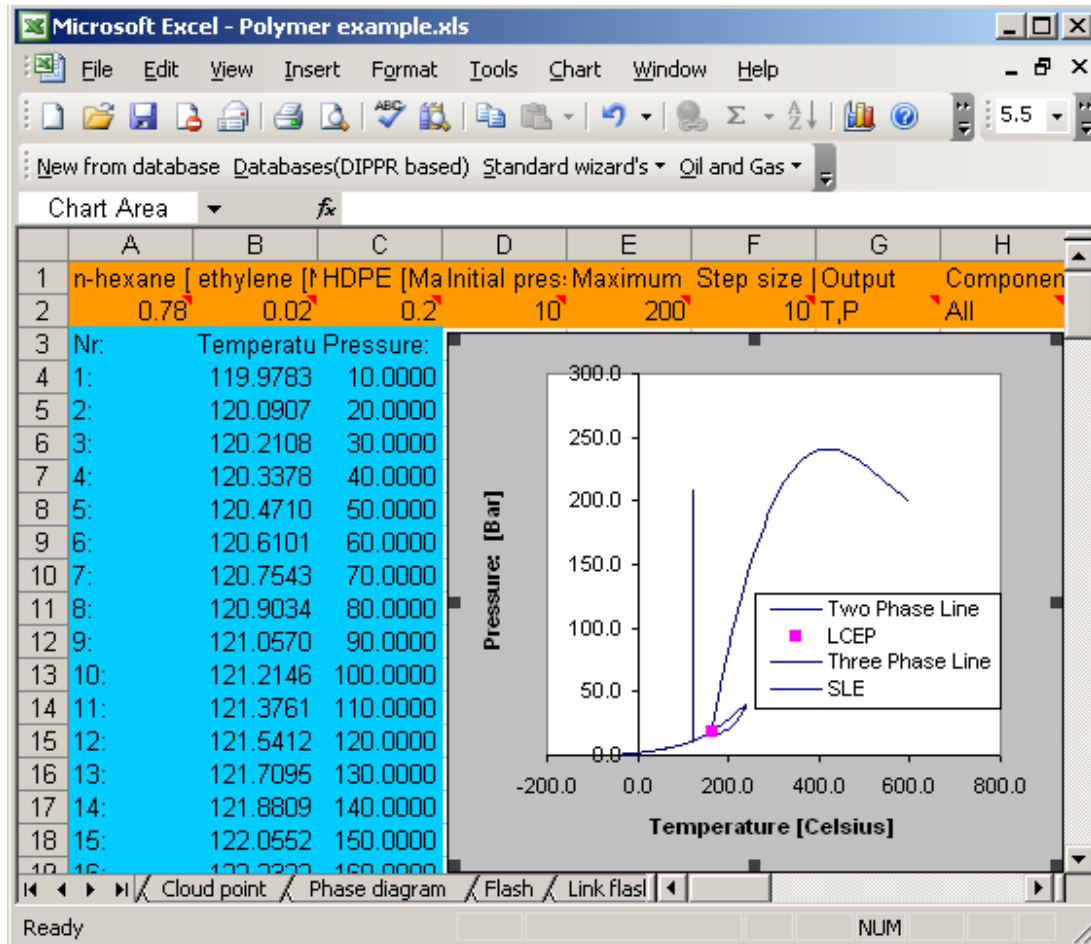


VLXE THERMODYNAMIC SOLUTIONS

VLXE Excel Add in gives access to the calculations and databases with in Excel



VLXE For Polymers

Offers wide range of calculations for solvent polymer systems from setting up of project sheets to linkage of flash units

VLXE APS

VLXE

ADVANTAGES and MODELS

VLXE offers broad variety of computations for

Calculations

Applications

Flash Calculations

- Multi-phase flash, VLE, LLE and VLLE
- Full range of flash's, (Pressure/Temperature, Pressure/Enthalpy, Pressure/Entropy + more).
- No limit on the number of phases.

Link Flash

- Flash calculations can be linked in an Excel sheet to create a flow sheet.

Critical Point

- Allow to calculate the critical points found in a mixture no matter the type of mixture.

Cloud Point

- VLE and LLE

Phase Diagram

- Trace lines, critical point, spinodal curves for based on given feed and given temperature.

Txy/Pxy Curves

- These functions let the user to perform a Txy and Pxy calculations respectively for given systems.

SLE

- These functions perform SLE polymer mass fractions and SLE temperature.

Fit Parameters

- Both pure components and kij's

Thermodynamic Models

All phase equilibria calculations performed in VLXE are based on the use of cubic equations of state (EOS). Six EOS are included in VLXE. Depending on the EOS a different number of mixing rules are included.

Equation of States

- Peng/Robinson
- Soave/Redlick/Kwong
- Sanchez/Lacombe (Original)
- Sanchez/Lacombe (Ideal Gas Limit)
- PC-SAFT
- Copolymer PC-SAFT

Models For Ideal Gas Heat Capacity

- DIPPR
- Polynomial Expression

VLXE For Excel Add in

Setting Up Of Project Is Simple and Robust Due To Excel Add In Features

Define the System

Select the Components

Generate Report

Nr:	Type	DB index	Short Name
1	New	35	ethylene
2	New	10	n-hexane

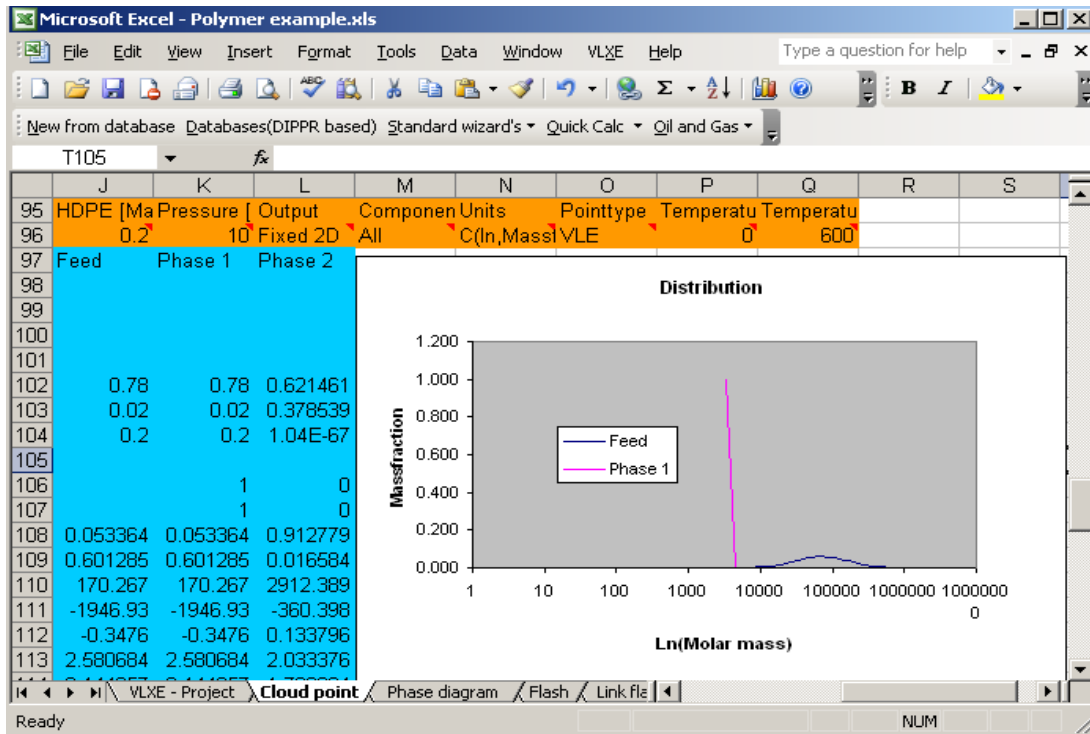
Nr:	Type	DB index	Short Name
1	New	1	HDPE

Nr:	Type	DB index	Short Name
New		3	From N. Koak

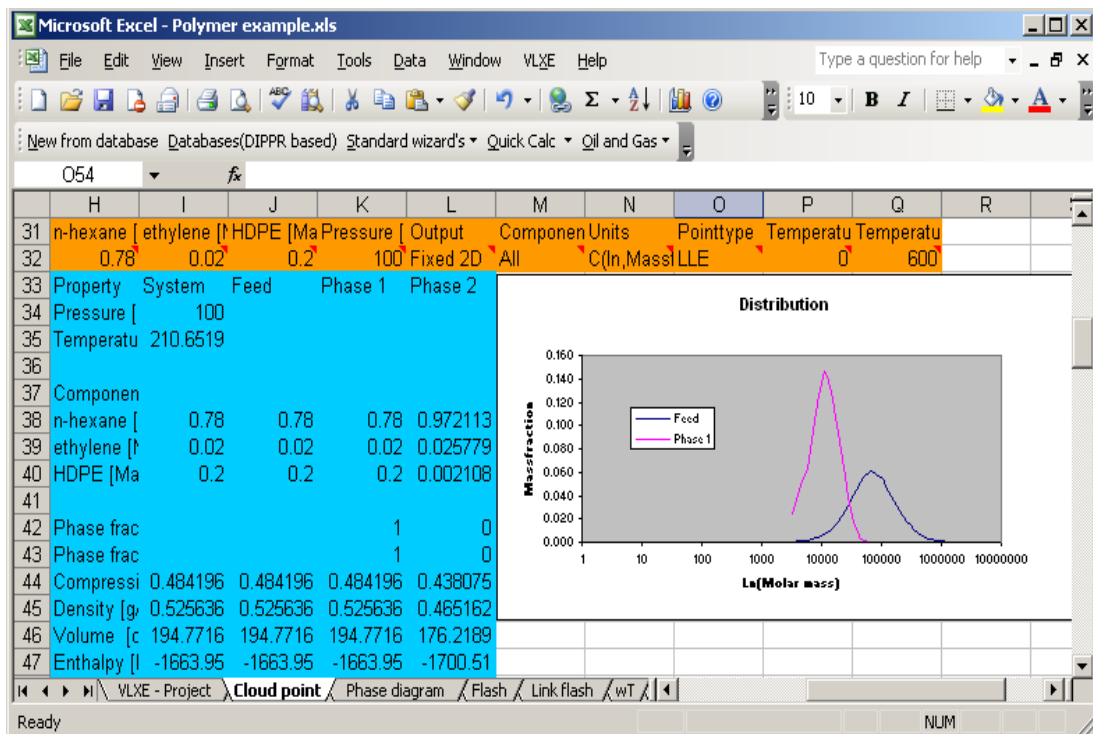
Equation of state	Solvents: Ideal gas Cp	Polymers: Ideal gas Cp	Assoc
Molefraction	kJ/Kg	kJ/(Kg Kelvin)	centiPoc
Molefraction	kJ/Kg	kJ/(Kg Kelvin)	centiPoc
Type	Tc [Kelvin]	Pc [Bar]	Acentric
1	507.6	282.34	30.25
1			50.41
Ideal gas Cp: C(1) [kJ/(kg Kelv	Ideal gas Cp: C(2)	Ideal gas Cp: C(3)	Ideal g
0.8519783	-1.8015E-05	1.3798E-05	
1.250323	-0.002602607	1.71739E-05	
Pseudo count	Polymer database index	Distribution database index	Distrib
36	1	3	From N.
Monomer molar mass [g/mol] m/M [mol/g]	sigma [Å]	epsilon	
28.054	0.0263	4.0217	
Enthalpy of melting (Hu) [J/m	Density of amorphous polymer [g/c	Densith of crystalline polymer [g/c Solid/S	
8220	0.853	1.004	

VLXE Examples

Cloud Point

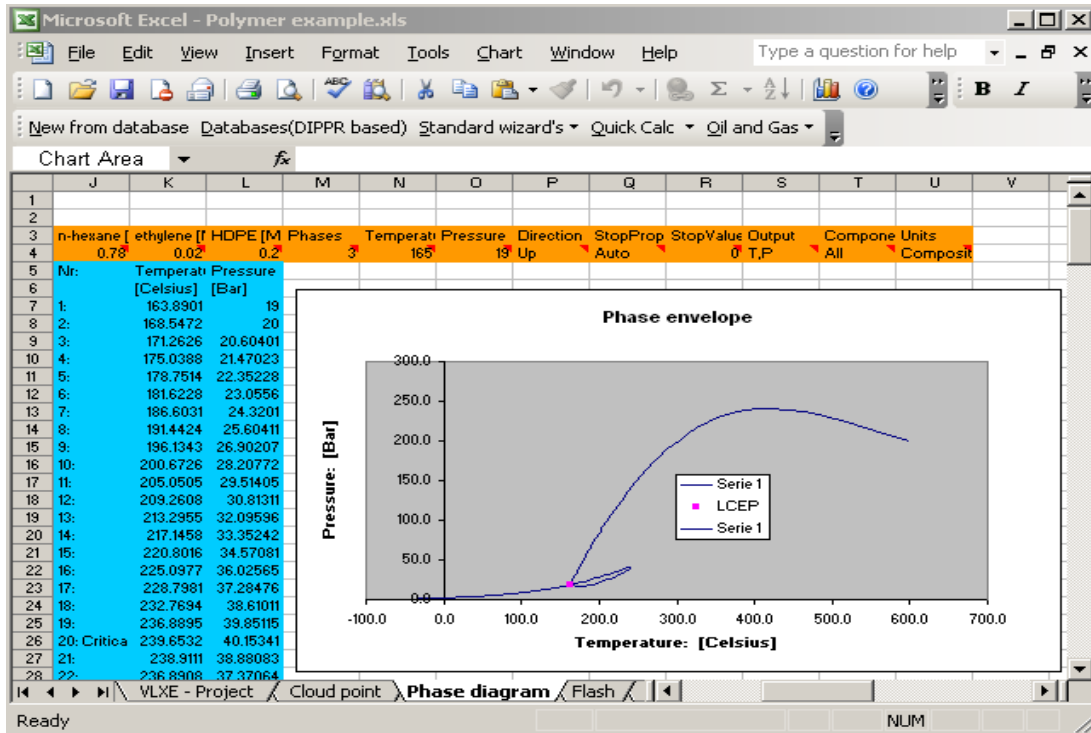


VLE

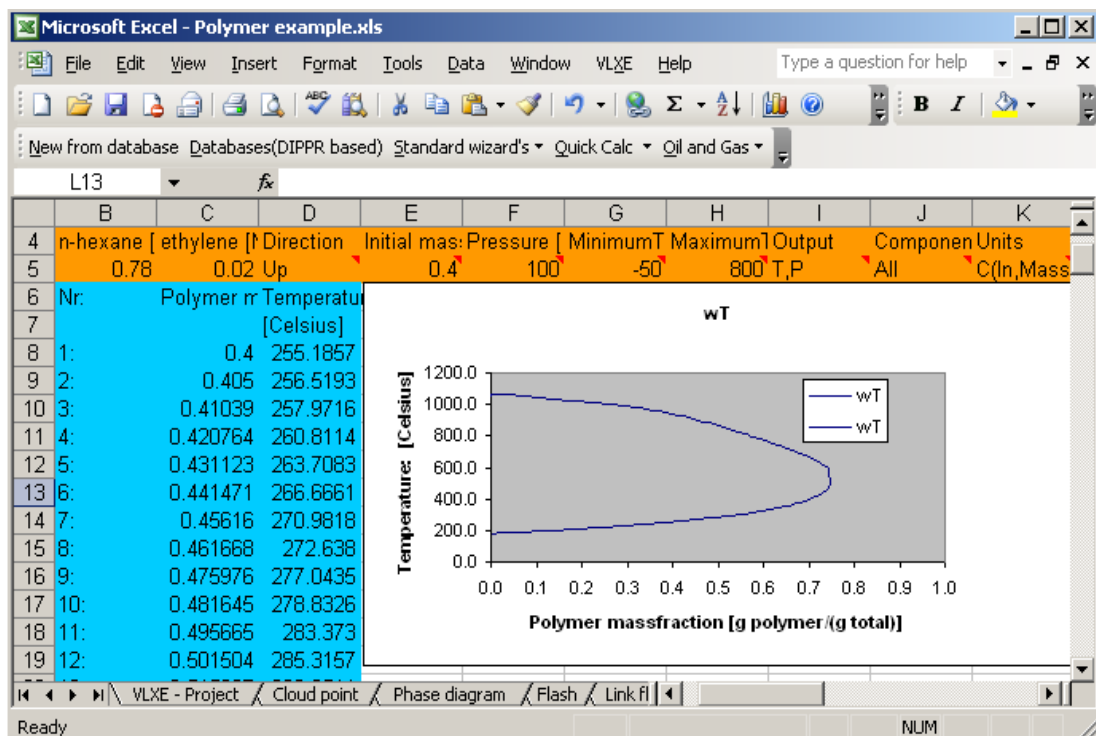


LLE

VLXE Examples Phase Diagram



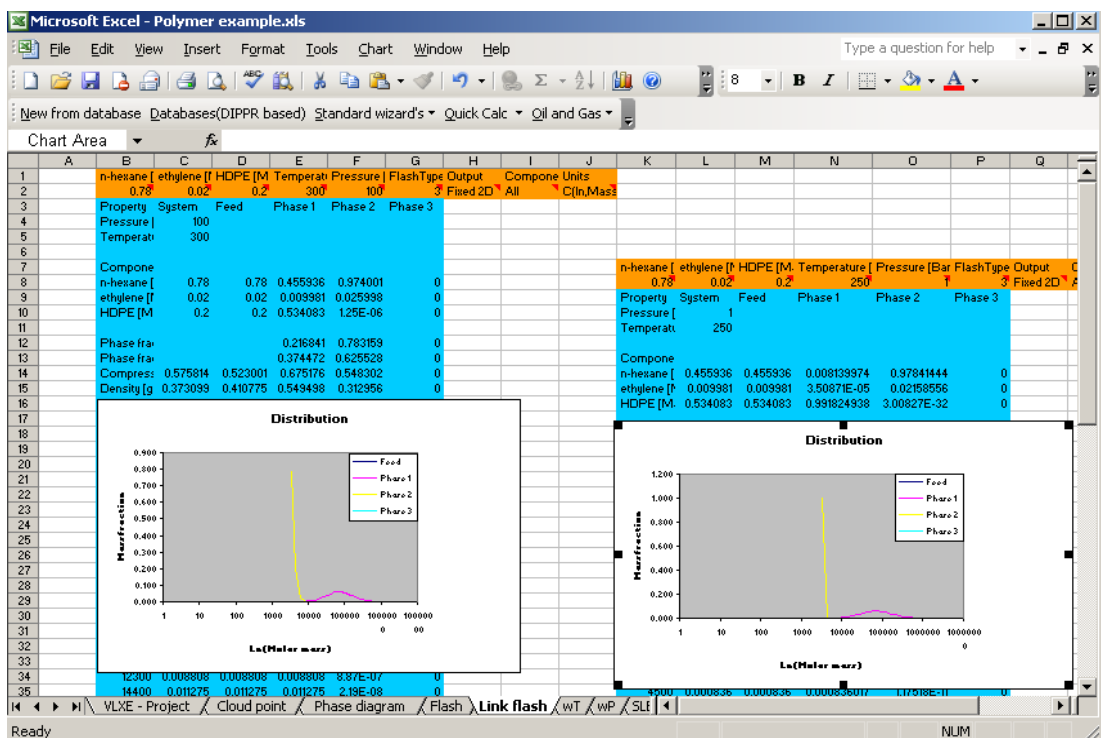
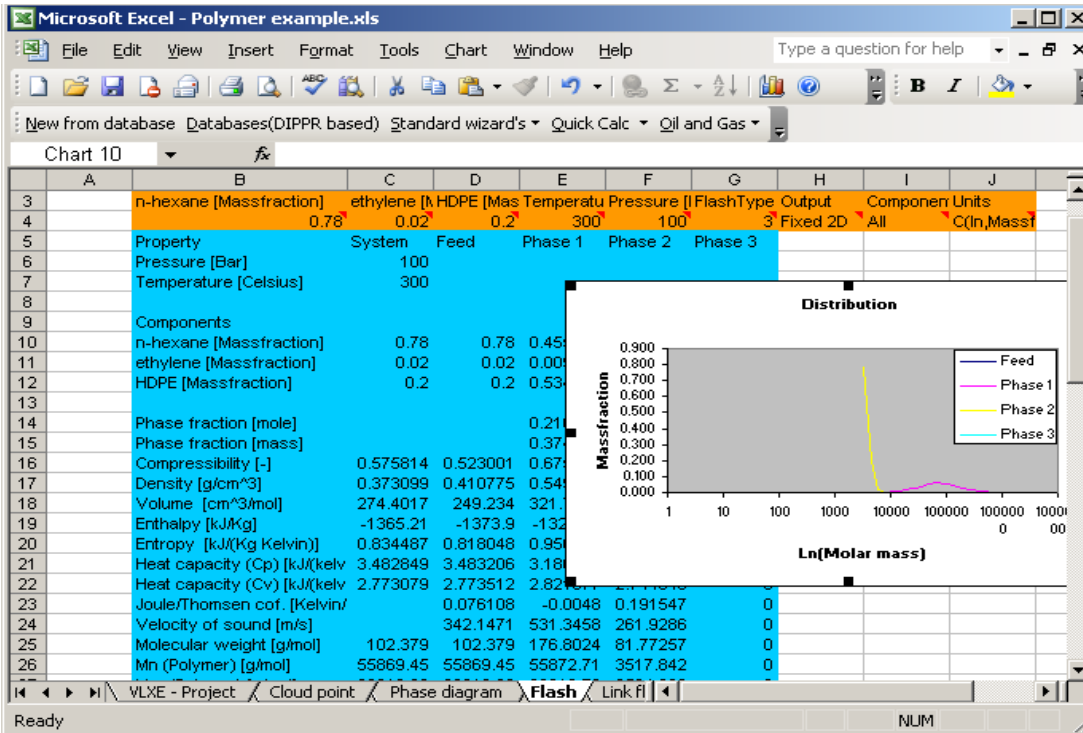
phase envelope



Polymer Mass Fraction Verses Temperature (Tw)

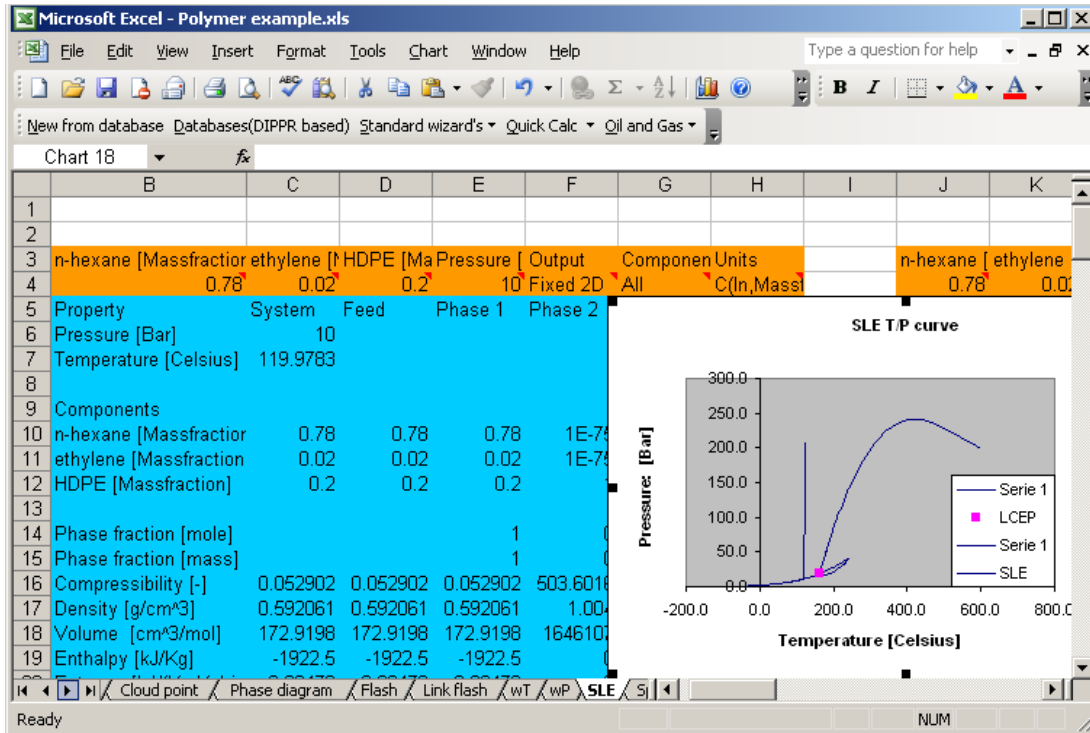
VLXE Examples

Flash Calculation

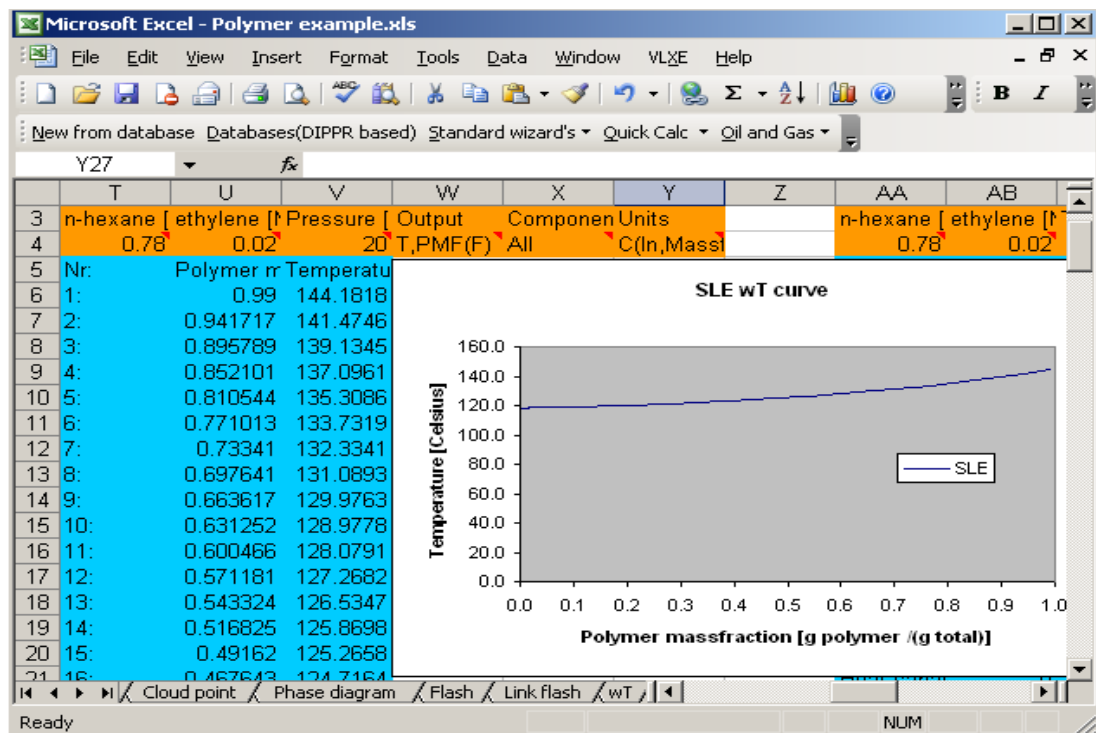


VLXE Examples

SLE



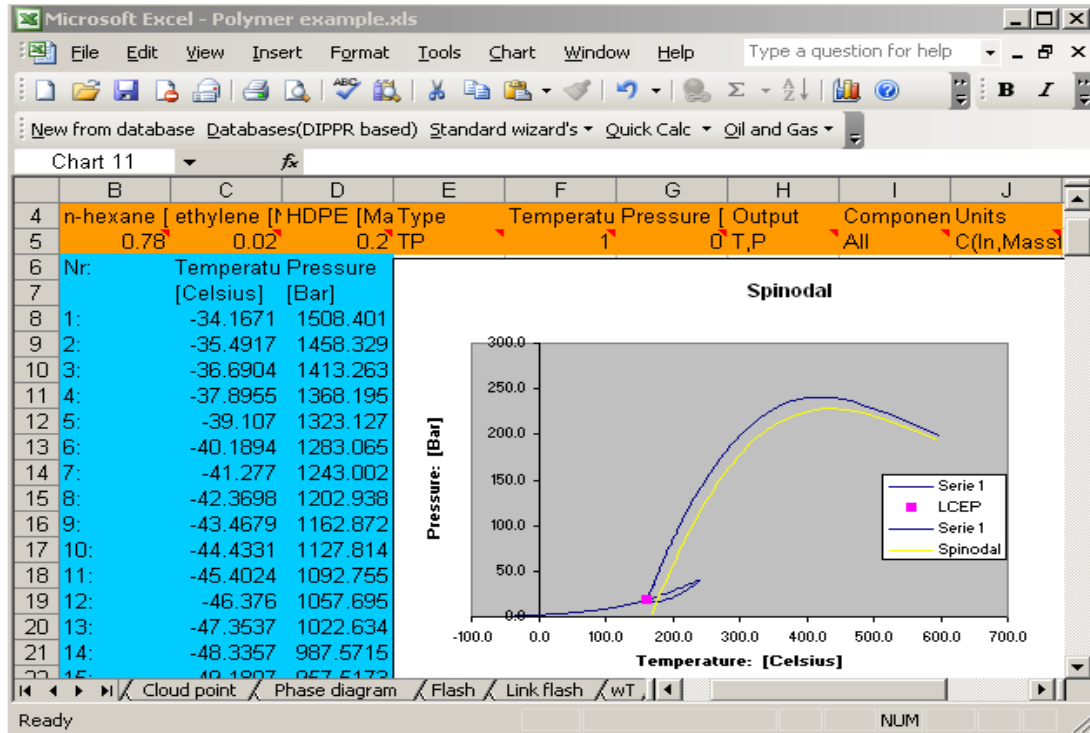
SLE T/P Curve



Effect of polymer mass fraction with temperature

VLXE Examples

Spinodal



Spinodal

VLXE is accessible on our website and may be downloaded. If you are interested and would like more information please contact VLXE by means of any of the following address

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