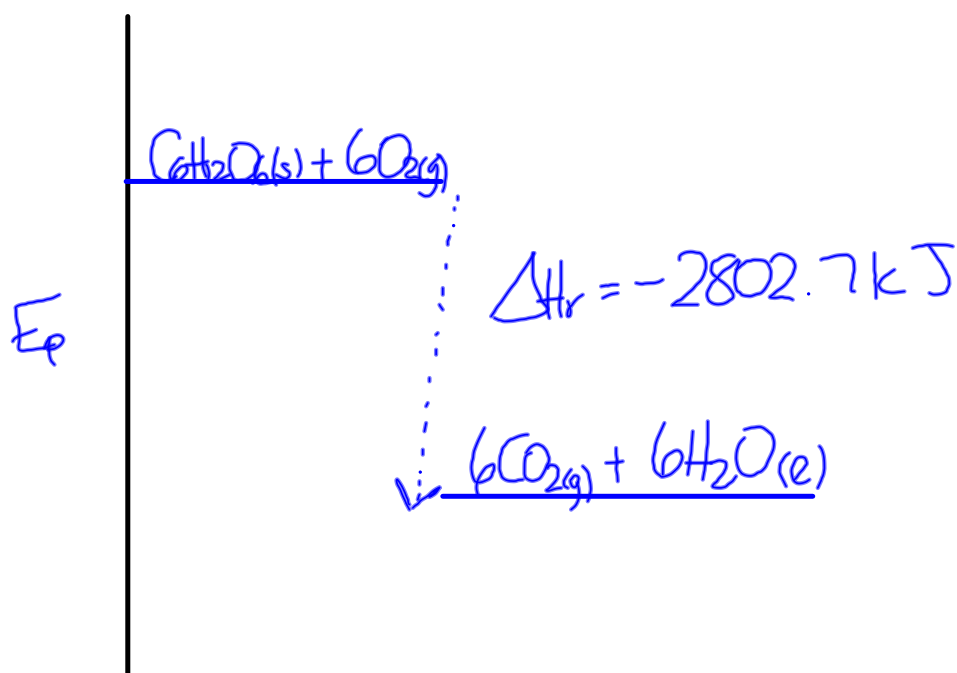
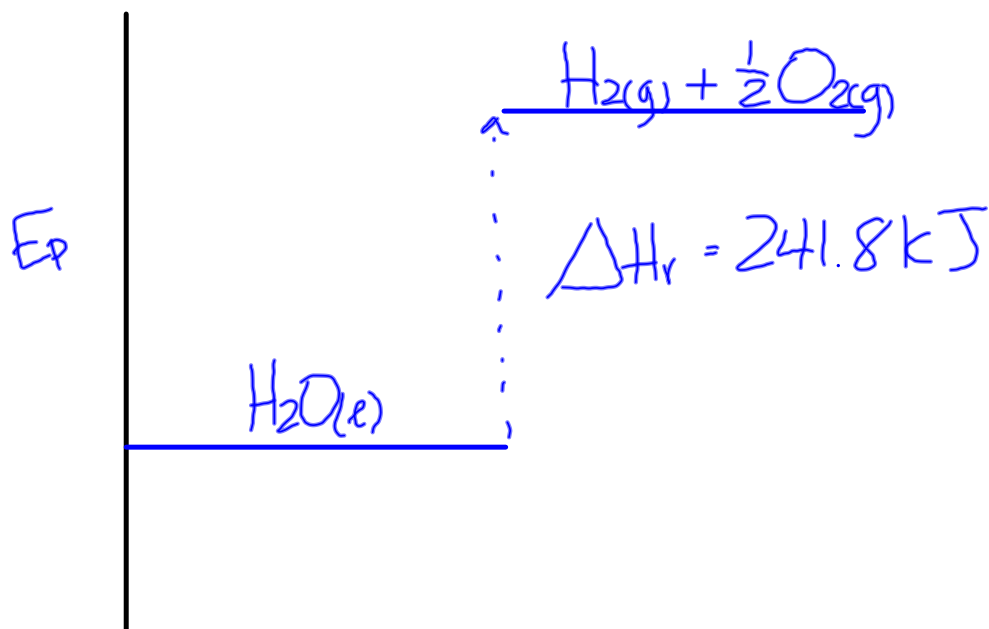
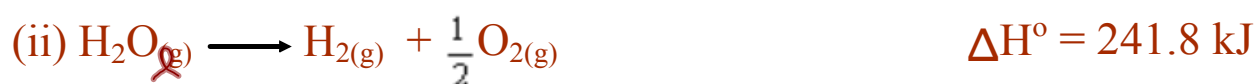


For each of the following reactions:

(a) rewrite the equation including the enthalpy change as a term

(b) draw a potential energy diagram





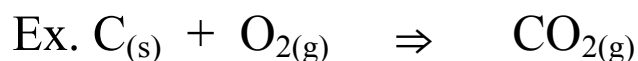
Predicting Energy Changes using Hess's Law

Hess's Law - (Heat of Summation)

- allows for the determination of the enthalpy change of a reaction with direct use of calorimetry.

Rules:

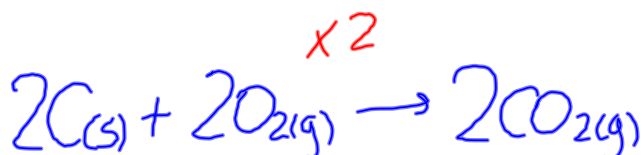
- if a chemical equation is reversed, then the sign of the ΔH_r changes
- if the coefficients of a chemical equation are altered by multiplying or dividing by a constant factor, then the ΔH_r is altered in the same way



$$\Delta H = -393.5 \text{ kJ}$$



$$\Delta H_r = 393.5 \text{ kJ}$$



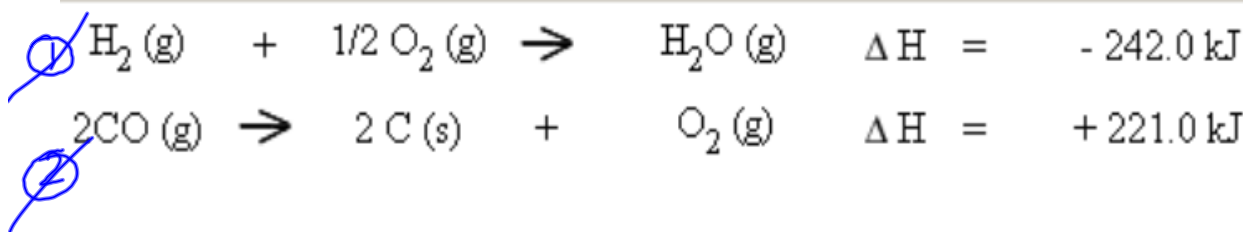
$$\Delta H_r = -787.0 \text{ kJ}$$

Example

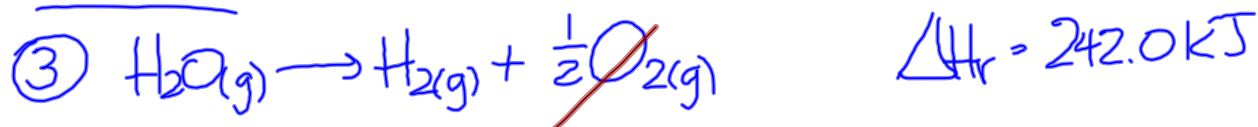


$$\Delta H = ?$$

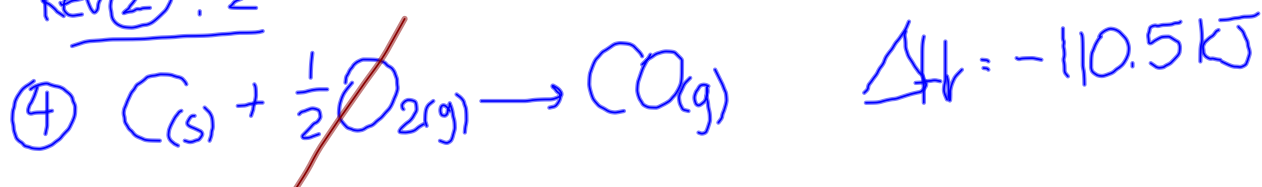
Steps (found using calorimetry):



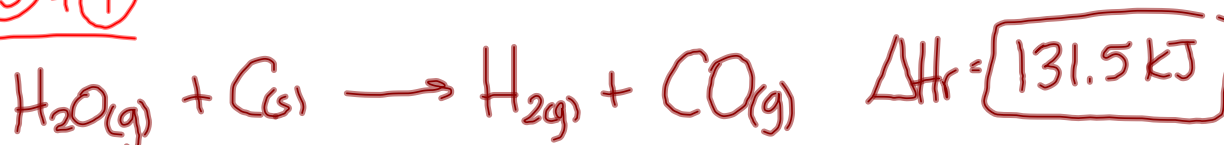
Rev ①



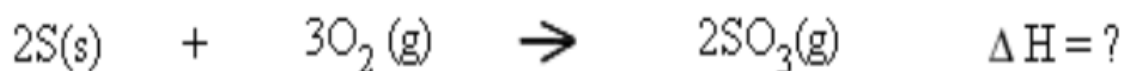
Rev ② ÷ 2



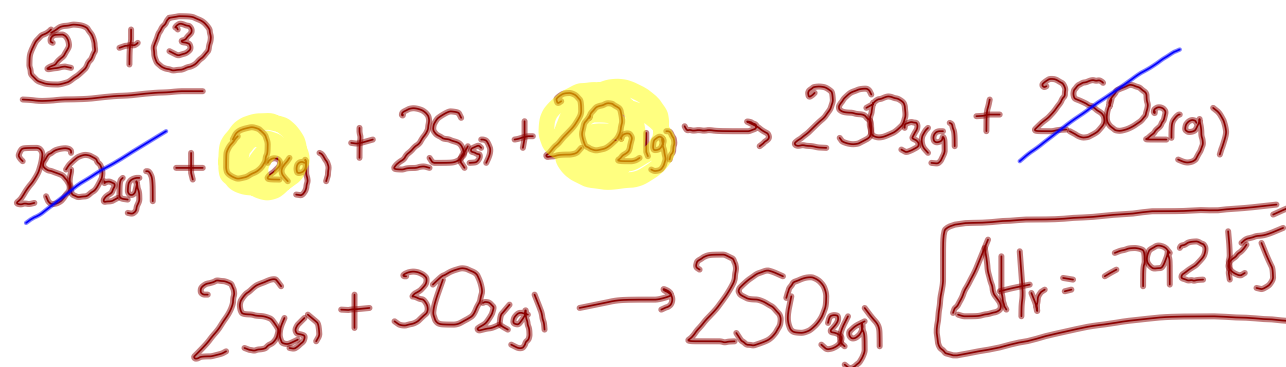
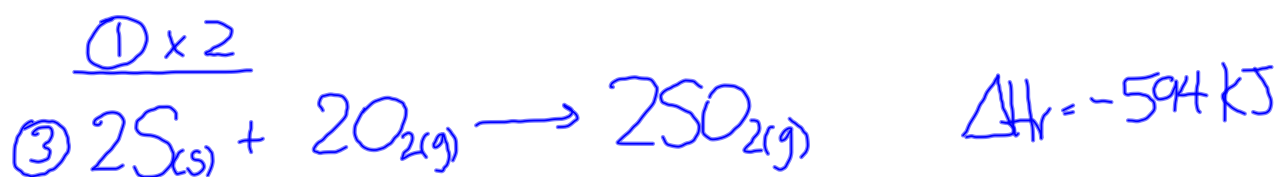
③ + ④



Calculate the heat released by the burning of sulfur in oxygen given the following steps:



Evidence:



Worksheet