**HESS’S LAW**

Consider the following three thermochemical reaction equations:

C(s) + ½O2(g) → CO(g) ΔH° = −110.5 kJ

CO(g) + ½O2(g) → CO2(g) ΔH° = −283.0 kJ

C(s) + O2(g) → CO2(g) ΔH° = −393.5 kJ

Can you find a relationship between the enthalpy changes?

Likewise, the same relationship exists for the reaction equations. This is like solving 2 equations in 2 unknowns using elimination or like finding the net ionic equation from the ionic equation.

Potential Energy

Hess’s Law states that the enthalpy change of a process depends only on the beginning and ending conditions and is independent of the pathway followed or any intermediate stages.

This allows scientists to find enthalpy changes for reactions that are difficult to perform, yet are the sum of other unrelated equations.