Thermodynamics overview [tln2]

- equilibrium state
  - quasi-static processes
  - irreversible and reversible changes
- isolated, closed, and open systems
- state variables
  - extensive and intensive variables
  - thermodynamic limit
- thermodynamic functions
  - Legendre transforms
  - Gibbs–Duhem equation
- phase coexistence, phase transitions
  - equations of state
  - thermodynamic functions (first derivatives)
- grandcanonical ensemble
  - microcanonical ensemble
- thermodynamic potentials
  - Gibbs–Duhem equation
  - equations of state
- phase coexistence, phase transitions
  - thermodynamic functions (second derivatives)
- Maxwell relations
- response functions
  - stability conditions
- fundamental equation of thermodynamics
  - homogeneous functions
- gateway to equilibrium statistical mechanics
  - intensive variables
  - extensive and intensive variables
- thermodynamics
  - laws of thermodynamics
    - first law: energy
    - second law: entropy
- thermodynamic limit
  - thermodynamic potentials
  - Gibbs–Duhem equation