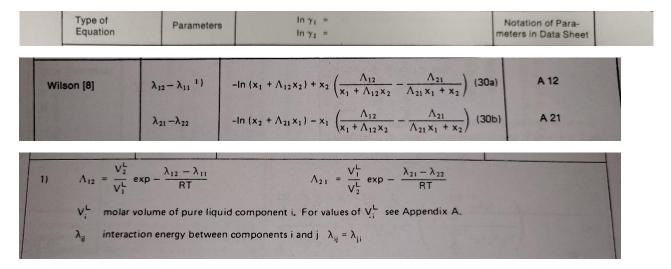
SYSTEM -

Water and Pyridine

Activity Coefficient Model -

Wilson



Parameters are given in cal/mol with the gas.

2. Antoine Vapor Pressure Equation

The Antoine vapor pressure equation is used in the following form:

$$\log[p_i^0] = A - \frac{B}{t+C} \tag{70}$$

with [p_i⁰] vapor pressure of pure component i in mm Hg
t temperature in degrees Celsius (° C)

The Antoine constants A, B, and C are given with respective temperature regions (in $^{\circ}$ C).

Note- Here it is log (Base 10).

Value of Constants

(1) WATER		H2O		
(2) PYRIDINE		C5H5N		
+++++ ANTOINE CONSTANTS (1) 8.07131 1730.630 (2) 7.04115 1373.799	REGION +++++ 233.426 1- 100 C 214.979 67- 153 C	CONSISTENCY METHOD 1 METHOD 2 +		
PRESSURE= 760.00 MM HG	(1.013 BAR)			

CONSTANTS:	A12	A21	α ₁₂	γ_1^{∞}	γ ₂ [∞]	OBJECTIVE FUNCTION	
MARGULES VAN LAAR WILSON NRTL UNIQUAC	.4767 .7927 1098.7901 1999.3885 -630.0054	2.3102 2.9264 1266.6728 328.3587 841.3075	.6092	1.61 2.21 2.41 2.61 2.47	10.08 18.66 24.28 20.79 14.58	1.7458 G .2208 G .0796 G .0736 G .4602 G	

Please take data corresponding to Wilson

There is no alpha12 for Wilson.

T-X-Y Data

T DEG C	RIMENTAL X1	DATA Y1
115.50 111.30 109.30 107.90 107.90 106.60 104.70 103.70 103.70 101.70 99.70 99.550 997.420 995.50 995.40 995.50 994.70 994.60 994.90 994.90 995.30 996.30 996.30 996.30	0.0000 .00490 .0756 .09367 .1097 .1366 .1525 .16640 .1740 .19652 .26771 .2743 .35910 .4633 .54644 .65022 .6923 .7761 .8019 .8703 .88961 .95029 .9707 .9824	0.017463 .24639 .301576 .336008 .401299 .336008 .441299 .551357 .664099 .688600 .772978 .7766960 .772978 .776916 .77829 .77829 .77829 .77829 .77829 .77829 .78507 .78507 .8834927 .8834927

Take the molar volume from NIST Database. If not available there, please contact the TA's (Sandra and Krishna).

All data taken from Dechema Chemistry Data Series.