

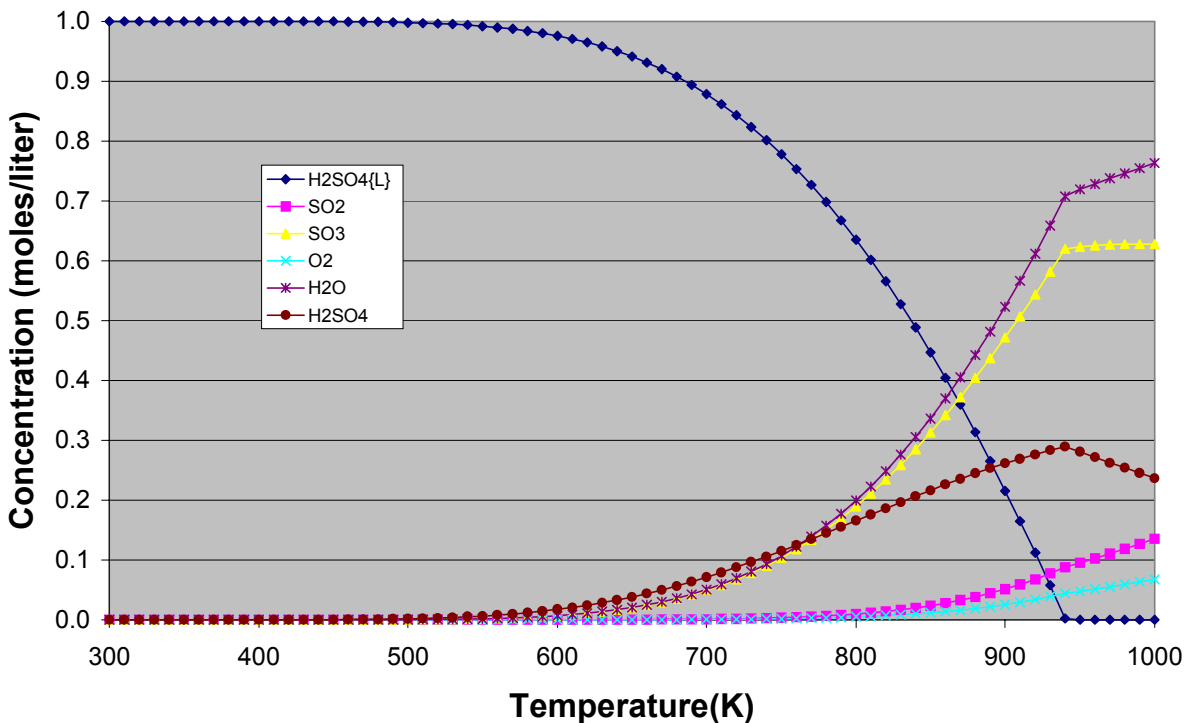
Batch File	Type of Equilibrium Run	Conditions
EQUIL1.BAT	Propane-Air Combustion	Constant Temperature Constant Volume
EQUIL2.BAT	H ₂ -O ₂ Combustion	Constant Temperature Constant Volume
EQUIL3.BAT	Propane-Air Combustion	Constant Temperature Constant Pressure
EQUIL4.BAT	H ₂ -O ₂ -N ₂ Combustion	Constant Temperature Constant Volume
EQUIL5.BAT	H ₂ -O ₂ -N ₂ Combustion	Constant Temperature Constant Pressure
EQUIL6.BAT	H ₂ -O ₂ -N ₂ Combustion	Variable Temperature (Adiabatic Flame) Constant Volume
EQUIL7.BAT	H ₂ -O ₂ -N ₂ Combustion	Variable Temperature (Adiabatic Flame) Constant Pressure
EQUIL8.BAT	Just OH and H ₂ O ₂	Variable Temperature (Adiabatic Flame) Constant Volume
EQUIL9.BAT	H ₂ -O ₂ Combustion	Program Temperature (Range 1500K-6000K) Constant Volume
EQUILA.BAT	H ₂ -O ₂ Combustion	Program Temperature (Range 1500K-6000K) Constant Pressure
EQUILB.BAT	LIQUID H ₂ SO ₄ decomposition into various sulfur and water gases	Program Temperature (Range 300K-1000K) Constant Volume
F1EQUIL.BAT	Fitting of Initial Concentrations for H ₂ -O ₂ -N ₂ Combustion	Constant Temperature Constant Volume
F2EQUIL.BAT	Fitting of Initial Concentrations for H ₂ -O ₂ -N ₂ Combustion	Constant Temperature Constant Pressure

Table 10. Various sample equilibrium runs located in the ./Kintecus/EQUIL/ subdirectory.

Sample Equilibrium Run Plots

The equilibrium run plot shown below is from the [H2SO4_Equilibrium_Phase.xls](#) Excel file (it is also the equilb.bat file located in the /EQUIL/ subdirectory). It primarily shows the decomposition of liquid sulfuric acid into various gases as the temperature increases from 300 K to 1000 K.

Liquid H₂SO₄ Decomposition over 300 K - 1000 K



The following equilibrium run plot shown below is from the [H₂_O₂_Equil_Phases.xls](#) Excel file (it can also be created from the equila.bat file located in the /EQUIL/ subdirectory).

O2-H2 Decomposition Over 1500 K to 6000 K

