

CHAPTER OVERVIEW

19: The First Law of Thermodynamics

19.1: Overview of Classical Thermodynamics

19.2: Pressure-Volume Work

19.3: Work and Heat are not State Functions

19.4: Energy is a State Function

19.5: An Adiabatic Process is a Process in which No Energy as Heat is Transferred

19.6: The Temperature of a Gas Decreases in a Reversible Adiabatic Expansion

19.7: Work and Heat Have a Simple Molecular Interpretation

19.8: Pressure-Volume Work

19.9: Heat Capacity is a Path Function

19.10: Relative Enthalpies Can Be Determined from Heat Capacity Data and Heats of Transition

19.11: Enthalpy Changes for Chemical Equations are Additive

19.12: Heats of Reactions Can Be Calculated from Tabulated Heats of Formation

19.13: The Temperature Dependence of ΔH

19.14: Enthalpy is a State Function

19.E: The First Law of Thermodynamics (Exercises)

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