

Reciprocal System Database: Available Microcosmos Graphs

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Solid State Graphs:

Aggr_Enthalpy, cal/mol
Aggr_Enthalpy, cal/g
Molec_Enthalpy, cal/mol
Molec_Enthalpy, cal/g

Aggr_Entropy, cal/mol K
Aggr_Entropy, cal/g K
Molec_Entropy, cal/mol K
Molec_Entropy, cal/g K

Aggr_Specific_Heat (cp), cal/mol K
Aggr_Specific_Heat (cp), cal/g K
Molec_Specific_Heat (cp), cal/mol K
Molec_Specific_Heat (cp), cal/g K

Aggr_Specific_Heat (cv), cal/mol K
Aggr_Specific_Heat (cv), cal/g K
Molec_Specific_Heat (cv), cal/mol K
Molec_Specific_Heat (cv), cal/g K

Aggr_Unit_Cell_Volume, $10^{(-24)}$ cm³
Molec_Unit_Cell_Volume, $10^{(-24)}$ cm³

Aggr_Density, g/cm³
Molec_Density, g/cm³

Aggr_Internal_Energy, cal/mol
Aggr_Internal_Energy, cal/g
Molec_Internal_Energy, cal/mol
Molec_Internal_Energy, cal/g

Aggr_Cohesive Energy, kJ/mol
Molec_Cohesive Energy, kJ/mol

Aggr_Ratio_Vol_to_Vol0
Molec_Ratio_Vol_to_Vol0

Aggr_Coef_Vol_Exp x $10^{(-6)}$
Molec_Coef_Vol_Exp x $10^{(-6)}$

Aggr_Thermopower, μ V/K
Molec_Thermopower, μ V/K

Molec_Elec_Resistivity, ohm-cm x $10^{(-3)}$
Molec_Therm_Resistivity, K cm/watt

Molec_Elec_Conduc., (ohm-cm)⁻¹
 Molec_Therm_Conduc., watt/K cm x 10⁽⁻³⁾

 Aggr_Elec_Resistivity, ohm-cm x 10⁽⁻³⁾
 Aggr_Therm_Resistivity, K cm/watt
 Aggr_Elec_Conduc., (ohm-cm)⁻¹
 Aggr_Therm_Conduc., watt/K cm x 10⁽⁻³⁾

 Aggr_Lorenz_Num., (V/K)² * 10⁽⁻⁸⁾
 Molec_Lorenz_Num., (V/K)² * 10⁽⁻⁸⁾

 Aggr_TE_Figure_of_Merit x 10⁽⁻³⁾
 TE_Figure_of_Merit x 10⁽⁻³⁾
 Aggr_Peltier_Coef., mV
 Molec_Peltier_Coef., mV

 Aggr_Thomson_Coef., mu V/K
 Molec_Thomson_Coef., mu V/K

 Individual_Ioniz_Energies_Theory, eV
 Individual_Ioniz_Energies_Best Fit, eV
 Total_Ioniz_Energies_Theory, eV
 Total_Ioniz_Energies_Best_Fit, eV

 Aggr_Specific_Heat (cp), J/mol K
 Molec_Specific_Heat (cp) , J/mol K

 Aggr_Specific_Heat (cv), J/mol K
 Molec_Specific_Heat (cv), J/mol K

 Aggr_Enthalpy, J/mol
 Molec_Enthalpy, J/mol

 Aggr_Internal_Energy, J/mol
 Molec_Internal_Energy, J/mol

 Aggr_Entropy, J/mol
 Molec_Entropy, J/mol

 Interatomic_Distance, A
 Compressibility, (atm x 10⁶)⁻¹
 Bulk_Modulus, atm x 10⁶
 Modulus_of_Elasticity (E), atm x 10⁶
 Modulus_of_Elasticity (G), atm x 10⁶

 Average_Index_of_Refraction
 Index_of_Refraction, edge_a
 Index_of_Refraction, edge_b
 Index_of_Refraction, edge_c

 Sound_Speed_Longitudinal_Rod, m/sec
 Sound_Speed_Longitudinal_Bulk_Solid, m/sec

Sound_Speed_Transverse_Bulk_Solid, m/sec

Fluid States

Liquid_Specific_Volume, cm³/g
 Liquid_Density, g/cm³
 Vapor_Specific_Volume_(Single_Phase), cm³/g
 Vapor_density_(Single_Phase), g/cm³
 Saturated_Vapor_Specific_Volume_(Dual_Phase), cm³/g
 Saturated_Vapor_Density_(Dual_Phase), g/cm³
 Superheated_Vapor_Volume, cm³/g
 Superheated_Vapor_Density, g/cm³
 Gas_Specific_Volume, cm³/g
 Gas_Density, g/cm³

 Saturated_Vapor_Pressure, atm
 Liquid_Bulk_Modulus, atm
 Liquid_Compressibility, atm⁽⁻¹⁾
 Liquid_Volume_Expansivity, K⁽⁻¹⁾

 Liquid_Specific_Heat_at_Constant_Pressure, cal/mol K
 Liquid_Specific_Heat_at_Constant_Pressure, J/mol K
 Liquid_Specific_Heat_at_Constant_Pressure, cal/g K
 Liquid_Specific_Heat_at_Constant_Volume, cal/mol K
 Liquid_Specific_Heat_at_Constant_Volume, J/mol K
 Liquid_Specific_Heat_at_Constant_Volume, cal/g K
 Gas_Specific_Heat_at_Constant_Pressure, cal/mol K
 Gas_Specific_Heat_at_Constant_Pressure, J/mol K
 Gas_Specific_Heat_at_Constant_Pressure, cal/g K
 Gas_Specific_Heat_at_Constant_Volume, cal/mol K
 Gas_Specific_Heat_at_Constant_Volume, J/mol K
 Gas_Specific_Heat_at_Constant_Volume, cal/g K

 Liquid_Absolute_Enthalpy, cal/mol
 Liquid_Relative_Enthalpy, cal/mol
 Liquid_Absolute_Enthalpy, J/mol
 Liquid_Relative_Enthalpy, J/mol
 Liquid_Absolute_Enthalpy, cal/g
 Liquid_Relative_Enthalpy, cal/g
 Liquid_Absolute_Internal_Energy, cal/mol
 Liquid_Relative_Internal_Energy, cal/mol
 Liquid_Absolute_Internal_Energy, J/mol
 Liquid_Relative_Internal_Energy, J/mol
 Liquid_Absolute_Internal_Energy, cal/g
 Liquid_Relative_Internal_Energy, cal/g
 Liquid_Absolute_Entropy, cal/mol K
 Liquid_Relative_Entropy, cal/mol K
 Liquid_Absolute_Entropy, J/mol K
 Liquid_Relative_Entropy, J/mol K

Liquid_Absolute_Entropy, cal/g K

Liquid_Relative_Entropy, cal/g K

Vapor_Absolute_Enthalpy, cal/mol

Vapor_Relative_Enthalpy, cal/mol

Vapor_Absolute_Enthalpy, J/mol

Vapor_Relative_Enthalpy, J/mol

Vapor_Absolute_Enthalpy, cal/g

Vapor_Relative_Enthalpy, cal/g

Vapor_Absolute_Internal_Energy, cal/mol

Vapor_Relative_Internal_Energy, cal/mol

Vapor_Absolute_Internal_Energy, J/mol

Vapor_Relative_Internal_Energy, J/mol

Vapor_Absolute_Internal_Energy, cal/g

Vapor_Relative_Internal_Energy, cal/g

Vapor_Absolute_Entropy, cal/mol K

Vapor_Relative_Entropy, cal/mol K

Vapor_Absolute_Entropy, J/mol K

Vapor_Relative_Entropy, J/mol K

Vapor_Absolute_Entropy, cal/g K

Vapor_Relative_Entropy, cal/g K

Liquid_Surface_Tension, dynes/cm

Liquid_Viscosity, cp

Liquid_Fluidity, cp^{-1}

Liquid_Diffusion_Coefficient_through_Water, cm^2/sec

Vapor/Gas_Viscosity, $\mu\text{-p}$

Vapor/Gas_Fluidity, $\mu\text{-p}^{-1}$

Vapor/Gas_Diffusion_Coefficient_through_Air, cm^2/sec

Liquid_Speed_of_Sound, m/sec

Vapor_Speed_of_Sound, m/sec

Gas_Speed_of_Sound, m/sec

Vapor_Compressibility_Factor

Gas_Compressibility_Factor

Liquid_Electrical_Resistivity, ohm-cm

Liquid_Conductivity, $\text{ohm}^{-1}\text{-cm}^{-1}$

Liquid_Thermal_Resistivity, $\text{cm K} / \text{W}$

Liquid_Thermal_Conductivity, $\text{W} / \text{cm K}$

Vapor/Gas_Thermal_Conductivity, $\text{W} / \text{cm K}$

Liquid_Index_of_Refraction

Vapor_Index_of_Refraction

Gas_Index_of_Refraction

Gas_Absolute_Enthalpy, cal/mol

Gas_Relative_Enthalpy, cal/mol

Gas_Absolute_Enthalpy, J/mol

Gas_Relative_Enthalpy, J/mol

Gas_Absolute_Enthalpy, cal/g

Gas_Relative_Enthalpy, cal/g

Gas_Absolute_Internal_Energy, cal/mol
Gas_Relative_Internal_Energy, cal/mol
Gas_Absolute_Internal_Energy, J/mol
Gas_Relative_Internal_Energy, J/mol
Gas_Absolute_Internal_Energy, cal/g
Gas_Relative_Internal_Energy, cal/g
Gas_Absolute_Entropy, cal/mol K
Gas_Relative_Entropy, cal/mol K
Gas_Absolute_Entropy, J/mol K
Gas_Relative_Entropy, J/mol K
Gas_Absolute_Entropy, cal/g K
Gas_Relative_Entropy, cal/g K

Notes

1. Aggr = aggregate or bulk property, based on a distribution of temperatures.
2. Molec = unit crystal cell property, based on single temperature.
3. All properties, except for those involving ionization energy, may be plotted against temperature or pressure.
4. Default temperature and pressure ranges may be overridden by users.
5. Default step value may be overridden by users.
6. Default graph properties may be altered by users.

last updated: 08/24/2013

original publishing date: 08/20/2013