

Thermodynamic potential

@wikipedia

A scalar quantity used to represent the thermodynamic state of a system.

Name	Symbol	Formula	Natural variables
Internal energy	blocked URL	$\int (T\mathrm{d}S - p\mathrm{d}V + \sum_i \mu_i \mathrm{d}N_i)$	$S, V, \{N_i\}$
Helmholtz free energy	blocked URL	$U - TS$	$T, V, \{N_i\}$
Enthalpy	blocked URL	$U + pV$	$S, p, \{N_i\}$
Gibbs free energy	blocked URL	$U + pV - TS$	$T, p, \{N_i\}$
Landau Potential (Grand potential)	blocked URL	$U - TS - \sum_i \mu_i N_i$	$T, V, \{\mu_i\}$