UNIVERSITY OF CALGARY

**The Prediction of Viscosity for Mixtures Using a Modified Square
Well Intermolecular Potential Model**

by

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ABSTRACT

In the chemical and process industries, the viscosity of pure components and mixtures is an important fluid property in hydraulics, heat transfer, and mass transfer. Hence, there is a definite need for a reliable and accurate method for mixture viscosity calculations that covers the entire density range for a wide variety of components.

The Modified Square Well Intermolecular Potential viscosity model developed by Monnery (1995a) to predict pure component viscosities offers a good compromise between realism and practicality. In this work, the square well model is extended to mixtures. A total of 276 binary mixtures, including non-polar and polar components, were used to regress binary interaction parameters for the mixing rules. The mixture viscosities predicted fell within 10% average absolute deviation for gases, dense phase, and liquids. An attempt made to generalize the binary interaction parameters in order to maintain the predictive nature of the model was unsuccessful.

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NOMENCLATURE

(Context dependent)

A	=	Area, m ²
b	=	Excluded volume, cm ³ /mol
C	=	Square well model correction, or
	=	Specific modulus of viscosity
F	=	Force, N
F_{ij}	=	Force between particles i and j , N
f	=	Distribution function
$g(\sigma_1)$	=	Square well radial distribution function at repulsion diameter
$g(R\sigma_1)$	=	Square well radial distribution function at attraction diameter
G_{ij}	=	Binary interaction parameter in Grunberg-Nissan equation
k	=	Boltzmann's constant = 1.38048×10^{-23} J/K
k_{ij}	=	Binary interaction parameter
$k_0...k_4$	=	Parameters in square well model correction
l_{ij}	=	Binary interaction parameter
m	=	Mass of one molecule, kg
M	=	Molar mass, kg/kmol
n_{ij}	=	number of j th groups in compound i
P	=	Pressure, kPa
$\mathbf{p}$	=	Momentum, g·m/s
r	=	Molecular radial distance, m
$\mathbf{r}$	=	Molecule position, m
R	=	Universal gas constant = 8.314 J/kmol·K, or
	=	Square well width parameter
t	=	Time, s
T^*	=	Dimensionless temperature = kT/ε

T	=	Temperature, K
V	=	Velocity, m/s, or
	=	Molar volume, cm ³ /gmol
v	=	Velocity component, m/s, or
	=	Volume fraction
	=	Specific volume
w	=	Weight fraction
x	=	Mole fraction
Y	=	Distance, m
Z	=	Compressibility factor

Greek Letters

ρ	=	Density, cm ³ /gmol or cm ³ /mol
α	=	Perturbation parameter, or
	=	Radial distribution function perturbation expansion parameter
ε	=	Intermolecular potential attractive energy well depth, J
μ	=	Dipole moment, debyes
μ_r	=	Reduced dipole moment
κ	=	Association parameter
ξ_T	=	Viscosity reduction parameter
η	=	Viscosity, mPa·s
η_o	=	Hard-sphere dilute gas viscosity, mPa·s
σ	=	Collision diameter, m
τ	=	Shear stress, N/m ²
$\phi(r)$	=	Intermolecular potential function, J
ϕ_{ij}	=	Parameter, Brokaw(1969), Wilke(1950), and Heming-Zipperer(1936)
ϕ	=	Fluidity = 1/ η

ψ_1, ψ_2	=	Square well model parameter
ω	=	Acentric factor
Ω^*	=	Collision integral

Subscripts/Superscripts

c	=	Critical
G, g	=	Gas
i	=	Component i in a mixture
L	=	Liquid
m	=	Mixture
r	=	Reduced
SW	=	Square Well

INTRODUCTION

1.1 Concept of Viscosity

Viscosity in simplest terms can be defined as the resistance of a fluid to deformation. (Heidemann et al., 1987). It can also be thought of as internal friction, where momentum is transferred between molecules. Consider a confined fluid between two parallel plates separated by a distance, Y , with the top plate moving at a constant velocity, V , and the bottom plate stationary, Figure 1.1.

Figure 1.1: Velocity Profile for a Fluid Between Two Parallel Plates

Imagine the fluid as a series of thin, parallel layers each with a thickness dy and with each successive layer moving a little faster than the layer below it by an amount dv_x (Bretsznajder, 1971), where v_x denotes the velocity in the x -direction. Therefore, the velocity gradient is linear and equivalent to dv_x/dy . In order to maintain the constant velocity of the top plate, a force, F , must be applied against the viscous drag of the fluid. This can be expressed as:

$$\frac{F}{A} = \eta \left(\frac{V}{Y} \right) \quad (1.1)$$

Where A is the area of contact between the plate and the fluid, or more explicitly as,

$$\tau_{yx} = -\eta \left(\frac{dv_x}{dy} \right) \quad (1.2)$$

The shear stress, τ_{yx} , is equal to the resistance of the fluid to deformation caused by the force, F , applied to the plates and is a function of the velocity gradient as seen in Equation 1.2. The coefficient, η , in Equation 1.1 and 1.2 is referred to as the coefficient of internal friction, dynamic coefficient of viscosity, dynamic viscosity, or more simply, viscosity. This expression is known as Newton's law of viscosity and the negative sign indicates that the viscous force acts in the opposite direction to the motion of the fluid. Fluids that behave according to Equation 1.2 are termed Newtonian fluids.

1.2 Importance of Viscosity

The fundamental purpose of a chemical engineer is to design and operate plants that convert raw materials into usable end products. With this goal in mind, it is obvious that an engineer must deal with a plethora of processes and chemical components at varying stages. In modeling these processes, it is critical to have the appropriate thermodynamic, physical, and transport properties available for use.

Viscosity is one of the transport properties commonly required in modeling and, more specifically, is important in the calculation of heat and mass transfer and hydraulics. Viscosity is essential in the calculation of important dimensionless groups, including Reynolds, Prandtl, and Sherwood numbers, which are used to correlate heat and mass transfer coefficients. Similarly, Reynolds number is used to calculate pressure drop, which is crucial in hydraulic calculations. In the area of process design, viscosity is needed for the design of any unit operation in which heat and mass transfer and/or hydraulics plays a critical role, i.e. heat exchangers, reactors, distillation columns, etc. Since hydraulics are influenced in part by viscosity, it is easy to see how this transport

property would also be important in pipe networks and flow through porous media, i.e. reservoir flow.

Since viscosity is critical in such a wide range of areas, there is a definite need for a means of obtaining viscosity, not only for pure components but also for mixtures. It is not feasible to rely on experimental viscosity data alone, particularly once mixtures are considered since the amount of data needed increases exponentially. It is therefore essential that a model is available which accurately and consistently predicts viscosity for gas, liquid, and dense phase mixtures.

1.3 Research Objectives

The primary goal of this research is to extend the Modified Square Well Intermolecular Potential (MSWIP) viscosity model developed by Monnery (1995a) to predict mixture viscosity for gases, liquids, and dense fluids. In doing so, it is mandatory to maintain the MSWIP model's simplicity and predictive nature (theory of the MSWIP model is discussed in greater detail under Chapter 3). In other words, no additional input parameters should be needed for the mixing rules and an attempt should be made to generalize the optimized binary interaction parameters obtained.

As well, based on the types of calculations that viscosity is used in, an additional objective in the development of mixing rules for the MSWIP model is to predict viscosity within 10% error of experimental data. This is reasonable since the experimental data are typically only accurate to within 5 to 15% depending on whether it is gas, liquid, or dense phase data (Monnery, 1995a).

1.4 Summary

This chapter introduces the concept of viscosity as well as discussing its importance to chemical engineering. The research objectives for this research are also outlined.

The remainder of this thesis summarizes the research accomplished as outlined in the research objectives. Chapter 2 is a literature review that covers some of the more prevalent models for gas, liquid, and dense phase viscosity calculations. Chapter 3 provides the necessary background for the Modified Square Well Intermolecular Potential (MSWIP) viscosity model for pure component viscosity calculation, which is simple to use and covers gas, liquid, and dense phases. The experimental database compiled for the research as well as the property data used are discussed in Chapter 4. The final results of the MSWIP model's extension to mixtures are summarized in Chapter 5. Finally, conclusions and recommendations for future work are presented in Chapter 6.

CHAPTER TWO

LITERATURE REVIEW

There is a plethora of models available to predict the viscosity of both pure components and mixtures. Touloukian et al. (1975), Stephan and Lucas (1979), Reid et al. (1987), Viswanath and Natarajan (1989), and Monnery et al. (1995a,b) give excellent reviews of the various viscosity models available. Since the focus of this work deals with the viscosity of mixtures, only those models that predict mixture viscosity will be discussed. The models that are used as part of this work will be covered in detail, with only a brief description of the others to avoid repeating what has already been very well documented in detail by the reviews mentioned above. As well, any models used to predict the viscosity of heavy hydrocarbons will not be discussed since the prediction of these types of mixtures is not addressed in this work.

Viscosity models can be classified in three different categories:

1. Theoretical
2. Semi-Theoretical
3. Empirical

While theoretical models are derived purely from statistical mechanics and collision theory, semi-theoretical models are based on a theoretical framework with parameters that are adjustable and determined from experimental data. Empirical models on the other hand are developed solely on the correlation of experimental data.

Mixture viscosity models can be broken into two broad categories; those that mix the model parameters and those that mix the pure component viscosities, Figure 2.1.

Figure 2.1: Mixture Viscosity Model Categorization

2.1 Gas Phase Mixture Models

Gas phase viscosity is described well by the kinetic theory of gases and is primarily a function of momentum transfer by translation of the molecules across a plane in space with relatively few collisions or interactions.

Elementary kinetic theory is the simplest way to model the gases showing the relationship between viscosity, temperature, pressure, and molecular size. This theory assumes that the molecules are rigid, non-interacting spheres with a diameter σ , and the viscosity equation derived for molecules with molecular weight, M , is then:

$$\eta_o = (26.69) \frac{(MT)^{1/2}}{\sigma^2} \quad (2.1)$$

If the elementary kinetic theory is taken one step further to include the intermolecular forces, the theory of Chapman and Enskog (Chapman and Cowling, 1939) can be applied using an intermolecular potential function, $\phi(r)$. The Chapman-Enskog viscosity equation is similar to Equation 2.1 but includes the collision integral, Ω^* , which is calculated using an intermolecular potential function, Equation 2.2.

$$\eta_{CE} = (26.69) \frac{(MT)^{1/2}}{\Omega^* \sigma^2} \quad (2.2)$$

The Chapman-Enskog theory contains several assumptions in the derivation of Equation 2.2, which include:

1. the gas is dilute so only binary collisions occur,
2. classical mechanics can describe the motion of the molecules during a collision,
3. only elastic collisions occur,
4. the intermolecular forces act between fixed centers of the molecules (intermolecular potential function is spherically symmetric).

These assumptions obviously limit the applicability of Equation 2.2 to low pressure, high temperature, monatomic gases. However, the theory is often applied to polyatomic gases due to a lack of other manageable, alternative models.

The viscosity of gas mixtures can be a complex function of composition for which there may be a maximum in viscosity. Maxima generally occur under one of three scenarios:

1. when one component is polar and the other is nonpolar,
2. when the viscosities of the pure gases are approximately equal,
3. when the molecular weight of the components differ greatly.

Hirschfelder et al. (1961) employed the Chapman-Enskog theory to calculate the viscosity of binary gas mixtures. These rigorous calculations do not often lend themselves to practical applications since they entail the use of characteristics of the components that are usually unknown. However, these equations serve as a basis for simpler semi-theoretical equations that can be used to rapidly calculate the viscosity of gas mixtures with satisfactory accuracy, $\pm 5\%$ as discussed in the next section.

2.1.1 Kinetic Theory Models - Mixing Equations for Pure Component Viscosity

The rigorous Chapman-Enskog theory has been simplified and extended to predict gas mixture viscosity by several investigators, including Herning and Zipperer (1936), Wilke (1950), Brokaw (1969), and Reichenberg (1979).

The extension of the Chapman-Enskog theory given by Herning and Zipperer, Wilke, and Brokaw uses Equation 2.3 with differing definitions for ϕ_{ij} , increasing in complexity respectively.

$$\eta_{om} = \frac{\sum_i^n x_i \eta_i}{\sum_j x_j \phi_{ij}} \quad (2.3)$$

Herning-Zipperer:

$$\phi_{ij} = \sqrt{\frac{M_j}{M_i}} = \frac{1}{\phi_{ji}} \quad (2.4)$$

Wilke:

$$\phi_{ij} = \frac{\left[1 + \left(\frac{\eta_i}{\eta_j} \right)^{1/2} \left(\frac{M_j}{M_i} \right)^{1/4} \right]^2}{\left[8 \left(1 + \left(\frac{M_i}{M_j} \right) \right) \right]^{1/2}} \quad (2.5)$$

$$\phi_{ji} = \phi_{ij} \left(\frac{\eta_j}{\eta_i} \right) \left(\frac{M_i}{M_j} \right) \quad (2.6)$$

Brokaw:

$$\phi_{ij} = \left(\frac{\eta_i}{\eta_j} \right)^{1/2} A_{ij} S_{ij} \quad (2.7)$$

$$A_{ij} = m_{ij} \left(\frac{M_i}{M_j} \right)^{-1/2} \left[1 + \left(\frac{N_{ij}}{D_{ij}} \right) \right] \quad (2.8)$$

$$N_{ij} = \left(\frac{M_i}{M_j} \right) - \left(\frac{M_i}{M_j} \right)^{0.45} \quad (2.9)$$

$$D_{ij} = 2 + \left(1 + \frac{M_i}{M_j} \right) + m_{ij} \left[\frac{1 + \left(\frac{M_i}{M_j} \right)^{0.45}}{(1 + m_{ij})} \right] \quad (2.10)$$

$$m_{ij} = \left(\frac{4M_i M_j}{(M_i + M_j)^2} \right)^{1/4} \quad (2.11)$$

For nonpolar ($\mu_{r,i}, \mu_{r,j} < 0.1$)

$$S_{ij} = 1.0 \quad (2.12)$$

For polar:

$$S_{ij} = \frac{\left[\left(1 + T_i^* T_j^* \right)^{1/2} + \left(\frac{\mu_{r,i} \mu_{r,j}}{4} \right) \right]}{\left[\left(1 + T_i^* + \frac{\mu_{r,i}^2}{4} \right)^{1/2} \left(1 + T_j^* + \frac{\mu_{r,j}^2}{4} \right)^{1/2} \right]} \quad (2.13)$$

One of the benefits of using either Herning and Zipperer or Wilke is the simplicity of the calculation, which requires only molecular weight and pure component viscosity,

whereas Brokaw requires the reduced dipole moment, μ_r , and the dimensionless temperature, T^* .

The method of Reichenberg (1979) is also a simplified extension of the Chapman-Enskog theory to mixtures with a polar correction. This model is the most complex of the four but has been shown to be consistently accurate when tested against different binary systems (Reid et al. 1987). The required inputs for the model are the pure gas viscosity at the temperature of the system, the molecular weight, dipole moment, critical temperature, and critical pressure for each component in the mixture.

$$\eta_m = \sum_{i=1}^n K_i \left(1 + 2 \sum_{j=1}^{i-1} H_{ij} K_j + \sum_{j=1}^n \sum_{k=1}^n H_{ij} H_{ik} K_j K_k \right) \quad (2.14)$$

$$H_{ij} = \left[\frac{M_i M_j}{32(M_i + M_j)^3} \right]^{1/2} (C_i + C_j)^2 \left[1 + (0.36) T_{r,ij} (T_{r,ij} - 1) \right]^{1/6} \left(\frac{F_{r,ij}}{T_{r,ij}^{0.5}} \right) \quad (2.15)$$

$$K_i = \frac{x_i \eta_i}{\left(x_i + \eta_i \sum x_k H_{ik} \left[3 + \left(\frac{2M_k}{M_i} \right) \right] \right)} \quad (2.16)$$

$$C_i = \frac{M_i}{(\eta_i U_i)^{1/2}} \quad (2.17)$$

$$U_i = \left[1 + 0.36 T_{r,i} (T_{r,i} - 1) \right]^{1/6} \left(\frac{F_{r,i}}{T_{r,i}} \right) \quad (2.18)$$

$$F_{r,i} = \frac{\left[T_{r,i}^{3.5} + (10 \mu_{r,i})^7 \right]}{\left[T_{r,i} (1 + (10 \mu_{r,i})^7) \right]} \quad (2.19)$$

$$T_{r,ij} = \frac{T}{(T_{c,i} T_{c,j})} \quad (2.20)$$

Parameter $F_{r,ij}$ is obtained from Equation 2.19 with $T_{r,i}$ replaced by $T_{r,ij}$ and $\mu_{r,i}$ replaced by:

$$\mu_{r,ij} = (\mu_{r,i} \mu_{r,j})^{1/2} \quad (2.21)$$

Reid et al. (1977, 1987) compared these four methods using 10 randomly selected binary gas mixtures. The average absolute deviations (AADs) for Herning-Zipperer, Wilke, Brokaw, and Reichenberg methods were 3.5%, 3.0%, 2.6%, and 1.7%, respectively. These impressive statistics are somewhat deceiving since the majority of the systems used in the comparison are comprised of simple and / or nonpolar compounds.

All four simplified kinetic theory models discussed here require pure component viscosity as input and are essentially interpolative equations between the pure component viscosities. Pure component viscosity is not always available at the desired system temperature, in which case a predictive method for pure component gas viscosity needs to be used in conjunction with these models.

2.1.2 Corresponding States Models - Parameter Mixing

Another approach to predicting gas mixture viscosity is to use the method of corresponding states where pure component estimation methods are employed with mixing and combining rules that relate the properties of the mixture to the pure component properties and to composition. With this approach, the need for pure component viscosity is eliminated.

The Chung et al. (1984) method for gas mixtures uses a factor, f_m , which corrects for shape and polarity of the molecules and is as follows:

$$\eta_{om} = 4.0785 \times 10^{-5} \left[\frac{(M_m T)^{1/2}}{V_{cm}^{2/3} \Omega^*} \right] f_m \quad (2.22)$$

$$f_m = 1 - 0.275\omega_m + 0.059035\mu_{r,m}^4 + \kappa_m \quad (2.23)$$

$$\sigma_m^3 = \sum_i \sum_j x_i x_j \sigma_{ij}^3 \quad (2.24)$$

$$\frac{\varepsilon_m}{k} = \frac{\left[\sum_i \sum_j x_i x_j \left(\frac{\varepsilon_{ij}}{k} \right) \sigma_{ij}^3 \right]}{\sigma_m^3} \quad (2.25)$$

$$V_{c,m} = \left(\frac{\sigma_m}{0.809} \right)^3 \quad (2.26)$$

$$T_{c,m} = 1.2593 \left(\frac{\varepsilon_m}{k} \right) \quad (2.27)$$

$$\omega_m = \sum_i \sum_j \frac{x_i x_j \omega_{ij} \sigma_{ij}^3}{\sigma_m^3} \quad (2.28)$$

$$M_m = \left(\frac{\sum_i \sum_j x_i x_j \left(\frac{\varepsilon_{ij}}{k} \right) \sigma_{ij}^2 M_{ij}^{0.5}}{\left(\frac{\varepsilon_m}{k} \right) \sigma_m^2} \right)^2 \quad (2.29)$$

$$\mu_m^4 = \left(\frac{\sum_i \sum_j x_i x_j \mu_i^2 \mu_j^2}{\left(\frac{\varepsilon_{ij}}{k} \right) \sigma_{ij}^3} \right) \left(\frac{\varepsilon_m}{k} \right) \sigma_m^3 \quad (2.30)$$

$$\kappa_m = \sum_i \sum_j x_i x_j \kappa_{ij} \quad (2.31)$$

$$\mu_{r,m} = \frac{(131.3)\mu_m}{(V_{c,m} T_{c,m})^{0.5}} \quad (2.32)$$

$$T_m^* = \frac{T}{\left(\frac{\varepsilon_m}{k} \right)} \quad (2.33)$$

Combining Rules:

$$\sigma_{ij} = \xi_{ij} (\sigma_i \sigma_j)^{1/2} \quad (2.34)$$

$$\varepsilon_{ij} = \zeta_{ij} (\varepsilon_i \varepsilon_j)^{1/2} \quad (2.35)$$

$$M_{ij} = \frac{2M_i M_j}{(M_i + M_j)} \quad (2.36)$$

$$\omega_{ij} = (\omega_i + \omega_j)^{1/2} \quad (2.37)$$

$$\kappa_{ij} = (\kappa_i \kappa_j)^{1/2} \quad (2.38)$$

The binary interaction parameters, ξ and ζ , are normally set to unity. This method is also extendable to liquid and dense phase viscosity. When tested against 40 binary gas mixtures, including nonpolar + nonpolar, nonpolar + polar, and polar + polar systems, viscosities were predicted with an AAD of 4% with binary interaction parameters.

Lucas (1980) used the following mixing rules in conjunction with his proposed corresponding states method for prediction of pure component gas viscosity, which is discussed in detail by Reid et al. (1987):

$$T_{cm} = \sum_i x_i T_{ci} \quad (2.39)$$

$$P_{cm} = RT_{cm} \frac{\sum_i x_i Z_{ci}}{\sum_i x_i V_{ci}} \quad (2.40)$$

$$M_m = \sum_i x_i M_i \quad (2.41)$$

$$F_{pm}^o = \sum_i x_i F_{pi}^o \quad (2.42)$$

$$F_{Qm}^o = \left(\sum_i x_i F_{Qi}^o \right) A \quad (2.43)$$

In Equation 2.42 and 2.43, F_P^o and F_Q^o are correction factors that account for polarity and quantum effects, respectively.

If for:

$$\frac{M_H}{M_L} > 9 \text{ and } 0.05 < x_H < 0.7:$$

$$A = 1 - 0.01 \left(\frac{M_H}{M_L} \right)^{0.87} \quad (2.44)$$

Where subscript H denotes the mixture component with the highest molecular weight and subscript L denotes the component with the lowest molecular weight.

$$\text{Otherwise: } A = 1 \quad (2.45)$$

Lucas correlated experimental data with an AAD of 5%, although no details of the correlation were given. In Reid et al. (1987), this method was tested against several binary systems and gave reasonable results in most cases, within a 10% deviation.

2.1.3 Empirical Models

Dean and Stiel (1965) extended the empirical method of Stiel and Thodos (1961), which expresses the viscosity as a function of reduced temperature, T_r , along with a reduction parameter, ξ_r , to nonpolar mixtures. They applied the simple mixing rules of Prausnitz and Gunn (1958) and a reduction parameter defined for mixtures, ξ_m , Equation 2.46.

$$\xi_m = \frac{T_{c,m}^{1/2}}{\left(M_m^{1/2} P_{c,m}^{2/3} \right)} \quad (2.46)$$

Where:

$$P_{c,m} = \frac{Z_{c,m} R T_{c,m}}{V_{c,m}} \quad (2.47)$$

$$T_{c,m} = \sum_i x_i T_{ci} \quad (2.48)$$

$$V_{c,m} = \sum_i x_i V_{ci} \quad (2.49)$$

$$Z_{c,m} = \sum_i x_i Z_{ci} \quad (2.50)$$

$$M_m = \sum_i x_i M_i \quad (2.51)$$

Dean and Stiel used this method to correlate experimental data for 22 nonpolar binary mixtures with an AAD of 1.7%.

2.2 Dense Gas and Liquid Phase Mixture Models

Dense gas and liquid phase viscosity are more complex than gas phase viscosity since the molecules are closely packed so that collisions and interacting force fields between the molecules dominate the momentum transfer. This complicates the theoretical description of liquid viscosity, and hence, there is no widely accepted simple theoretical model to calculate dense gas and liquid viscosity. At temperatures below the normal boiling point, the logarithm of the viscosity varies linearly with the inverse of the reduced temperature. Above the normal boiling point, this simple correlation no longer holds requiring more sophisticated prediction techniques to estimate liquid viscosities.

In the case of liquid viscosity, the shape of the curve of mixture viscosity as a function of composition depends on the mixture components. Ideal mixtures are linear in shape and relatively non-polar, while non-ideal mixtures often exhibit a maximum or a minimum and in some cases both. An example of an ideal liquid mixture is toluene and benzene, while water and isopropanol is an excellent example of a non-ideal liquid mixture.

As was the case with gas viscosity, there are also two approaches to predicting liquid mixture viscosity, models that mix pure component viscosity and models that mix the parameters.

2.2.1 Pure Component Viscosity Mixing Equations

Irving (1977a,b) presented a review of various viscosity mixture equations and found that additive equations were only effective for binaries where the two components are similar and use should be restricted to nonpolar + nonpolar systems. The most effective equations are of parabolic form with one adjustable parameter (an interaction parameter determined by fitting experimental viscosity data). In particular, the one-constant Grunberg-Nissan equation is recommended by Irving.

The equations reviewed by Irving are categorized and described briefly below, excluding the kinematic viscosity equations and equations requiring parameters that are not always readily available, such as the energy of vaporization, Souders' viscosity constants (Souders, 1938), and other component-specific constants. The kinematic viscosity equations were discussed but not tested by Irving (1977b) because there was not enough kinematic viscosity data available at the time. The equations requiring other parameters were not tested because they had not been thoroughly tested elsewhere in the literature, making it impossible to make definitive judgements on their usefulness. The Grunberg-Nissan equation is described in detail later in this section since it is used in this work for comparative purposes.

Although the kinematic viscosity equations discussed by Irving (1977a) are not detailed here, there is one particular equation worthy of mention that was developed by McAllister (1960) for determining binary mixture viscosity. The McAllister equation is a cubic equation in composition with two adjustable parameters. The equation is based on

Eyring's theory of absolute reaction rates with a three-body model and allows for a maximum, minimum, neither, or both in the viscosity as a function of mole fraction.

2.2.1.1 Additive Equations

In general, Irving found that the existing additive equations give unsatisfactory results, predicting with errors greater than 10% when pure component viscosities were widely different. The conclusion was drawn that these equations should really only be used for ideal mixtures, i.e. nonpolar + nonpolar, in which there is little or no volume change upon mixing. Some of the more useful equations of this type are as follows.

Arrhenius (1887)

The Arrhenius equation is more effective at higher temperatures, but is generally inadequate.

$$\ln \eta = v_1 \ln \eta_1 + v_2 \ln \eta_2 \quad (2.52)$$

Kendall and Monroe's (1917) attempt to improve the effectiveness by using weight, w , or mole fraction, x , instead of volume fraction, v , proved to be ineffective.

Lees (1901)

Fluidity, ϕ , is defined as the inverse of dynamic viscosity, η .

$$\phi^m = v_1 \phi_1^m + v_2 \phi_2^m \quad (2.53)$$

In Equation 2.53, m is a constant. Lees' equation can not take into account either a maximum or a minimum in the viscosity curve.

Bingham (1906, 1913)

Bingham's equation is similar to Lees' except weight fraction is used in place of volume fraction.

$$\phi = w_1 \phi_1 + w_2 \phi_2 \quad (2.54)$$

Findlay (1909)

Equation 2.55 is similar to 2.53 but without the constant, m , and offers no advantage over Bingham's equation, Equation 2.54.

$$\phi = v_1\phi_1 + v_2\phi_2 \quad (2.55)$$

Kendall and Monroe (1917, 1920)

The equation proposed by Kendall and Monroe is for ideal mixtures only, where there is no volume change or heat change upon mixing.

$$\eta^{1/3} = x_1\eta_1^{1/3} + x_2\eta_2^{1/3} \quad (2.56)$$

Lautié (1946)

Equation 2.57 was devised for normal mixtures that do not show either a maximum or minimum when the viscosity is plotted as a function of concentration.

$$\phi^{1/3} = x_1\phi_1^{1/3} + x_2\phi_2^{1/3} \quad (2.57)$$

2.2.1.2 Parabolic Equations

Parabolic type equations have one adjustable constant, C . Of all the equations of this type the most effective are those that use $\ln(\eta)$ as the function of viscosity. Irving (1977b) found that the Grunberg-Nissan equation was one of the most effective and widely applicable, yet simple of equations.

Dolezalek (1913)

$$\eta = v_1^2\eta_1 + v_2^2\eta_2 + 2v_1v_2C \quad (2.58)$$

Sachanov and Rjachowsky (1914)

$$\eta = x_1^2\eta_1 + x_2^2\eta_2 + 2x_1x_2C \quad (2.59)$$

Where:

$$C = (\eta_1 \eta_2)^{1/2} \quad (2.60)$$

Van der Wyk (1936)

$$\ln \eta = x_1^2 \ln \left(\frac{\eta_1 \eta_2}{\eta_{12}} \right) + 2x_1 \ln \left(\frac{\eta_2}{\eta_1} \right) + \ln \eta_2 \quad (2.61)$$

Where:

η_{12} = coefficient of internal friction

Equation 2.61 can be rearranged into the less cumbersome form:

$$\ln \eta = x_1^2 \ln \eta_1 + x_2^2 \ln \eta_2 + 2x_1 x_2 C \quad (2.62)$$

Equation 2.62 is identical to that derived by Frenkel (1946), who approached the problem from an activation energy viewpoint.

Grunberg and Nissan (1949a, 1949b, 1954)

The constant in Equation 2.63 is a characteristic constant of the system that can assume both negative and positive values, allowing for negative and positive deviations from the additive type equations. Details of the Grunberg-Nissan method can be found at the end of this section.

$$\ln \eta = x_1 \ln \eta_1 + x_2 \ln \eta_2 + 2x_1 x_2 C \quad (2.63)$$

Hind, McLaughlin, and Ubbelohde (1960)

$$\eta = x_1^2 \eta_1 + x_2^2 \eta_2 + 2x_1 x_2 C \quad (2.64)$$

Where:

$$C = \eta_{12} \quad (2.65)$$

The parameter, η_{12} , is normally attributed to unlike pair interactions and is approximately equal to $0.5 (\eta_1 + \eta_2)$. However, this relation is not sufficiently accurate for prediction purposes.

2.2.1.3 Equations with Mixture Density

Equations tested by Irving that require mixture density, ρ , were generally found inadequate compared to the Arrhenius (additive) and Grunberg-Nissan (parabolic) type equations. Of those equations tested, the Chacravarti equation (1947) was by far the most effective for mixture density equations, but was still not as accurate as the Grunberg-Nissan equation.

Spells (1936)

Equation 2.66 was derived by assuming that a perfect mixture undergoing no volume change upon mixing would give a linear law for viscosity.

$$\eta = \eta_v \left(\frac{\rho}{\rho_v} \right)^{1/3} e^{\beta(\rho - \rho_v)} \quad (2.66)$$

Where:

$$\eta_v = v_1 \eta_1 + v_2 \eta_2 \quad (2.67)$$

$$\rho_v = v_1 \rho_1 + v_2 \rho_2 \quad (2.68)$$

Chakraborty and Ganguly (1937)

In Equation 2.69, C_1 and C_2 are constants. This equation does not contain the viscosity of the pure components and applies only to nonpolar liquids.

$$\ln \eta - \left(\frac{1}{3} \right) \ln \rho = C_1 + C_2 x_2 \quad (2.69)$$

Bhagwat and Mandloi (1946, 1948)

Equation 2.70 gave larger errors than the Arrhenius equation in most cases (Irving, 1977b).

$$\eta^{1/8} = \left(\frac{\rho}{x_1 M_1 + x_2 M_2} \right) \left(\frac{x_1 M_1 \eta_1^{1/8}}{\rho_1} + \frac{x_2 M_2 \eta_2^{1/8}}{\rho_2} \right) \quad (2.70)$$

Chacravarti (1947)

Chacravarti's equation is an extension of Equation 2.70, but uses weight fraction rather than mole fraction.

$$\eta^{1/8} = \left(\frac{\rho}{w_1 M_1 + w_2 M_2} \right) \left(\frac{w_1 M_1 \eta_1^{1/8}}{\rho_1} + \frac{w_2 M_2 \eta_2^{1/8}}{\rho_2} \right) \left(\frac{\rho}{w_1 \rho_1 + w_2 \rho_2} \right)^m \quad (2.71)$$

2.2.1.4 Free Volume Equations

These types of equations are based on Bachinskii's Law (Bachinskii, 1913) for pure liquids, in which v is the specific volume of the liquid in question, v_o is the limiting specific volume, and C is the specific modulus of viscosity:

$$\eta = \frac{C}{v - v_o} \quad (2.72)$$

Free volume equations are only applicable to non-associating liquids at atmospheric pressures, with temperatures higher than the freezing point since Bachinskii's equation, Equation 2.72, does not apply to temperatures near the freezing point.

Irving (1977b) did not test the equations listed in this group because they require knowledge of v_o , which can only be found from accurate mixture densities over a wide temperature range.

Meyer and Mylius (1920)

Equation 2.73 was derived with the assumption that free volume is additive and there is no change of volume in mixing. How C depends on the composition was left undetermined.

$$\phi = \frac{1}{C} (w_1 C_1 \phi_1 + w_2 C_2 \phi_2) \quad (2.73)$$

Macleod (1924, 1934)

$$\eta = \eta_1 x_1 \left(\frac{m_1}{m} \right) + \eta_2 x_2 \left(\frac{m_2}{m} \right) \quad (2.74)$$

Where:

m_i = the free space of the component $i = C_i \phi_i$

Gugel (1938)

Equation 2.75 is the same as that of Meyer and Mylius, Equation 2.73, but with the addition of Δv , the change of volume on mixing.

$$\phi = \frac{1}{C} (w_1 C_1 \phi_1 + w_2 C_2 \phi_2 + \Delta v) \quad (2.75)$$

Luchinskii (1941)

Equation 2.76 is suitable for ideal mixtures in which there is no change in volume upon mixing.

$$\phi = \frac{1}{C} (x_1 C_1 \phi_1 + x_2 C_2 \phi_2) \quad (2.76)$$

Kottler (1943)

Kottler, by assuming that the limiting specific volumes are additive, developed Equation 2.77. He states that the conditions for ideality are that both Δv and $\ln (MC_{12})$ are zero. These conditions correspond to a curve of fluidity against mole fraction that sags below a straight-line relationship.

$$\phi = \frac{1}{MC} (x_1 M_1 C_1 \phi_1 + x_2 M_2 C_2 \phi_2 + M \Delta v) \quad (2.77)$$

Where:

$$M = x_1 M_1 + x_2 M_2 \quad (2.78)$$

And C is defined by Equation 2.79:

$$\ln MC = x_1 \ln M_1 C_1 + x_2 \ln M_2 C_2 + x_1 x_2 \ln MC_{12} \quad (2.79)$$

2.2.1.5 Unclassified Equations

The unclassified equations tested by Irving (1977b) did quite well for nonpolar mixtures, but their performance was not as good as the Grunberg-Nissan predictions for polar and aqueous mixtures. As well, several equations in this category are unable to predict a minimum or maximum in mixture viscosity, including Lederer (1937), Roegiers and Roegiers (1948), and Cokelet, Hollander, and Smith (1969).

Cragoe (1933)

$$(\ln 20\eta)^{-1} = v_1 (\ln 20\eta_1)^{-1} + v_2 (\ln 20\eta_2)^{-1} \quad (2.80)$$

Lederer (1937)

$$\ln \eta = \left(\frac{x_1}{x_1 + x_2 s} \right) \ln \eta_1 + \left(\frac{x_2 s}{x_1 + x_2 s} \right) \ln \eta_2 \quad (2.81)$$

In Equation 2.81, s is defined as the degree of association between the component molecules and is a constant value that may be determined from experimental data.

Equation 2.81 is not able to describe a minimum or maximum in mixture viscosity, and therefore Irving (1977b) did not test it against these types of mixtures.

Ganguly and Chakraborty (1937)

Ganguly and Chakraborty proposed Equation 2.82, which is a modified Arrhenius equation in which a straight line is obtained when $\ln \eta$ is plotted as a function of mole

fraction. However, the line does not necessarily pass through the pure component points at either end of the concentration range. C_1 and C_2 are adjustable parameters.

$$\ln \eta = \ln \eta_1 + C_1 x_2 + C_2 \quad (2.82)$$

Tuomikoski (1942)

In Equation 2.83, p is a constant, V_1 and V_2 are the molar volumes of components one and two, and η_i is the ideal viscosity according to Arrhenius.

$$\frac{\eta - \eta_i}{\eta} = 1 - \left[\frac{\left(\frac{V_1}{V_2} \right)^{v_1}}{v_1 \left(\frac{V_1}{V_2} \right) + v_2} \right]^p \quad (2.83)$$

Equation 2.83 can not be applied when one of the components is partly associated.

Roegiers and Roegiers (1948)

$$\eta = \eta_2 \left(\frac{\eta_1}{\eta_2} \right)^{x_1 \alpha / (x_1 \alpha + x_2)} \quad (2.84)$$

Equation 2.84 was originally used with data on lubricating oil mixtures with α as a blending factor, but this equation can not describe a minimum or maximum in mixture viscosity. In Equation 2.84, x can be weight, mole, or volume fraction.

Tamura and Kurata (1952)

Equation 2.85 is a semi-empirical equation that works well when the difference in component viscosities is not very large.

$$\eta = x_1 v_1 \eta_1 + x_2 v_2 \eta_2 + 2(x_1 x_2 v_1 v_2)^{1/2} C \quad (2.85)$$

Sedgwick (1962)

$$\eta^2 = x_1^2 \eta_1^2 + x_2^2 \eta_2^2 + 2x_1 x_2 C^2 \quad (2.86)$$

Roelands (1966)

Equation 2.87 is based on Souders' formula (1938). The viscosity is in centipoise.

$$\log \log 10 \eta = v_1 \log \log 10 \eta_1 + v_2 \log \log 10 \eta_2 \quad (2.87)$$

Cullinan (1968)

Equation 2.88 is applicable for mixtures that have no volume change on mixing and show no minimum in the viscosity as a function of composition.

$$\eta = \eta_1^{x_1} \eta_2^{x_2} \left(\frac{V_A}{V_G} \right) \quad (2.88)$$

Where the arithmetic mean molar volume, V_A , and the geometric mean molar volume, V_G , are given by:

$$V_A = x_1 V_1 + x_2 V_2 \quad (2.89)$$

$$V_G = V_1^{x_1} V_2^{x_2} \quad (2.90)$$

Cokelet, Hollander, and Smith (1969)

Cokelet, Hollander, and Smith proposed Equation 2.91, which is an empirical equation with two adjustable constants, a and b . It does not contain the viscosity of the second component.

$$\eta = \eta_1 - \left(\frac{x_2}{ax_2 - b} \right) \quad (2.91)$$

Equation 2.91 is not able to describe a minimum or maximum in mixture viscosity, and therefore Irving (1977b) did not test it against these types of mixtures.

2.2.1.6 Grunberg-Nissan Method with Generalized G_{ij}

The general form of Equation 2.63 for a mixture is:

$$\ln \eta_m = \sum_i x_i \ln \eta_i + \frac{1}{2} \sum_{i \neq j} x_i x_j G_{ij} \quad (2.92)$$

For Equation 2.92, G_{ij} is an interaction parameter, x is the liquid mole fraction, and $G_{ii} = 0$

Isdale et al. (1985) proposed a group contribution method to estimate the binary interaction parameter, G_{ij} , at 298 K. The groups used are those given in Reid et al. (1987) along with their contribution value, Δ .

$$G_{ij} = \sum \Delta_i - \sum \Delta_j + W \quad (2.93)$$

Where, the parameter W is given as follows:

$$W = \frac{0.3161(N_i - N_j)^2}{N_i + N_j} - 0.1188(N_i - N_j) \quad (2.94)$$

In Equation 2.94, N_i is the number of carbon atoms in component i and N_j is the number of carbon atoms in component j . A set of priority rules must be followed to determine which is component i and which is component j :

1. i = an alcohol, if present
2. i = an acid, if present
3. i = the component with the most carbon atoms
4. i = the component with the most hydrogen atoms
5. i = the component with the most $-\text{CH}_3$ groups
6. $G_{ij} = 0$ if #1-5 do not establish a priority

For mixtures of nonassociated compounds, excluding those of only alkanes, or for mixtures of associating compounds, G_{ij} is a function of temperature, T , in which case Isdale et al. (1985) suggest using:

$$G_{ij}(T) = 1 - [1 - G_{ij}(298)] \left(\frac{573 - T}{275} \right) \quad (2.95)$$

In the case of mixtures of normal and/or branched alkanes, Isdale et al. also recommend that G_{ij} be corrected for composition using Equation 2.96. Recall that alkane mixtures need not be corrected for any temperature dependence.

$$G_{ij}(x_i) = G_{ij}(1.343 - 0.685x_i) \quad (2.96)$$

Irving found the Grunberg equation gave RMS error of 2.3%, 3%, 8.9%, and 24% for nonpolar + nonpolar, nonpolar + polar, polar + polar, and aqueous mixtures, respectively, when optimized values for G_{ij} were regressed using experimental data.

2.2.2 Parameter Mixing Models

Chung et al. (1988) extended their model for the viscosity of low-pressure gas, η_o , given in Equation 2.22, to liquid and dense phase mixtures by adding an empirical correlation of density and temperature as given in Equations 2.97 to 2.102.

$$\eta = \eta_k + \eta_p \quad (2.97)$$

$$\eta_k = \eta_o \left(\frac{1}{G_2} + A_6 Y \right) \quad (2.98)$$

$$\eta_p = \left[36.344 \times 10^{-6} \frac{(MT_c)^{1/2}}{V_c^{2/3}} \right] A_7 Y^2 G_2 \exp \left(A_8 + \frac{A_9}{T^*} + \frac{A_{10}}{T^{*2}} \right) \quad (2.99)$$

$$Y = \frac{\rho V_c}{6} \quad (2.100)$$

$$G_1 = \frac{1.0 - (0.5)Y}{(1 - Y)^3} \quad (2.101)$$

$$G_2 = \frac{\left(\frac{A_1 [1 - \exp(-A_4 Y)]}{Y} + A_2 G_1 \exp(A_5 Y) + A_3 G_1 \right)}{(A_1 A_4 + A_2 + A_3)} \quad (2.102)$$

The constants A_1 to A_{10} are linear functions of the acentric factor, ω , the reduced dipole moment, μ_r , and the association factor, κ , Equation 2.103.

$$A_i = a_0(i) + a_1(i)\omega + a_2(i)\mu_r^4 + a_3(i)\kappa \quad (2.103)$$

The constants $a_0(i)$ to $a_3(i)$ were regressed and tabulated by Chung et al. (1988). Only the first two constants are necessary for nonpolar substances, while the third term is included for polar substances, and the fourth term is for hydrogen bonding substances. For mixtures the same equations and mixing rules apply as given in Equations 2.23 to 2.38.

Teja and Rice (1981a,b) proposed the following method based on a corresponding states treatment for liquid mixture viscosity analogous to mixture compressibility factors:

$$\ln(\eta_m \varepsilon_m) = \ln(\eta \varepsilon)^{(r_1)} + \left[\ln(\eta \varepsilon)^{(r_2)} - \ln(\eta \varepsilon)^{(r_1)} \right] \left(\frac{\omega_m - \omega^{(r_1)}}{\omega^{(r_2)} - \omega^{(r_1)}} \right) \quad (2.104)$$

In Equation 2.104, superscripts r_1 and r_2 refer to the two reference fluids, η is the viscosity, ω is the acentric factor, and ε is parameter defined as:

$$\varepsilon = \frac{V_c^{2/3}}{(T_c M)^{1/2}} \quad (2.105)$$

The mixing rules suggested by the authors are:

$$V_{cm} = \sum_i \sum_j x_i x_j V_{cij} \quad (2.106)$$

$$T_{cm} = \frac{\sum_i \sum_j x_i x_j T_{cij} V_{cij}}{V_{cm}} \quad (2.107)$$

$$M_m = \sum_i x_i M_i \quad (2.108)$$

$$\omega_m = \sum_i x_i \omega_i \quad (2.109)$$

$$V_{cij} = \frac{\left(V_c^{1/3} + V_j^{1/3}\right)^3}{8} \quad (2.110)$$

$$T_{cij} V_{cij} = \psi_{ij} \left(T_c T_j V_c V_j\right)^{1/2} \quad (2.111)$$

In Equation 2.111, ψ_{ij} is an interaction parameter that must be found from experimental data.

Reid et al. (1987) suggest that the method of Grunberg-Nissan when compared to Teja and Rice gave about the same accuracy for nonpolar + nonpolar and nonpolar + polar systems. However, Teja and Rice is slightly more accurate for polar + polar and aqueous systems, producing average errors of 2.5% and 9%, respectively.

In addition to the models already presented, there are many other mixture models developed for liquid and dense phase that are covered in detail by Monnery (1995a,b). The theoretical models are typically complex and difficult to use since they are based in statistical mechanics using either distribution function theory or correlation function theory. The semi-theoretical models are typically simpler having their basis in corresponding states or applied statistical mechanics, i.e. hard sphere, square well, reaction rate, or modifications of these theories. Since the prediction of liquid viscosity is highly sensitive to density, these semi-theoretical models are all a function of temperature and density (or specific volume).

2.3 Summary

Despite the tremendous number of models available to predict either gas viscosity or liquid/dense phase viscosity there are few models that are applicable to both. Chung et al. (1984, 1988) and Monnery (1995a) have both presented models that can be used to predict viscosity for gas, liquid, and dense phases, making them very attractive for use in

process simulation. While Chung's model can be used for pure component and mixture viscosity, Monnery's was only applied to pure component viscosity prediction. The intent of this work is to extend Monnery's model to mixtures, thereby enabling rapid and accurate calculation of viscosity for multiple phases through the use of a semi-theoretical, statistical mechanics, group contribution method.

CHAPTER THREE**MSWIP MODEL BACKGROUND THEORY**

The central theme of this thesis is not the development of the Modified Square Well Intermolecular Potential (MSWIP) viscosity model or the detailed statistical mechanics theory. However, in order to understand how to best proceed from predicting pure component viscosity to predicting viscosity of mixtures it is important to understand the MSWIP viscosity model, and in doing so it is conjointly necessary to have some basic background of the square well theory. This chapter briefly describes the theory behind the square well viscosity model and then outlines in detail the MSWIP viscosity model developed by Monnery (1995a).

3.1 Square Well Intermolecular Potential Theory**3.1.1 Intermolecular Potential**

The square well intermolecular potential theory is based in statistical mechanics. Since statistical mechanics is a means of describing a macroscopic system in terms of microscopic properties, we must consider a system on a microscopic level to understand the theory behind the square well intermolecular potential model. In this situation we are describing viscosity (macroscopic property) in terms of individual molecular properties, i.e. position, molecular geometry, interatomic and intermolecular forces.

We begin by looking at potential functions, which are simple mathematical expressions used to represent a molecular model. In a system of molecules there are a number of interacting forces between the molecules, including, but not limited to, electrostatic forces, induction forces, forces of attraction, and chemical forces. Each individual molecule has a potential energy, $\phi(r)$, as a result of its position in relation to the other molecules. This potential energy can be thought of as having two components: an attractive potential and a repulsive potential. As is often the case, in order to develop a

reasonable mathematical representation of the system, simplifying assumptions must be made. The simplest potential function proposed to represent the intermolecular forces between molecules is for an ideal gas. An ideal gas molecule is assumed to have mass but no volume and exerts no force between molecules (e.g. Heidemann et al., 1987). Based on this postulation, the ideal gas potential function assumes that the potential energy is zero at any distance between the molecules, r , as illustrated in Figure 3.1.

Figure 3.1: Ideal Gas Potential Function

The ideal gas potential function is a trivial case and of limited use when there are other simple, yet more realistic potential functions, such as the hard-sphere potential or the Lennard-Jones potential, Figures 3.2 and 3.3 respectively.

Figure 3.2: Hard-Sphere Potential Function

The hard-sphere potential does not assume ideal gas conditions and accounts for the size of the molecule. However, it only takes into consideration repulsive forces, ignoring all attractive forces. This repulsive force is infinitely large when the molecules touch at a distance equal to σ , the collision distance, but there are no forces between the two molecules once they are separated by a distance greater than σ . (Prausnitz et al., 1986)

Figure 3.3: Lennard-Jones Potential Function

The Lennard-Jones potential (e.g. Bird et al., 1954) is perhaps one of the best known functions and is actually a form of the equation proposed by Mie (1903) in which A , B , n , and m are positive constants and $n > m$.

$$\phi(r)_{total} = \phi_{repulsion} + \phi_{attraction} = \frac{A}{r^n} - \frac{B}{r^m} \quad (3.1)$$

If Equation 3.1 is algebraically rearranged with $m = 6$ and $n = 12$, we obtain the Lennard-Jones 6-12 potential.

$$\phi(r) = 4\varepsilon \left[\left(\frac{\sigma}{r} \right)^{12} - \left(\frac{\sigma}{r} \right)^6 \right] \quad (3.2)$$

In Equation 3.2, ε is the minimum potential energy and σ is the collision distance, which in this case corresponds to the separation where the potential energy is equal to zero.

The Lennard-Jones potential is a good representation of the molecular model since it accounts for both attractive and repulsive energies; however, this function is not conducive to simple mathematics. The square well intermolecular potential function was proposed to simplify calculations while still crudely representing the molecular model in the same fashion as the Lennard-Jones potential, Figure 3.4.

As can clearly be deduced from Figure 3.4, the square well potential function can be mathematically expressed as follows, where R is the reduced well width parameter.

$$\phi(r) = \begin{cases} \infty & \text{for } r \leq \sigma \\ -\varepsilon & \text{for } \sigma < r \leq R\sigma \\ 0 & \text{for } r > R\sigma \end{cases} \quad (3.3)$$

Figure 3.4: Square Well Potential Function

3.1.2 Square Well Viscosity Model

Once the intermolecular potential function has been established, it can be used to derive an expression for the viscosity of a system. The viscosity of a system is dependent upon the velocities of the molecules, which in turn depend on the interaction between the molecules. These interactions are a function of the intermolecular potential. For the purposes of statistical mechanics (microscopic level), it is necessary to consider the probability of interactions occurring at any given time. Therefore, it is necessary to have a distribution function for the positions and velocities. This distribution function gives the probability of finding a given molecule in any of the possible positions, $\mathbf{r}$, with a certain momentum, $\mathbf{p}$, as a function of time, $f(\mathbf{r}, \mathbf{p}, t)$.

If molecular chaos of velocities is assumed in a system, then for two particles prior to collision and far enough apart for intermolecular interactions to be ignored:

$$f^{(2)}(\mathbf{r}_1, \mathbf{r}_2, \mathbf{p}_1, \mathbf{p}_2, t) = f^{(1)}(\mathbf{r}_1, \mathbf{p}_1, t) f^{(1)}(\mathbf{r}_2, \mathbf{p}_2, t) \quad (3.4)$$

The assumption of molecular chaos allows the higher order distribution functions to be related to the lower order distribution functions, thus enabling the distribution function equations to be solved. The assumption of molecular chaos is valid for gases at low to moderate densities (Reed and Gubbins, 1973), but does not hold true in the dense phase where multiple collisions are likely to happen between molecules. In the dense phase it is very likely that two molecules will collide again shortly after their first collision with only a few intervening collisions such that some velocity correlation may still remain.

Another simplifying assumption made is that only two body collisions are considered. Therefore, the time dependence of the distribution functions can be neglected during the time of a collision and local temperature and density change is negligible over the range that the intermolecular potential is significantly different from zero.

These two assumptions simplify the set of coupled integrodifferential equations for the distribution function, f , to give a modified Boltzmann equation, outlined by Davis et al. (1961):

$$\frac{\partial f_j}{\partial t} + v_j \left(\frac{\partial f_j}{\partial r_j} \right) + \left(\frac{1}{m_j} \right) X_j \frac{\partial f_j}{\partial v_j} = \Omega_1 + \Omega_2 + \Omega_3 + \Omega_4 \quad (3.5)$$

In Equation 3.5, v_j is the velocity of particle j , r_j is the position of the molecule, m_j is the mass of the molecule, and X_j is an external force that is neglected if the only forces are those between the molecules in the system.

The terms Ω_1 , Ω_2 , Ω_3 , and Ω_4 are integral terms that correspond to the four different types of interactions of a square well molecule, Figure 3.5.

1. Rigid core collision at $r = \sigma_1$,
2. Molecules approach each other and collide at $r = R\sigma_1$ with an increase in velocity after collision,

3. Molecules moving apart with relative kinetic energy greater than ε continue to move apart with reduced velocity,
4. Molecules moving apart with relative kinetic energy less than ε and velocity is simply reversed.

Figure 3.5: Square Well Molecule Interactions

Equation 3.5 is solved in a similar manner to the Chapman-Enskog solution of the dilute gas Boltzmann equation, which is detailed in Davis et al. (1961) or Davis and Luks (1965), resulting in the following expression for the viscosity of a pure square well fluid:

$$\frac{\eta_{SW}}{\eta_o} = \frac{\left[1 + 0.4b\rho(g(\sigma_1) + R^3 g(R\sigma_1)\psi_1)\right]^2}{g(\sigma_1) + R^2 g(R\sigma_1) \left[\psi_2 + \frac{1}{6} \left(\frac{\varepsilon}{kT}\right)^2\right]} + \frac{48}{25\pi} (b\rho)^2 \left[g(\sigma_1) + R^4 g(R\sigma_1)\psi_2\right] \quad (3.6)$$

The parameters ψ_1 and ψ_2 are defined as:

$$\psi_1 = 1 - e^{\varepsilon/kT} + \left(\frac{\varepsilon}{2kT}\right) \left[1 + \left(\frac{4}{\sqrt{\pi}}\right) e^{\varepsilon/kT} \int_{\sqrt{\varepsilon/kT}}^{\infty} e^{-x^2} x^2 dx\right] \quad (3.7)$$

$$\psi_2 = e^{\varepsilon/kT} - \left(\frac{\varepsilon}{2kT} \right) - 2 \int_0^{\infty} x^2 \left(x^2 + \frac{\varepsilon}{kT} \right)^{1/2} e^{-x^2} dx \quad (3.8)$$

In Equation 3.6, σ_1 is the repulsion diameter, b is the excluded volume which is equal to $(2/3)\pi\sigma_1^3$, ε is the intermolecular attractive energy well depth, R is the well width parameter, $g(\sigma_1)$ is the radial distribution function at the repulsion diameter, and $g(R\sigma_1)$ is the radial distribution function at the attraction diameter. The repulsive radial distribution function is evaluated just inside the well, while the attractive radial distribution function is evaluated just outside the well. The hard sphere dilute gas viscosity, η_o , is defined as:

$$\eta_o = \left(\frac{5\pi^{1/2}}{16} \right) \frac{(mkT)^{1/2}}{\sigma_1^2} \quad (3.9)$$

Or, in practical units:

$$\eta_o = \frac{3.1163 \times 10^{-3} (MT)^{1/2}}{b^{2/3}} \quad (3.10)$$

In order to calculate viscosity using Equation 3.5, the values ψ_1 , ψ_2 , σ_1 or b , ε or ε/k , R , $g(\sigma_1)$, and $g(R\sigma_1)$ must be determined. The values of ψ_1 and ψ_2 can be found in the literature. Luks et al. (1966) have tabulated these variables versus ε/kT .

3.2 Modified Square Well Intermolecular Potential Model

Monnery (1995a) modified the original square well viscosity model to account for the breakdown in the assumption of only two-body collisions and molecular chaos for velocities, as well as the inadequacy of the square well potential function itself by adding a correction factor, C .

$$\eta = \eta_{sw} C \quad (3.11)$$

Recall that η_{sw} is given by Equation 3.6.

In addition to the correction factor, Monnery (1995a) made another modification by

substituting Equation 3.12 into Equation 3.6 in place of $f\left(\frac{\varepsilon}{kT}\right) = \psi_2 + \frac{1}{6}\left(\frac{\varepsilon}{kT}\right)^2$

$$f\left(\frac{\varepsilon}{kT}\right) = -0.811 + 0.788 \exp\left(\frac{\varepsilon}{2.055kT}\right) \quad (3.12)$$

To give:

$$\frac{\eta_{sw}}{\eta_o} = \frac{[1 + 0.4b\rho(g(\sigma_1) + R^3g(R\sigma_1)\psi_1)]^2}{g(\sigma_1) + R^2g(R\sigma_1)\left[-0.811 + (0.788)\exp\left(\frac{\varepsilon}{2.055kT}\right)\right]} + \frac{48}{25\pi}(b\rho)^2[g(\sigma_1) + R^4g(R\sigma_1)\psi_2] \quad (3.13)$$

This second modification was made by Monnery (1995a) to ensure that the model would reduce to the correct low density limit. In Equation 3.13, the square root of the numerator divided by the denominator of the first term is the kinetic term and the second term is the potential term. The kinetic term is the only one that remains significant at low densities where the molecules are far apart, while the second term dominates at high densities where the molecules are close together. The contributions of these terms have been shown quantitatively by Luks, et al. (1966).

Before the correction factor C is discussed in detail, it is important to understand the simplifying assumptions used to determine the parameters required for Equation 3.6.

3.2.1 Square Well Model Parameters

One of the first steps in applying the modified square well model was to develop an analytical expression for the parameters, ψ_1 and ψ_2 . Therefore, the values tabulated by Luks et al. (1966) were used to develop the following algebraic equations by Monnery (1995a):

$$\psi_1 = 1 - e^{\epsilon/kT} + \left(\frac{\epsilon}{2kT}\right) \left[1 + \left(\frac{4}{\sqrt{\pi}}\right) e^{\epsilon/kT} \left(\frac{1.0}{a_1 + b_1\left(\frac{\epsilon}{kT}\right) + c_1\left(\frac{\epsilon}{kT}\right)^2 + d_1\left(\frac{\epsilon}{kT}\right)^3 + e_1\left(\frac{\epsilon}{kT}\right)^4} \right) \right] \quad (3.14)$$

$$\psi_2 = e^{\epsilon/kT} - \left(\frac{\epsilon}{2kT}\right) - 2 \left[\frac{a_2 + c_2\left(\frac{\epsilon}{kT}\right)}{1.0 + b_2\left(\frac{\epsilon}{kT}\right)} \right] \quad (3.15)$$

Monnery (1995a) proved that when the constants from Table 3.1 are used in Equations 3.14 and 3.15, ψ_1 and ψ_2 are approximated very well with average deviations of within 0.14% and 0.12%, respectively.

Table 3.1: Constants for ψ_1 and ψ_2 (Equations 3.14 and 3.15)

Constant	$i = 1$	$i = 2$
a_i	2.25192	0.50419
b_i	0.46614	0.15360
c_i	1.48429	0.28304
d_i	-0.44117	
e_i	0.18849	

The well width parameter, R , is set to a constant value of 1.5, (Monnery 1995a) which is a typical value and provides a more practical model by simplifying the calculation of the radial distribution function. As well, Benavides et al. (1994) show that the phase behavior of a square well fluid is similar to that of a Lennard-Jones 6-12 fluid when $R = 1.5$.

With ψ_1 , ψ_2 , and R set, the next parameters that need to be defined for analytical use are the radial distribution functions at repulsion and attraction diameters, $g(\sigma_1)$ and $g(R\sigma_1)$. Monnery (1995a) used a simple statistical mechanical perturbation theory to provide

good approximations for the radial distribution functions. This perturbation theory is based on finding a strong similarity between the fluid of interest and a reference fluid for which properties can accurately be determined. For example, a hard sphere reference fluid is a good choice for a hard repulsive core fluid like a square well fluid. The fundamental approach of perturbation theory is to represent the intermolecular pair potential as the sum of the pair potential for the unperturbed (reference) system and the perturbation potential:

$$\phi(r) = \phi^{(0)}(r) + \alpha \phi^{(1)}(r) \quad (3.16)$$

In Equation 3.16, α is a perturbation parameter that varies from 0 to 1. When $\alpha = 0$, the unperturbed system is obtained and when $\alpha = 1$ the actual system is obtained. It then follows that any property, $X(\rho, \beta)$, that depends on the intermolecular potential can thus be expanded in a Taylor series about the unperturbed state, Equation 3.17.

$$X(\rho, \beta) = X^{(0)}(\rho, \beta) + \left(\frac{\partial X}{\partial \alpha} \right)_{\alpha=0; \rho, \beta} \alpha + \frac{1}{2} \left(\frac{\partial^2 X}{\partial \alpha^2} \right)_{\alpha=0; \rho, \beta} \alpha^2 + \dots \quad (3.17)$$

Using this general theory, the basic equation used to represent the radial distribution functions for a square well fluid is that proposed by Vimalchand et al. (1992) using a hard sphere reference fluid:

$$g(r) = g^{(0)}(r) \exp\left(\frac{\alpha \varepsilon}{kT}\right) \quad (3.18)$$

Where α is a parameter that accounts for the effect of density on fluid structure.

The hard sphere radial distribution function at the repulsion diameter is obtained from the Carnahan-Starling (1969) equation:

$$g^{(0)}(\sigma_1, b\rho) = \frac{\left[1.0 - 0.5 \left(\frac{b\rho}{4} \right) \right]}{\left[1.0 - \left(\frac{b\rho}{4} \right) \right]^3} \quad (3.19)$$

The hard sphere radial distribution function at the attraction diameter is obtained by interpolating the Monte-Carlo simulation results of Barker and Henderson (1971) and then fitting the results, giving Equation 3.20:

$$g^{(0)}(R\sigma_1, b\rho) = 0.99948 + 0.20601(b\rho) - 0.21686(b\rho)^2 \quad (3.20)$$

Originally, Monnery (1995a) obtained and fitted the values of α to functions using Equations 3.19 and 3.20 in conjunction with the Monte-Carlo simulation results of Smith et al. (1971) and Henderson et al. (1976):

$$\alpha(\sigma_1) = -2.1946 + 0.22796(b\rho)^2 + 0.59882(b\rho)^{1/2} + 3.1945e^{-b\rho} \quad (3.21)$$

$$\alpha(R\sigma_1) = 5.0465 + 0.31173(b\rho)^2 - 4.3634(b\rho)^{1/2} - 4.0463e^{-b\rho} \quad (3.22)$$

However, upon further investigation, it was discovered that experimental viscosities could better be correlated by setting α to constant values (Monnery, 1995a).

$$\alpha(\sigma_1) = -0.2 \quad (3.23)$$

$$\alpha(R\sigma_1) = -0.5 \quad (3.24)$$

The only problem with using constant α 's is that the radial distribution functions do not reduce to their correct low density limits.

3.2.2 Modified Square Well Model Correction Factor

As mentioned previously, the correction factor, C , from Equation 3.11 introduced by Monnery (1995a) in his modified square well viscosity model accounts for the breakdown of the assumptions in the derivation of the model at high densities and low temperatures and the inadequacy of the square well potential function. This correction factor is given in Equation 3.25.

$$C = k_0 \left(\frac{kT}{\varepsilon} \right)^{0.28} + (b\rho)^{k_1} \left[k_1 + k_2 \left(\frac{\varepsilon}{kT} \right)^{k_3} \right] \quad (3.25)$$

The first term in Equation 3.25 dominates at low densities and is negligible at high densities. This term accounts for the inadequacy of the square well potential, with k_0 as a structural correction and $(kT/\varepsilon)^{0.28}$ correcting the temperature dependence. The second term accounts for three-body or higher interactions and correlations of velocities between successive collisions, dominating at high densities but becoming negligible at low densities. This second term is necessary because the square well potential model was developed based on the assumption of binary collisions only.

With the correction of the square well model's temperature dependence and the addition of the correction factor C , the modified square well model is able to simultaneously correlate liquid and gas viscosities, as well as extrapolate to the dense phase with very good results, within a 10% average absolute deviation (AAD).

The parameters, ε/k , k_0 , k_1 , k_2 , k_3 , k_4 , and b are all functions of either critical temperature, acentric factor, and/or molecular weight or have been generalized through the use of group contributions. The first parameter, (ε/k) , is a simple function of the critical temperature, T_c .

$$\frac{\varepsilon}{k} = (0.65)T_c \quad (3.26)$$

Sensitivity analysis performed by Monnery (1995a) showed that the modified model is not very sensitive to k_1 , k_2 , and k_4 . Therefore, these parameters are simply generalized as functions of the molecular weight, M , and acentric factor, ω .

$$k_1 = 0.03072 + (0.00128)M\omega^{1/4} \quad (3.27)$$

$$k_2 = (0.6270) \exp\left((-0.00242)M\omega^{1/2}\right) \quad (3.28)$$

$$k_4 = 1.0 + \exp\left((-0.03895)M\omega^{1/2}\right) \quad (3.29)$$

A group contribution method breaks the molecules into smaller, functional groups. Parameters can then be determined by summing the contribution of each of these functional groups. Parameters k_0 , k_3 , and b showed definite trends with molar mass (Monnery 1995a), thus suggesting that they are related to structure and therefore well suited to group contribution generalization.

$$\frac{b_i}{100} = \sum_{j=1}^g n_{ij} \Delta b_j + 0.06617 \left(\sum_{j=1}^g n_{ij} \Delta b_j \right)^2 \quad (3.30)$$

$$k_{0,i} = \sum_{j=1}^g n_{ij} \Delta k_{0,j} \quad (3.31)$$

$$k_{3,i} = 1.0 + \sum_{j=1}^g n_{ij} \Delta k_{3,j} \quad (3.32)$$

In Equations 3.30, 3.31, and 3.32, n_{ij} is the number of j^{th} groups in the compound i , and the functional groups to apply these equations are given in Table 3.2. The functional groups used for the modified viscosity model are the same groups proposed by Wu and Sandler (1991) with additional corrections to account for iso position, attached chain lengths, number of side chains, and number of occurrences for a given function group. These corrections are detailed after Table 3.2.

Table 3.2: Function Groups for Determining b , k_0 , and k_3

Group	Δb	Δk_0	Δk_3
Alkanes			
CH ₄	0.4663	0.7130	1.2610
CH ₃ e (end)	0.3586	0.3514	0.4661
CH ₂	0.2899	-0.0041	0.2251
CH	0.3021	-0.3271	0.5021
C	0.3329	-0.6442	1.0379
CH ₃ b (branch)	$0.3586f_{CH3b}$	0.3514	$0.4661f_{CH3k3}$
Alkenes			
CH ₂ =CH ₂	0.6356	0.6690	1.0850
CH ₂ =CH	0.5063	0.3216	0.6563
CH=CH	$0.4278f_{dio}$	-0.0278	$0.0705f_{dio}$
CH ₂ =C	$0.4834f_{dio}$	0.0152	$0.6174f_{dio}$
Alkynes			
CH≡CH	0.5800	0.6830	0.0000
CH≡C	0.4540	0.3116	0.3168
Naphthenes			
Cyclic C ₃ Ring CH ₂	0.2826	0.2340	0.2723
Cyclic C ₄ Ring CH ₂	0.2859	0.1910	0.3415
Cyclic C ₅ Ring CH ₂	0.2798	0.1524	$0.5270f_{CC5}$
Cyclic C ₅ Ring CH	0.1941	-0.2170	-0.0030
Cyclic C ₆ Ring CH ₂	0.3003	0.1328	$0.6360f_{CC6}$
Cyclic C ₆ Ring CH	0.1375	-0.2715	-1.0750

Table 3.2 (cont.)

Group	Δb	Δk_0	Δk_3
Aromatics			
aCH	0.2212	0.1185	0.5270 f_{ben}
aC ₁ (1 ring)	0.0654 f_{aC1b}	-0.2490	-0.6320 f_{aC1k3}
aC ₂ (2 rings)	0.1593	-0.1180	-1.1438
Alcohols			
CH ₃ OH	0.6285	0.7970	3.5090
CH ₃ CH ₂ OH	1.0371	0.5168	6.0770
CH ₂ OH	0.7739 f_{glyb}	0.5168 $f_{alck0}f_{glyk0}$	0.5168 $f_{alck3}f_{glyk3}$
CHOH	0.7919 f_{glyb}	0.1697 $f_{alck0}f_{glyk0}$	0.5168 f_{glyk3}
COH	0.9105	-0.2351	14.9816
Phenols			
aCOH	0.4110	0.1565	2.8160 f_{aCOH}
Ethers			
CH ₃ OCH ₃	0.7260	0.6130	0.6710
CH ₂ OCH ₂	0.6640	-0.0026	1.4871
CH ₃ OCH ₂	0.6845	0.3256	1.3645
cCH ₂ OCH ₂	0.6605	0.5070	1.0260 f_{ethc}
aCOaC	0.4093	-0.4760	-2.0100
CH ₃ OaC	0.5655	0.0915	0.3230
CH ₃ OC	0.6471	-0.3071	1.2216
Ketones			
CH ₃ COCH ₃	1.0240	0.6470	1.9220
CH ₂ COCH ₂	0.8124	-0.0408	1.6220

Table 3.2 (cont.)

Group	Δb	Δk_0	Δk_3
CH_3COCH_2	0.9363	0.3204	1.6838
CH_3COaC	0.7922	0.1268	-0.4560
Aldehydes			
HCHO	0.4567	0.7250	2.2000
CH_3CHO	0.7213	0.6410	2.3770
CH_2CHO	0.6802	0.3287	1.6268
aCCHO	0.7288	0.1595	-1.5860
Esters			
HCOOCH_3	0.8590	0.6890	2.4900
HCOOCH_2	0.8175	0.3716	2.0403
$\text{CH}_3\text{COOCH}_3$	1.1414	0.6580	2.1650
$\text{CH}_2\text{COOCH}_2$	0.9970	-0.0207	2.0739
$\text{CH}_3\text{COOCH}_2$	1.0776	0.3346	2.1724
CH_3COOaC	0.7289	0.0505	1.5935
Acids			
HCOOH	0.6173	0.6870	4.7170
CH_3COOH	0.9445	0.7470	3.4540
CH_2COOH	0.9075	0.3746	$2.7872f_{aci}$
CHCOOH	0.8501	0.0523	2.7937
aCCOOH	0.0101	-0.0950	11.6910
Amines			
CH_3NH_2	0.5951	0.6600	2.6270
CH_2NH_2	0.5432	0.3386	3.1088

Table 3.2 (cont.)

Group	Δb	Δk_0	Δk_3
CHNH ₂	0.5801	0.0362	1.2230
(CH ₃) ₂ NH	0.8831	0.7690	1.9091
(CH ₂) ₂ NH	0.7495	0.0202	2.2677
(CH) ₂ NH	0.6313	-0.6715	1.0275
(CH ₃) ₃ N	1.2119	0.6850	1.4880
(CH ₂) ₃ N	0.8671	-0.3043	1.1770
aCNH ₂	1.5230	0.7220	3.8910
Nitriles			
CH ₃ CN	0.7725	0.6251	0.1940
CH ₂ CN	0.6730	0.2906	1.3692
aCCN	1.5975	0.6530	2.3060

Functional Group Corrections:

Iso:

$$f_{CH,b} = \exp(-0.16n_{CH_2} - 0.06n_{CH} - 0.16n_{aCH} - 0.24n_{CH_2COCH_2} - 0.06n_{(CH_2)_2NH})$$

$$f_{CH,k_3} = \exp(-0.10n_{CH_2}(n_{CH} + n_C) - 3.0(n_{CH,b} - 1)(n_{CH_2COCH_2} + n_{(CH_2)_2NH}))$$

Diene:

If $(n_{CH_2=CH} + n_{CH=CH} + n_{CH_2=C}) > 1$, $f_{dio} = 0.8$

Cyclic Ring Side Chain Length:

$$f_{CC_5} = \exp(-0.20n_{CH_2})$$

$$f_{CC_6} = \exp(-0.15n_{CH_2})$$

Aromatic Ring Side Chain Length and Number:

$$f_{ben} = \exp(-0.11n_{CH_2})$$

$$f_{aClb} = [0.613 + 0.387(n_{aCl} + n_{aCOH})]$$

$$f_{aClk3} = \frac{1.0}{(n_{aCl} + n_{aCOH})}$$

Alcohol Chain Length:

$$f_{alc0} = \exp(-0.03n_{CH_2})$$

$$f_{alc3} = \exp[-0.00959(n_{CH_2} - 3)^2 + 0.28n_{CH}]$$

Diol Correction:

If $(n_{CH_2OH} + n_{CHOH}) > 1$

$$f_{glyb} = 0.32n_{CH_2OH} + 0.52n_{CHOH} + 0.06n_{CH_2}$$

$$f_{glyk_0} = 0.40n_{CH_2OH} + 0.36n_{CHOH}$$

$$f_{glyk_3} = 0.27n_{CH_2OH} + 0.35n_{CHOH} + 0.09n_{CH_2}$$

Phenol Side Chain Number:

$$f_{aCOH} = n_{aCOH} + 0.33n_{aCl}$$

Cyclic Ether:

$$f_{ahc} = n_{cCH_2OCH_2}$$

Carboxylic Acid Chain Length:

$$f_{aCl} = 1.0 + \ln(1.0 + 0.10n_{CH_2})$$

3.3 Summary

This chapter outlined the basic theory behind the Modified Square Well Intermolecular Potential (MSWIP) viscosity model and described in detail the model itself as developed by Monnery (1995a). The theoretical framework of the MSWIP model is clearly illustrated in this chapter, and consequently it will become apparent that this sound theoretical framework is advantageous in the extension of the model to mixtures.

CHAPTER FOUR

EXPERIMENTAL AND PROPERTY DATABASE

One of the first steps to be completed for this work was to obtain extensive, reliable experimental viscosity data for binary liquid, dense, and gas phase mixtures. As well, a consistent source for the viscosity model parameters had to be selected. This chapter describes the experimental databases used. It also details the sources for the model input parameters, i.e. molecular weight, critical temperature, critical pressure, critical volume, acentric factor, and dipole moment, that are required for the MSWIP model and/or the other viscosity models used for comparative purposes (discussed in Chapter Five).

4.1 Liquid Viscosity

There are a limited number of experimental data points available for mixture viscosity with the majority of the measurements made at atmospheric pressure and within limited temperature ranges. As well, the literature is abundant with duplicate measurements for certain popular systems, but diminishes quickly for the remaining mixtures.

There exist several collections of data sources that have compiled much of the available viscosity data. Using an existing database for the experimental viscosity alleviates the problem of extracting published information from the open literature, which can be difficult due to lack of easy access to trade journals, copyright law restrictions, questionable data measurements, and/or the reported data being too sparse and far removed from the region of interest.

Experimental viscosities for liquid mixtures were obtained from two primary sources: DIPMIX™ (1992) and Irving (1977b). DIPMIX™ is an evaluated, electronic database of selected transport properties and related thermodynamic data for binary liquid mixtures that was compiled by the Thermodynamics Research Center (TRC), Acme, TX. Irving

(1977b) also compiled liquid mixture viscosity data for binary systems to use in his review of liquid viscosity mixing equations. These two sources were cross-referenced to compile as comprehensive a database possible, thus amalgamating the two.

In total, 242 liquid binary mixtures have been compiled and used in this work, representing a wide range of chemical families. These mixtures, in addition to the gas and dense phase mixtures used in this work, are summarized in Table 4.1. Water is considered as a separate class since aqueous mixtures are so prevalent in the data.

Table 4.1: Summary of Liquid and Gas Binary Mixture Viscosity Data

Component 1 Chemical Family	Component 2 Chemical Family	Number of Binary Sets	Phase (see Legend)
Alkane	Alkane	23	G, L, D
Alkane	Aromatic	16	L
Aromatic	Aromatic	12	L
Alkane	Cyclic	9	L
Aromatic	Cyclic	4	L
Inorganic	Alkane	5	G, D
Inorganic	Alkene	5	G
Cl/F Alkane	Alkane	4	G, L, D
Inorganic	Inorganic	11	G
Inorganic	Cl/F Alkane	3	G
Alcohol	Water	11	G, L
Alcohol	Cl/F Alkane	10	L
Alcohol	Aromatic	23	L
Alcohol	Cyclic	14	L
Alcohol	Alkane	14	L
Alcohol	Aldehydes	1	L
Alcohol	Nitriles	1	L

Table 4.1 (cont.)

Component 1 Chemical Family	Component 2 Chemical Family	Number of Binary Sets	Phase (see Legend)
Alcohol	Ethers	5	L
Alcohol	Amines	2	L
Alcohol	Alcohol	4	L
Aldehydes	Phenols	2	L
Aldehydes	Water	1	L
Amine	Inorganic	1	L
Ether	Cl/F Alkane	3	G, L
Ether	Water	1	L
Ether	Aromatic	2	L
Ether	Cyclic	1	L
Carboxylic Acid	Water	5	L
Carboxylic Acid	Cl/F Alkane	5	L
Carboxylic Acid	Aromatic	12	L
Carboxylic Acid	Ketones	7	L
Carboxylic Acid	Amines	4	L
Carboxylic Acid	Alcohol	3	L
Ketones	Water	1	L
Ketones	Cl/F Alkane	3	L
Ketones	Ketones	3	L
Ketones	Alcohol	4	L
Ketones	Phenols	1	L
Ketones	Alkanes	2	L
Ketones	Aromatic	2	L
Diols	Water	1	L
Amines	Water	3	L
Amines	Cl/F Alkane	1	L

Table 4.1 (cont.)

Component 1 Chemical Family	Component 2 Chemical Family	Number of Binary Sets	Phase (see Legend)
Amines	Aromatic	4	L
Amines	Alkanes	1	L
Amines	Phenols	2	L
Phenols	Water	1	L
Phenols	Aromatic	6	L
Phenols	Alkane	1	L
Phenols	Cyclic	2	L
Esters	Esters	1	L
Esters	Cl/F Alkane	1	L
Esters	Ether	1	L
Esters	Ketones	3	L
Cl/F Alkane	Cl/F Alkane	2	G, L
Cl/F Alkane	Aromatic	5	L
Cl/F Alkane	Cyclic	1	L
TOTAL NUMBER OF BINARY SYSTEMS		276	

Legend: G = gas phase, L = liquid phase, D = dense phase

4.2 Gas Viscosity

Unlike the liquid viscosity data, there is currently no single comprehensive electronic source for experimental gas mixture viscosity. Therefore, information was obtained from several different sources, including Touloukian et al. (1975), Brokaw (1968), and Lucas (1980 Dechema). As well, the database compiled using the above sources was cross-referenced with Sutton (1976), which provides references to gas mixture data. The published papers referenced by Sutton that could be obtained were added to the gas viscosity database.

The MSWIP viscosity model (described in Chapter 3) does not have generalized parameters for inorganics or chlorine/fluorine alkanes. Therefore, some of the data sets that were obtained could not be used since many of them involved components that did not have tabulated optimized parameters from Monnery (1995a). These components include krypton, neon, sulphur dioxide, hydrogen, nitrogen dioxide, and bromo alkanes.

In total, 34 gas and dense phase binary mixtures have been compiled and used in this work, representing a wide range of chemical families, as summarized in Table 4.1.

4.3 Density and Pure Component Properties

Density for the gas components was calculated using the Peng-Robinson cubic equation of state (Peng and Robinson, 1976). At low reduced pressures, the calculation of gas densities generally yields errors within 1-2% of the experimental value, slightly higher for polar components (Walas, 1985). This method is thus an adequate means of predicting gas densities even for the polar components since the gas viscosity is not very sensitive to density as an input (Monnery 1995a) and was found to deviate negligibly when perturbed by 10%.

Density, ρ , for the pure liquid components was determined using an empirical correlation from DIPPR (1998) based on the Rackett equation (e.g. Reid et al., 1987), Equation 4.1.

$$\rho = \frac{A}{B^{(1+(T/C)^D)}} \quad (4.1)$$

A , B , C , and D are constants specific to each component and T is the system temperature in Kelvin. The density accuracy is dependent on the specific substance, but in general is less than 3%.

Equation 4.1 is applicable to all the components of interest with the exception of water.

Equation 4.2 is used to calculate the density of water (DIPPR, 1998).

$$\rho = A + B(1 - T_r)^{0.35} + C(1 - T_r)^{2/3} + D(1 - T_r) + E(1 - T_r)^{4/3} \quad (4.2)$$

Where, T_r is the reduced temperature of the system given by:

$$T_r = \frac{T}{T_c} \quad (4.3)$$

In Equation 4.3, T is the system temperature and T_c is the critical temperature in Kelvin.

In the case of the dense phase mixtures, experimental densities were used as given in DIPMIX™ (1992).

Molar mass, critical temperature, critical pressure, critical volume, and acentric factor were taken from DIPPR (1994) pure component database, except for the inorganic components and chlorine/fluorine alkane components, which were taken from Reid et al. (1987). The dipole moment was taken from Reid et al. (1987) and Yaws (1992).

4.4 Summary

This chapter details the source and extent of the experimental viscosity data for binary liquid, dense, and gas phase mixtures that was compiled. As well, the chapter discusses the sources for the model input parameters, i.e. molecular weight, critical temperature, critical pressure, critical volume, acentric factor, and dipole moment, that are required for the MSWIP model and/or the other viscosity models used for comparative purposes.

MIXING RULES AND RESULTS

When choosing a method to calculate mixture viscosity from a model there are two different approaches that can be applied; mixing model parameters and mixing pure component viscosities. Equations that mix pure component viscosities are essentially interpolative between the two pure viscosity endpoints. The Modified Square Well Intermolecular Potential (MSWIP) viscosity model is a semi-theoretical model, which means that it has a theoretical framework and thus the potential to correctly predict viscosity trends, including minima and maxima in viscosity versus composition. This advantage will be lost if an interpolative equation is used to mix pure component viscosity. Therefore, mixing rules are developed for each of the MSWIP model parameters, including molecular weight, M , critical temperature, T_c , acentric factor, ω , and model parameters b , k_0 , k_3 .

This chapter discusses the mixing rules developed and the attempt to generalize the binary interaction parameters from these mixing equations. As well, mixture viscosity results for 14 random binary mixtures, seven gas and seven liquid, are compared between the MSWIP model and three other widely accepted viscosity models.

5.1 Parameter Sensitivity

There are six parameters that require mixing rules, including molecular weight, M , critical temperature, T_c , acentric factor, ω , and model parameters b , k_0 , k_3 . These six were chosen since the parameters k_1 , k_2 , and k_4 are all functions of M and ω , and (ϵ/k) is a function of T_c .

Since there are a large number of mixed parameters that may be interacting, it is infeasible to develop complex mixing rules for each one since the number of possible

combinations that would need to be tested is prohibitively large. Hence, simple mixing rules were used for the majority, with binary interaction parameters for the remaining parameter mixing rules.

A sensitivity analysis was used to determine which of the six parameters is most sensitive thus requiring a binary interaction parameter. Seven gas and seven liquid binary mixtures were randomly chosen to represent the wide range of chemical families. Each parameter was perturbed $\pm 10\%$, the results of which are summarized in Tables 5.1, 5.2, 5.3, and 5.4.

Table 5.1: Model Parameter (M , T_c , ω) Sensitivity Analysis - Gas Viscosity

Mixture Component 1	Mixture Component 2	$M \pm 10\%$ $\Delta\eta_G (\%)$	$T_c \pm 10\%$ $\Delta\eta_G (\%)$	$\omega \pm 10\%$ $\Delta\eta_G (\% \times 10^4)$
Ethane	Propane	4.88 / 5.13	4.60 / 5.25	3.27 / 3.23
Carbon Dioxide	Propane	4.88 / 5.13	4.56 / 5.19	4.07 / 3.99
Oxygen	Ethylene	4.88 / 5.13	4.39 / 4.97	0.28 / 0.28
Ammonia	Methane	4.88 / 5.13	4.67 / 5.34	0.22 / 0.21
Ammonia	Ethylene	4.88 / 5.13	4.60 / 5.25	0.42 / 0.41
Ammonia	Methyl Amine	4.88 / 5.13	4.71 / 5.39	1.51 / 1.48
Methyl Chloride	Dimethyl Ether	4.89 / 5.14	4.90 / 5.64	13.1 / 12.9

Table 5.2: Model Parameter (M , T_c , ω) Sensitivity Analysis - Liquid Viscosity

Mixture	Mixture	$M \pm 10\%$	$T_c \pm 10\%$	$\omega \pm 10\%$
Component 1	Component 2	$\Delta\eta_L$ (%)	$\Delta\eta_L$ (%)	$\Delta\eta_L$ (%)
n-Octane	n-Hexadecane	26.66 / 49.06	37.72 / 26.08	0.96 / 1.05
n-Hexane	Ethylbenzene	23.82 / 40.07	27.44 / 20.69	0.68 / 0.77
Methanol	Benzene	24.33 / 41.00	38.70 / 26.22	0.69 / 0.77
n-Pentanoic Acid	Benzene	25.67 / 44.84	47.72 / 31.69	0.93 / 1.04
n-Butanol	Acetone	27.24 / 50.40	60.19 / 34.51	0.93 / 1.05
Aniline	Phenol	26.98 / 49.09	73.61 / 43.33	1.20 / 1.35
Ethyl Acetate	1,4-Dioxane	23.86 / 40.24	37.50 / 25.24	0.68 / 0.76

Table 5.3: Model Parameter (b , k_0 , k_3) Sensitivity Analysis - Gas Viscosity

Mixture	Mixture	$b \pm 10\%$	$k_0 \pm 10\%$	$k_3 \pm 10\%$
Component 1	Component 2	$\Delta\eta_G$ (%)	$\Delta\eta_G$ (%)	$\Delta\eta_G$ (% $\times 10^4$)
Ethane	Propane	6.16 / 7.28	10.00 / 10.00	2.22 / 2.46
Carbon Dioxide	Propane	6.16 / 7.28	10.00 / 10.00	2.78 / 3.20
Oxygen	Ethylene	6.16 / 7.28	10.00 / 10.00	0.40 / 0.46
Ammonia	Methane	6.16 / 7.28	10.00 / 10.00	0.23 / 0.26
Ammonia	Ethylene	6.16 / 7.28	10.00 / 10.00	0.39 / 0.44
Ammonia	Methyl Amine	6.16 / 7.28	10.00 / 10.00	0.58 / 0.65
Methyl Chloride	Dimethyl Ether	6.16 / 7.28	10.00 / 10.00	4.51 / 4.74

Table 5.4: Model Parameter (b , k_0 , k_3) Sensitivity Analysis - Liquid Viscosity

Mixture	Mixture	$b \pm 10\%$	$k_0 \pm 10\%$	$k_3 \pm 10\%$
Component 1	Component 2	$\Delta\eta_L (\%)$	$\Delta\eta_L (\%)$	$\Delta\eta_L (\%)$
n-Octane	n-Hexadecane	38.61 / 26.52	1.90 / 1.90	8.06 / 7.08
n-Hexane	Ethylbenzene	31.46 / 23.87	2.64 / 2.64	3.90 / 3.64
Methanol	Benzene	32.03 / 24.35	2.81 / 2.81	3.73 / 3.51
n-Pentanoic Acid	Benzene	34.60 / 25.40	1.66 / 1.66	9.67 / 8.54
n-Butanol	Acetone	39.06 / 27.13	2.02 / 2.02	7.65 / 6.80
Aniline	Phenol	37.22 / 26.30	0.63 / 0.63	22.67 / 18.14
Ethyl Acetate	1,4-Dioxane	31.55 / 23.88	2.90 / 2.90	4.20 / 3.91

The sensitivity analysis shows that the molecular weight, critical temperature, and parameter b affect the predicted viscosity the most, more so in the liquid phase. It is not surprising that the molecular weight has such a large impact since it affects the value of three other parameters, k_1 , k_2 , k_4 .

Since it is undesirable to have a large number of adjustable parameters, the number of binary interaction parameters used for the mixing rules is limited to two. Having a large number of adjustable parameters can be detrimental as it increases the potential for cross correlation when generalizing (Monnery, 1995a). Cross correlation can occur when there is more than one binary parameter, and its likelihood increases as the number of interaction parameters increase.

The molecular weight of a mixture is a measurable quantity with physical significance. Therefore, even though the model is sensitive to M , there are well accepted and proven mixing rules for M such that the predicted mixture value should not vary significantly from the actual value. Therefore mixing rules with binary interaction parameters are developed for T_c and b . The remaining parameters are mixed using simple linear mixing

rules, with the understanding that some error must inevitably be absorbed by the binary interaction parameters.

5.2 Mixing Rules

The mixture molecular weight, M_m , and the mixture acentric factor, ω , are calculated using simple linear mixing rules, Equations 5.1 and 5.2:

$$M_m = \sum_i x_i M_i \quad (5.1)$$

$$\omega_m = \sum_i x_i \omega_i \quad (5.2)$$

Equations 5.1 and 5.2 are then used to find the parameters $k_{1,m}$, $k_{2,m}$, $k_{4,m}$ for the mixture.

$$k_{1,m} = 0.03072 + (0.00128) M_m \omega_m^{1/4} \quad (5.3)$$

$$k_{2,m} = (0.6270) \exp\left((-0.00242) M_m \omega_m^{1/2}\right) \quad (5.4)$$

$$k_{4,m} = 1.0 + \exp\left((-0.03895) M_m \omega_m^{1/2}\right) \quad (5.5)$$

The remaining two k parameters are also determined using simple linear mixing rules:

$$k_{0,m} = \sum_i x_i k_{0i} \quad (5.6)$$

$$k_{3,m} = \sum_i x_i k_{3i} \quad (5.7)$$

Since $\left(\frac{\varepsilon}{k}\right)_m$ is a function of the mixture critical temperature, $T_{c,m}$, Equation 5.8.

$$\left(\frac{\varepsilon}{k}\right)_m = 0.65(T_{c,m}) \quad (5.8)$$

Where $T_{c,m}$ is defined as:

$$T_{c,m} = \sum_i \sum_j x_i x_j T_{c,ij} \quad (5.9)$$

$$T_{ij} = l_{ij} (T_{ci} \cdot T_{cj})^{1/2} \quad (5.10)$$

In Equation 5.10, l_{ij} is a binary interaction parameter.

For a binary mixture Equations 5.9 and 5.10 become:

$$T_{c,m} = x_1^2(T_{c1}) + x_2^2(T_{c2}) + 2x_1x_2(T_{c12}) \quad (5.11)$$

$$T_{c,12} = k_{12} (T_{c1} \cdot T_{c2})^{1/2} \quad (5.12)$$

Finally, b_m is determined using Equation 5.13 and 5.14 in which k_{ij} is a binary interaction parameter.

$$(b_m)^{1/3} = \sum_i \sum_j x_i x_j (b_{ij})^{1/3} \quad (5.13)$$

$$(b_{ij})^{1/3} = k_{ij} \left(\frac{(b_i)^{1/3} + (b_j)^{1/3}}{2} \right) \quad (5.14)$$

For a binary mixture Equations 5.13 and 5.14 become:

$$b_m = \left(x_1^2 b_{11}^{1/3} + x_2^2 b_{22}^{1/3} + 2x_1 x_2 b_{12}^{1/3} \right)^3 \quad (5.15)$$

$$b_{12} = k_{12}^3 \left(\frac{b_1^{1/3} + b_2^{1/3}}{2} \right)^3 \quad (5.16)$$

The mixture density, ρ_m , also requires a mixing rule since pure component densities are calculated using the methods discussed in Chapter 4. Volume is an extensive molar property and therefore an additive mixing rule can be used when calculating mixture volume (for non-associating fluids). However, since density is an intensive property, it must be related to an extensive property like volume to use an additive mixing rule.

Since molar volume is the inverse of density, the following additive mixing rule will apply.

$$\frac{1}{\rho_m} = \sum_i \frac{x_i}{\rho_i} \quad (5.17)$$

In Equation 5.17, when the density is in g/cm^3 , x is the mass fraction and when the units are mol/cm^3 , x is the mole fraction.

Some of the binary liquid mixture data from the DIPMIX™ database also have the experimental mixture density available. When the experimental mixture densities are compared to the densities obtained using Equation 5.17, there is very little deviation from the actual values, less than 3% in the majority of cases. The percent absolute deviation (%AD) for four random data sets are summarized in Table 5.5.

Table 5.5: Comparison of Predicted Density (Equation 5.17) to Experimental Density

Component 1	Component 2	Temperature (K)	Mole Fraction Component 1	%AD
Methanol	Water	298.15	0.000	0.239
Methanol	Water	298.15	0.1125	1.815
Methanol	Water	298.15	0.2276	2.970
Methanol	Water	298.15	0.4198	3.399
Methanol	Water	298.15	0.7133	2.016
Methanol	Water	298.15	0.8345	1.190
Methanol	Water	298.15	1.000	0.371
Methyl Ethyl Ketone	Propyl Propionate	298.15	0.000	0.156
Methyl Ethyl Ketone	Propyl Propionate	298.15	0.2725	0.133
Methyl Ethyl Ketone	Propyl Propionate	298.15	0.4885	0.103
Methyl Ethyl Ketone	Propyl Propionate	298.15	0.7824	0.071
Methyl Ethyl Ketone	Propyl Propionate	298.15	1.000	0.017
Methyl Ethyl Ketone	Ethyl Acetate	298.15	0.000	0.131
Methyl Ethyl Ketone	Ethyl Acetate	298.15	0.3167	0.001
Methyl Ethyl Ketone	Ethyl Acetate	298.15	0.5812	0.007
Methyl Ethyl Ketone	Ethyl Acetate	298.15	0.885	0.113
Methyl Ethyl Ketone	Ethyl Acetate	298.15	1.000	0.017
Propionic Acid	Ethylbenzene	308.15	0	0.136
Propionic Acid	Ethylbenzene	308.15	0.3813	0.397
Propionic Acid	Ethylbenzene	308.15	0.5891	0.453
Propionic Acid	Ethylbenzene	308.15	0.8518	0.326
Propionic Acid	Ethylbenzene	308.15	1	0.008

5.3 Optimized Binary Interaction Parameters

Binary interaction parameters are empirical parameters with no theoretical basis that help to make up for the deficiencies in a model. The binary interaction parameters from Equation 5.10 and 5.14 are regressed using experimental binary viscosity data. The optimized parameters resulting from this regression are listed in Table 5.6. The table states for each mixture which phases the binaries are applicable to. In many cases binaries could not be regressed to cover multiple phases due to a lack of experimental data.

Table 5.7 lists for these same mixtures the number of experimental data points used, the temperature range covered by these points, and the average absolute deviation for the data set (%AAD). The average absolute deviation indicates the average value of the error for all the data points.

For the majority of the data sets, viscosity measurements of the pure components are also included which gives a good benchmark for how well the MSWIP model is predicting the pure components and hence how much error must be absorbed by the binaries. In some cases the experimental data from one author was deemed invalid when compared to other available data. In these cases the data was discarded, typically when the error in pure component viscosity was >25%.

For many of the mixtures only limited data sets are available, often times only one source and at one temperature. There are several mixtures in Table 5.7 that have only a few data points and a very high %AAD even with optimized binary interaction parameters. Since the majority of these measurements come from one source, it is assumed that there is an error in the experimental measurement and not in the MSWIP model structure.

In general, the model is able to predict mixture viscosity very well, within 10% AAD, however there are a few exceptions. Many of the aqueous mixtures have a very high

%AAD, although this is expected since water is a notoriously difficult component to model. Amine / acid mixtures are also predicted poorly, and again this is not without precedent since acids are associating components that can also be difficult to model. The only other component that is poorly predicted is ethylene glycol. The error for the pure component data points of ethylene glycol was very high ranging from 19-30 %, at times worse than the water prediction, which means that the binaries had to compensate for a large amount of pure component viscosity error. However, the data used in the ethylene glycol and water mixtures was mostly given at temperatures of 298 K, which is below the temperature range used by Monnery (1995a) for ethylene glycol.

The experimental data and the detailed results are provided in Appendix A.

Figures 5.1 to 5.4 give a graphical representation of the results for select binary mixtures. The model is able to predict the correct trend in the viscosity curve versus the mixture composition, which is nicely shown in Figure 5.3.

Figure 5.1: Comparison of Predicted and Experimental Viscosity for Methane / Propane Dilute Gas Mixture

Figure 5.2: Comparison of Predicted and Experimental Viscosity for Anisole / Cyclohexane Liquid Mixture

Figure 5.3: Comparison of Predicted and Experimental Viscosity for Benzene / n-Hexane Liquid Mixture

Figure 5.4: Comparison of Predicted and Experimental Viscosity for Acetic Acid / Water Liquid Mixture

Figure 5.5: Comparison of Predicted and Experimental Viscosity for Carbon Dioxide / Methane Dense Phase Mixture

Table 5.6: Optimized Binary Interaction Parameters for Model Combining Rules

*G = gas, L = liquid, D = dense

Component 1	Component 2	k_{ij}	l_{ij}	Phase*
<i>Alkane</i>	<i>Alkane</i>			
Methane	n-Butane	1.08	1.33	G,D
Methane	Propane	1.12	1.04	G,D
Methane	Ethane	1.31	0.50	G
Ethane	Propane	1.25	0.50	G
2,4-Dimethylpentane	n-Dodecane	1.00	1.11	L
2,4-Dimethylpentane	n-Hexadecane	0.98	1.28	L
n-Hexane	n-Dodecane	0.98	1.29	L
n-Hexane	Tetradecane	1.07	1.10	L
n-Hexane	Hexadecane	1.11	1.07	L
n-Heptane	n-Dodecane	0.91	1.40	L
n-Heptane	n-Hexadecane	1.05	1.16	L
n-Heptane	n-Octadecane	0.93	1.50	L
n-Heptane	n-Tetradecane	0.91	1.44	L
n-Octane	n-Decane	0.98	1.06	L
n-Octane	n-Hexadecane	1.08	0.97	L
2,2,4-Trimethylpentane	n-Hexane	1.11	0.50	L
2,2,4-Trimethylpentane	Nonane	1.12	0.50	L
2,2,4-Trimethylpentane	Dodecane	1.15	0.50	L
2,2,4-Trimethylpentane	Decane	1.13	0.50	L
2,2,4-Trimethylpentane	Heptane	1.11	0.50	L
2,2,4-Trimethylpentane	Hexadecane	1.19	0.51	L
2,2,4-Trimethylpentane	Tetradecane	1.17	0.50	L
Hexadecane	Tetradecane	1.01	1.06	L

Table 5.6 (cont.)

Component 1	Component 2	k_{ij}	l_{ij}	Phase
<i>Alkane</i>	<i>Aromatic</i>			
n-Butane	Benzene	1.24	0.50	L
n-Pentane	Benzene	1.00	0.92	L
2,4-Dimethylpentane	Benzene	1.06	0.76	L
n-Hexane	Benzene	1.00	0.95	L
n-Heptane	Benzene	1.08	0.67	L
n-Octane	Benzene	1.05	0.84	L
n-Decane	Benzene	1.06	0.91	L
n-Dodecane	Benzene	1.08	0.96	L
n-Hexadecane	Benzene	1.13	1.01	L
n-Octadecane	Benzene	1.00	1.35	L
n-Tetradecane	Benzene	1.05	1.13	L
n-Hexane	Naphthalene	1.02	1.04	L
n-Heptane	o-Xylene	0.94	1.10	L
n-Hexane	Ethylbenzene	0.92	1.23	L
n-Hexane	Toluene	1.03	0.90	L
2,2,4-Trimethylpentane	Toluene	1.13	0.50	L
<i>Aromatic</i>	<i>Naphthene</i>			
Benzene	Cyclohexane	1.03	0.83	L
p-Xylene	Cyclohexane	1.06	0.75	L
m-Xylene	Cyclohexane	1.06	0.70	L
Toluene	Cyclohexane	1.06	0.79	L

Table 5.6 (cont.)

Component 1	Component 2	k_{ij}	l_{ij}	Phase*
<i>Aromatic</i>	<i>Aromatic</i>			
Benzene	Toluene	1.02	0.95	L
Benzene	o-Xylene	1.16	0.50	L
Benzene	p-Xylene	1.06	0.84	L
Benzene	Isopropylbenzene	1.06	0.78	L
Benzene	Ethylbenzene	1.02	0.93	L
Benzene	Naphthalene	0.98	1.10	L
Toluene	o-Xylene	0.98	1.10	L
Toluene	Isopropylbenzene	1.07	0.75	L
Toluene	Ethylbenzene	1.01	0.97	L
Toluene	p-Xylene	1.03	0.94	L
m-Xylene	o-Xylene	0.96	1.11	L
Cumene	Ethylbenzene	1.07	0.67	L
<i>Alkane</i>	<i>Naphthene</i>			
n-Hexane	Cyclohexane	1.03	0.83	L
n-Heptane	Cyclohexane	1.04	0.83	L
n-Octane	Cyclohexane	1.08	0.72	L
n-Nonane	Cyclohexane	1.08	0.75	L
n-Decane	Cyclohexane	1.06	0.88	L
n-Dodecane	Cyclohexane	0.99	1.16	L
n-Hexadecane	Cyclohexane	1.09	1.06	L
n-Tetradecane	Cyclohexane	1.07	1.04	L
n-Octane	Methylcyclohexane	1.01	1.01	L

Table 5.6 (cont.)

Component 1	Component 2	k_{ij}	l_{ij}	Phase
<i>Inorganic</i>	<i>Alkane</i>			
Carbon Dioxide	Methane	0.98	1.24	G,D
Carbon Dioxide	Propane	1.19	0.50	G
Oxygen	Methane	1.20	0.50	G
Nitrogen	n-Heptane	1.41	0.95	G
Carbon Monoxide	Methane	1.27	0.50	G
Ammonia	Methane	0.89	1.50	G
<i>Cl/F Alkane</i>	<i>Alkane</i>			
Carbon Tetrafluoride	Methane	0.99	1.50	G,D
Carbon Tetrachloride	n-Hexadecane	1.11	1.08	L
Chloroform	n-Hexane	1.04	0.96	L
Carbon Tetrachloride	n-Hexane	1.00	0.93	L
<i>Inorganic</i>	<i>Alkene</i>			
Carbon Monoxide	Ethylene	1.09	1.18	G
Nitrogen	Ethylene	1.05	1.50	G
Oxygen	Ethylene	0.94	1.50	G
Ethylene	Ammonia	0.95	1.16	G
<i>Cl/F Alkane</i>	<i>Inorganic</i>			
Carbon Tetrafluoride	Carbon Monoxide	1.33	0.50	G
Hydrogen Chloride	Carbon Dioxide	0.99	0.90	G
Methyl Chloride	Carbon Dioxide	1.09	0.66	G

Table 5.6 (cont.)

Component 1	Component 2	k_{ij}	l_{ij}	Phase
<i>Cl/F Alkane</i>	<i>Aromatic</i>			
Carbon Tetrachloride	Benzene	1.06	0.85	L
Carbon Tetrachloride	Toluene	1.03	0.90	L
Chloroform	Benzene	1.03	0.92	L
Chloroform	Toluene	1.01	1.02	L
Dichloromethane	Benzene	0.98	1.06	L
<i>Cl/F Alkane</i>	<i>Cl/F Alkane</i>			
Carbon Tetrachloride	Chloroform	1.05	0.84	L
Carbon Tetrachloride	Dichloromethane	1.18	0.50	G
<i>Cl/F Alkane</i>	<i>Naphthene</i>			
Carbon Tetrachloride	Cyclohexane	0.90	1.20	L
<i>Inorganic</i>	<i>Inorganic</i>			
Carbon Dioxide	Nitrogen	0.95	1.50	G
Carbon Dioxide	Argon	0.90	1.50	G
Argon	Nitrogen	1.10	1.05	G
Carbon Monoxide	Nitrogen	1.38	0.50	G
Carbon Monoxide	Oxygen	1.32	0.50	G
Carbon Dioxide	Oxygen	0.94	1.50	G
Oxygen	Nitrogen	1.38	0.50	G
Carbon Monoxide	Carbon Dioxide	1.03	1.21	G
Ammonia	Argon	0.82	1.50	G
Nitrogen	Ammonia	0.91	1.50	G
Oxygen	Ammonia	0.88	1.50	G

Table 5.6 (cont.)

Component 1	Component 2	k_{ij}	l_{ij}	Phase*
<i>Alcohol</i>	<i>Water</i>			
Methanol	Water	1.16	1.10	L,G
Ethanol	Water	1.33	0.77	L,G
1-Propanol	Water	1.34	0.73	L
2-Propanol	Water	1.40	0.63	L
1-Butanol	Water	1.16	1.03	L
2-Butanol	Water	1.04	1.20	L
2-Methyl-2-Propanol	Water	1.43	0.64	L
1-Pentanol	Water	0.93	1.29	L
2-Methyl-1-Propanol	Water	1.50	1.50	L
2-Pentanol	Water	1.21	0.94	L
1-Hexanol	Water	1.43	1.13	L
<i>Alcohol</i>	<i>Cl/F Alkane</i>			
Methanol	Carbon Tetrachloride	1.14	0.80	L
Methanol	Chloroform	1.01	1.12	L
Ethanol	Carbon Tetrachloride	0.89	1.27	L
1-Propanol	Carbon Tetrachloride	0.87	1.23	L
2-Propanol	Dichloromethane	0.91	1.07	L
2-Propanol	Carbon Tetrachloride	0.83	1.09	L
1-Butanol	Carbon Tetrachloride	0.85	1.27	L
1-Hexanol	Carbon Tetrachloride	0.96	1.09	L
1-Heptanol	Carbon Tetrachloride	1.00	1.06	L
1-Decanol	Carbon Tetrachloride	1.10	1.04	L

Table 5.6 (cont.)

Component 1	Component 2	k_{ij}	l_{ij}	Phase
<i>Alcohol</i>	<i>Aromatic</i>			
Methanol	Toluene	1.02	1.21	L
Methanol	Benzene	1.10	0.82	L
Methanol	Ethylbenzene	1.20	0.65	L
Methanol	m-Xylene	1.15	0.86	L
Ethanol	Toluene	0.94	1.17	L
Ethanol	Benzene	0.90	1.20	L
Ethanol	Ethylbenzene	0.95	1.14	L
1-Propanol	Benzene	0.82	1.25	L
1-Propanol	Toluene	0.86	1.17	L
1-Propanol	Ethylbenzene	0.89	1.15	L
2-Propanol	Benzene	0.86	1.08	L
1-Butanol	Benzene	0.86	1.17	L
1-Butanol	Cumene	0.52	1.56	L
1-Butanol	Ethylbenzene	0.83	1.16	L
1-Butanol	p-Xylene	0.88	1.09	L
1-Butanol	Toluene	0.83	1.20	L
1-Butanol	Naphthalene	0.91	1.07	L
2-Methyl-2-Propanol	Benzene	0.85	0.99	L
1-Pentanol	Benzene	0.91	1.12	L
1-Hexanol	Benzene	0.88	1.17	L
1-Hexanol	Toluene	0.94	1.05	L
1-Octanol	Benzene	1.00	1.00	L
1-Decanol	Benzene	1.00	1.00	L

Table 5.6 (cont.)

Component 1	Component 2	k_{ij}	l_{ij}	Phase*
<i>Alcohol</i>	<i>Naphthene</i>			
Methanol	Cyclohexane	0.50	0.50	L
Ethanol	Cyclohexane	0.94	1.16	L
1-Propanol	Cyclohexane	0.83	1.30	L
1-Propanol	Methylcyclohexane	0.92	1.13	L
2-Propanol	Cyclohexane	0.88	1.12	L
1-Butanol	Cyclohexane	0.87	1.22	L
1-Butanol	Methylcyclohexane	0.93	1.09	L
1-Pentanol	Cyclohexane	0.91	1.16	L
1-Pentanol	Methylcyclohexane	0.94	1.08	L
2-Methyl-1-Propanol	Cyclohexane	0.85	1.16	L
1-Hexanol	Cyclohexane	1.00	1.00	L
1-Hexanol	Methylcyclohexane	0.98	1.01	L
1-Octanol	Cyclohexane	1.00	1.00	L
1-Decanol	Cyclohexane	1.00	1.00	L
<i>Alcohol</i>	<i>Ether</i>			
Methanol	Diethyl Ether	1.02	1.07	L
Ethanol	Diethyl Ether	0.96	1.14	L
1-Propanol	Diethyl Ether	0.96	1.08	L
Methanol	1,4-Dioxane	0.99	1.09	L
Ethanol	1,4-Dioxane	1.10	0.76	L
<i>Alcohol</i>	<i>Aldehyde</i>			
Ethanol	Benzaldehyde	0.99	0.99	L

Table 5.6 (cont.)

Component 1	Component 2	k_{ij}	l_{ij}	Phase
<i>Alcohol</i>	<i>Alkane</i>			
Methanol	n-Heptane	1.50	1.50	L
Ethanol	n-Hexane	0.85	1.38	L
Ethanol	n-Heptane	0.93	1.27	L
1-Propanol	n-Heptane	1.50	1.50	L
2-Propanol	n-Pentane	0.91	1.14	L
1-Butanol	n-Pentane	0.89	1.28	L
1-Pentanol	n-Hexane	0.90	1.22	L
2-Pentanol	n-Hexane	0.85	1.23	L
2-Methyl-1-Propanol	n-Hexane	0.95	1.02	L
2-Methyl-1-Propanol	n-Heptane	0.97	0.98	L
1-Hexanol	n-Heptane	1.50	1.50	L
1-Hexanol	n-Hexane	0.99	1.05	L
1-Octanol	n-Heptane	1.50	1.50	L
1-Decanol	n-Heptane	1.50	1.50	L
<i>Alcohol</i>	<i>Alcohol</i>			
1-Butanol	1-Propanol	1.03	0.98	L
1-Butanol	2-Propanol	0.99	1.03	L
Ethanol	Methanol	1.00	1.09	L
2-Methyl-1-Propanol	1-Butanol	0.99	1.03	L
<i>Alcohol</i>	<i>Amine</i>			
Ethanol	Aniline	1.05	0.99	L
1-Butanol	Aniline	1.04	0.85	L

Table 5.6 (cont.)

Component 1	Component 2	k_{ij}	l_{ij}	Phase
<i>Alcohol</i>	<i>Nitrile</i>			
Methanol	Acetonitrile	0.94	1.04	L
<i>Aldehyde</i>	<i>Phenol</i>			
Benzaldehyde	m-Cresol	0.95	1.22	L
Benzaldehyde	Phenol	0.90	1.26	L
<i>Aldehyde</i>	<i>Water</i>			
Acetaldehyde	Water	1.46	1.50	L
<i>Ether</i>	<i>Cl/F Alkane</i>			
Dimethyl Ether	Methyl Chloride	1.17	0.50	G
Diethyl Ether	Chloroform	1.11	0.76	L
1,4-Dioxane	Chloroform	1.06	1.01	L
<i>Ether</i>	<i>Aromatic</i>			
Anisole	Benzene	0.94	1.15	L
Diethyl Ether	Benzene	1.00	1.00	L
<i>Ether</i>	<i>Naphthene</i>			
Anisole	Cyclohexane	1.03	0.82	L
<i>Ether</i>	<i>Water</i>			
1,4-Dioxane	Water	1.40	0.69	L

Table 5.6 (cont.)

Component 1	Component 2	k_{ij}	l_{ij}	Phase*
<i>Carboxylic Acid</i>	<i>Aromatic</i>			
Acetic Acid	Benzene	0.55	1.81	L
Acetic Acid	Toluene	0.70	0.99	L
Acetic Acid	Naphthalene	0.64	1.50	L
Propionic Acid	Toluene	0.90	1.18	L
Propionic Acid	Benzene	0.66	1.50	L
Butyric Acid	Benzene	0.92	1.14	L
n-Pentanoic Acid	Benzene	1.00	1.00	L
n-Hexanoic Acid	Benzene	0.88	1.30	L
n-Octanoic	Benzene	1.03	1.07	L
Propionic Acid	Ethylbenzene	0.85	1.28	L
Propionic Acid	Propylbenzene	0.78	1.50	L
Benzoic Acid	Benzene	1.32	0.50	L
<i>Carboxylic Acid</i>	<i>Cl/F Alkane</i>			
Acetic Acid	Carbon Tetrachloride	0.94	1.06	L
Acetic Acid	Chloroform	0.96	1.10	L
Butyric Acid	Carbon Tetrachloride	1.01	0.95	L
n-Hexanoic Acid	Carbon Tetrachloride	0.90	1.27	L
n-Octanoic Acid	Carbon Tetrachloride	0.99	1.17	L
<i>Carboxylic Acid</i>	<i>Water</i>			
Formic Acid	Water	1.15	0.84	L
Acetic Acid	Water	1.07	1.37	L
Propionic Acid	Water	1.30	1.18	L
Butyric Acid	Water	1.32	1.25	L
Isobutyric Acid	Water	1.34	1.00	L

Table 5.6 (cont.)

Component 1	Component 2	k_{ij}	l_{ij}	Phase
<i>Carboxylic Acid</i>	<i>Ketone</i>			
Acetic Acid	Acetophenone	1.10	0.97	L
Acetic Acid	Methyl Isobutyl Ketone	1.11	0.82	L
Acetic Acid	Acetone	0.97	1.17	L
Acetic Acid	Methyl Ethyl Ketone	1.00	1.07	L
Acetic Acid	Methyl Propyl Ketone	0.96	1.17	L
Formic Acid	Acetone	1.07	0.93	L
n-Butyric Acid	Acetone	1.03	1.11	L
<i>Carboxylic Acid</i>	<i>Amine</i>			
Acetic Acid	Aniline	0.97	1.50	L
Propionic Acid	Aniline	1.22	1.09	L
Propionic Acid	n-Butyl Amine	1.50	1.12	L
Propionic Acid	Di-n-Butyl Amine	1.49	0.50	L
<i>Carboxylic Acid</i>	<i>Alcohol</i>			
Benzoic Acid	Methanol	1.50	0.68	L
Benzoic Acid	1-Propanol	1.36	0.60	L
Acetic Acid	Ethanol	1.08	0.91	L
<i>Diol</i>	<i>Water</i>			
Ethylene Glycol	Water	0.99	1.16	L
<i>Ketone</i>	<i>Aromatic</i>			
Acetone	Benzene	1.01	0.99	L
Methyl Ethyl Ketone	Benzene	1.04	0.90	L

Table 5.6 (cont.)

Component 1	Component 2	k_{ij}	l_{ij}	Phase
<i>Ketone</i>	<i>Alkane</i>			
Acetone	n-Hexane	0.98	1.08	L
Acetone	n-Heptane	1.13	0.52	L
<i>Ketone</i>	<i>Alcohol</i>			
Acetone	Methanol	1.08	0.72	L
Acetone	Ethanol	0.96	1.09	L
Acetone	1-Butanol	1.01	0.94	L
Acetone	2-Methyl-1-Propanol	0.99	1.01	L
<i>Ketone</i>	<i>Phenol</i>			
Acetone	Phenol	0.99	1.26	L
<i>Ketone</i>	<i>Ketone</i>			
Methyl Isobutyl Ketone	Acetone	1.04	0.94	L
Methyl Ethyl Ketone	Acetone	1.07	0.74	L
Methyl Propyl Ketone	Acetone	1.03	0.94	L
<i>Ketone</i>	<i>Cl/F Alkane</i>			
Acetone	Carbon Tetrachloride	1.08	0.78	L
Acetone	Chloroform	0.96	1.28	L
2-Butanone	Carbon Tetrachloride	1.05	0.83	L
<i>Ketone</i>	<i>Water</i>			
Acetone	Water	1.22	1.01	L

Table 5.6 (cont.)

Component 1	Component 2	k_{ij}	l_{ij}	Phase
<i>Amine</i>	<i>Aromatic</i>			
Aniline	Toluene	0.77	1.50	L
Aniline	Benzene	0.76	1.50	L
Aniline	Naphthalene	0.77	1.50	L
Diethyl Amine	Benzene	0.70	1.50	L
<i>Amine</i>	<i>Alkane</i>			
Triethyl Amine	2,2,4-Trimethylpentane	1.11	0.50	L
<i>Amine</i>	<i>Water</i>			
Triethyl Amine	Water	1.45	0.76	L
n-Butyl Amine	Water	1.50	0.52	L
Diethyl Amine	Water	1.50	1.50	L
<i>Amine</i>	<i>Cl/F Alkane</i>			
Aniline	Carbon Tetrachloride	0.75	1.52	L
<i>Amine</i>	<i>Inorganic</i>			
Methylamine	Ammonia	1.04	0.81	G
<i>Amine</i>	<i>Phenol</i>			
Aniline	Phenol	0.87	1.50	L
Aniline	p-Cresol	0.81	1.50	L
<i>Phenol</i>	<i>Water</i>			
Phenol	Water	1.39	0.61	L

Table 5.6 (cont.)

Component 1	Component 2	k_{ij}	l_{ij}	Phase
<i>Phenol</i>	<i>Aromatic</i>			
o-Cresol	Benzene	0.97	1.07	L
o-Cresol	Toluene	0.95	1.09	L
p-Cresol	Benzene	0.79	1.45	L
p-Cresol	Toluene	0.72	1.57	L
Phenol	Toluene	1.06	0.87	L
Phenol	Benzene	0.74	1.50	L
<i>Phenol</i>	<i>Alkane</i>			
Phenol	n-Hexane	0.96	1.13	L
<i>Phenol</i>	<i>Naphthene</i>			
o-Cresol	Cyclohexane	0.94	1.14	L
p-Cresol	Cyclohexane	0.76	1.50	L
<i>Ester</i>	<i>Ketone</i>			
Propyl Propionate	Methyl Ethyl Ketone	0.99	1.07	L
Ethyl Acetate	Methyl Ethyl Ketone	0.88	1.37	L
Butyl Acetate	Methyl Isobutyl Ketone	1.00	1.00	L
<i>Ester</i>	<i>Ester</i>			
Methyl Acetate	Ethyl Acetate	1.00	1.04	L
<i>Ester</i>	<i>Ether</i>			
Ethyl Acetate	1,4-Dioxane	0.98	1.07	L
<i>Ester</i>	<i>Cl/F Alkane</i>			
Ethyl Acetate	Carbon Tetrachloride	1.07	0.78	L

Table 5.7: Binary Parameter Regression Results

Component 1	Component 2	No. Data Points	Temperature Range (K)	%AAD
<i>Alkane</i>	<i>Alkane</i>			
Methane	n-Butane	206	293-444	11.48
Methane	Propane	269	293-523	5.27
Methane	Ethane	76	293-523	3.80
Ethane	Propane	76	293-523	2.21
2,4-Dimethylpentane	n-Dodecane	3	298-336	0.18
2,4-Dimethylpentane	n-Hexadecane	3	298-336	0.12
n-Hexane	n-Dodecane	67	289-343	1.32
n-Hexane	Tetradecane	10	298	0.85
n-Hexane	Hexadecane	51	283-393	4.23
n-Heptane	n-Dodecane	6	298-336	0.13
n-Heptane	n-Hexadecane	15	293-336	2.56
n-Heptane	n-Octadecane	3	298-336	0.88
n-Heptane	n-Tetradecane	3	298-336	0.07
n-Octane	n-Decane	28	290-420	1.65
n-Octane	n-Hexadecane	15	318-338	1.41
2,2,4-Trimethylpentane	n-Hexane	12	298	2.32
2,2,4-Trimethylpentane	Nonane	11	298	4.07
2,2,4-Trimethylpentane	Dodecane	12	298	6.96
2,2,4-Trimethylpentane	Decane	10	298	4.12
2,2,4-Trimethylpentane	Heptane	12	298	2.47
2,2,4-Trimethylpentane	Hexadecane	12	298	4.93
2,2,4-Trimethylpentane	Tetradecane	14	298	6.82
Hexadecane	Tetradecane	11	298	4.38

Table 5.7 (cont.)

Component 1	Component 2	No. Data Points	Temperature Range (K)	%AAD
<i>Alkane</i>	<i>Aromatic</i>			
n-Butane	Benzene	6	293	0.40
n-Pentane	Benzene	7	298	0.54
2,4-Dimethylpentane	Benzene	3	298-336	0.30
n-Hexane	Benzene	146	283-463	3.91
n-Heptane	Benzene	27	293-336	0.80
n-Octane	Benzene	41	283-393	1.05
n-Decane	Benzene	21	283-393	1.23
n-Dodecane	Benzene	56	283-393	2.06
n-Hexadecane	Benzene	49	298-393	3.76
n-Octadecane	Benzene	3	298-336	0.02
n-Tetradecane	Benzene	12	298-336	1.36
n-Hexane	Naphthalene	18	298-318	1.68
n-Heptane	o-Xylene	49	293-593	5.02
n-Hexane	Ethylbenzene	18	298-323	3.70
n-Hexane	Toluene	67	298-333	1.63
2,2,4-Trimethylpentane	Toluene	14	298	3.18
<i>Aromatic</i>	<i>Naphthene</i>			
Benzene	Cyclohexane	203	283-393	1.90
p-Xylene	Cyclohexane	27	303-323	1.00
m-Xylene	Cyclohexane	27	303-323	0.72
Toluene	Cyclohexane	45	286-323	3.16

Table 5.7 (cont.)

Component 1	Component 2	No. Data Points	Temperature Range (K)	%AAD
<hr/>				
<i>Aromatic</i>	<i>Aromatic</i>			
Benzene	Toluene	107	273-343	3.80
Benzene	o-Xylene	106	294-358	20.47
Benzene	p-Xylene	64	283-353	0.98
Benzene	Isopropylbenzene	28	283-343	3.09
Benzene	Ethylbenzene	176	298-343	0.96
Benzene	Naphthalene	62	298-353	1.00
Toluene	o-Xylene	55	253-353	1.62
Toluene	Isopropylbenzene	44	253-353	4.68
Toluene	Ethylbenzene	68	253-353	1.45
Toluene	p-Xylene	34	283-353	0.76
m-Xylene	o-Xylene	63	273-303	4.72
Cumene	Ethylbenzene	5	283-353	1.30
<hr/>				
<i>Alkane</i>	<i>Naphthene</i>			
n-Hexane	Cyclohexane	23	298	1.26
n-Heptane	Cyclohexane	22	298	0.70
n-Octane	Cyclohexane	12	298	2.23
n-Nonane	Cyclohexane	12	298	1.66
n-Decane	Cyclohexane	12	298	1.76
n-Dodecane	Cyclohexane	32	289-337	1.72
n-Hexadecane	Cyclohexane	12	298	2.92
n-Tetradecane	Cyclohexane	12	298	1.67
n-Octane	Methylcyclohexane	7	298	1.30

Table 5.7 (cont.)

Component 1	Component 2	No. Data Points	Temperature Range (K)	%AAD
<i>Inorganic</i>	<i>Alkane</i>			
Carbon Dioxide	Methane	204	293-474	3.44
Carbon Dioxide	Propane	76	300-550	2.34
Oxygen	Methane	19	293	2.27
Nitrogen	n-Heptane	3	344	6.38
Carbon Monoxide	Methane	10	298-473	2.02
Ammonia	Methane	76	288-353	2.68
<i>Cl/F Alkane</i>	<i>Alkane</i>			
Carbon Tetrafluoride	Methane	110	298-473	9.70
Carbon Tetrachloride	n-Hexadecane	10	298	3.54
Chloroform	n-Hexane	8	298	0.64
Carbon Tetrachloride	n-Hexane	12	298	0.78
<i>Inorganic</i>	<i>Alkene</i>			
Carbon Monoxide	Ethylene	76	300-550	4.72
Nitrogen	Ethylene	76	300-550	5.16
Oxygen	Ethylene	57	293-373	2.43
Ethylene	Ammonia	76	293-523	1.49
<i>Cl/F Alkane</i>	<i>Inorganic</i>			
Carbon Tetrafluoride	Carbon Monoxide	10	298-473	1.80
Hydrogen Chloride	Carbon Dioxide	19	291	0.35
Methyl Chloride	Carbon Dioxide	16	238-308	0.86

Table 5.7 (cont.)

Component 1	Component 2	No. Data Points	Temperature Range (K)	%AAD
<i>Cl/F Alkane</i>	<i>Aromatic</i>			
Carbon Tetrachloride	Benzene	49	298	8.63
Carbon Tetrachloride	Toluene	33	298-333	0.70
Chloroform	Benzene	32	288-323	0.63
Chloroform	Toluene	8	298	0.20
Dichloromethane	Benzene	27	293-303	0.36
<i>Cl/F Alkane</i>	<i>Cl/F Alkane</i>			
Carbon Tetrachloride	Chloroform	41	298-323	2.69
Carbon Tetrachloride	Dichloromethane	57	293-413	1.08
<i>Cl/F Alkane</i>	<i>Naphthene</i>			
Carbon Tetrachloride	Cyclohexane	21	293	0.94
<i>Inorganic</i>	<i>Inorganic</i>			
Carbon Dioxide	Nitrogen	149	293-304	3.20
Carbon Dioxide	Argon	110	293-303	0.85
Argon	Nitrogen	74	293-303	1.70
Carbon Monoxide	Nitrogen	76	300-550	6.05
Carbon Monoxide	Oxygen	57	300-500	4.94
Carbon Dioxide	Oxygen	19	300	1.27
Oxygen	Nitrogen	76	300-550	15.28
Carbon Monoxide	Carbon Dioxide	10	298-473	1.95
Ammonia	Argon	30	293-303	1.53
Nitrogen	Ammonia	171	293-573	6.80
Oxygen	Ammonia	57	293-473	3.52

Table 5.7 (cont.)

Component 1	Component 2	No. Data Points	Temperature Range (K)	%AAD
<i>Alcohol</i>	<i>Water</i>			
Methanol	Water	430	183-373	18.15
Ethanol	Water	484	283-373	22.16
1-Propanol	Water	247	273-343	25.82
2-Propanol	Water	62	293-298	31.75
1-Butanol	Water	53	288-318	8.40
2-Butanol	Water	10	273-373	17.83
2-Methyl-2-Propanol	Water	66	298-333	28.36
1-Pentanol	Water	38	288-318	1.80
2-Methyl-1-Propanol	Water	17	293-333	14.34
2-Pentanol	Water	10	298	3.86
1-Hexanol	Water	32	288-318	44.17
<i>Alcohol</i>	<i>Cl/F Alkane</i>			
Methanol	Carbon Tetrachloride	61	298-328	3.02
Methanol	Chloroform	8	298	7.40
Ethanol	Carbon Tetrachloride	74	298-333	7.00
1-Propanol	Carbon Tetrachloride	49	298-328	4.52
2-Propanol	Dichloromethane	26	298	4.27
2-Propanol	Carbon Tetrachloride	9	298	4.94
1-Butanol	Carbon Tetrachloride	54	298-328	3.37
1-Hexanol	Carbon Tetrachloride	9	298	1.69
1-Heptanol	Carbon Tetrachloride	9	298	2.17
1-Decanol	Carbon Tetrachloride	9	298	1.90

Table 5.7 (cont.)

Component 1	Component 2	No. Data Points	Temperature Range (K)	%AAD
<i>Alcohol</i>	<i>Aromatic</i>			
Methanol	Toluene	114	293-353	10.47
Methanol	Benzene	95	283-323	3.86
Methanol	Ethylbenzene	14	298-308	6.61
Methanol	m-Xylene	6	293	6.98
Ethanol	Toluene	65	223-353	8.42
Ethanol	Benzene	73	288-328	8.79
Ethanol	Ethylbenzene	57	223-363	8.10
1-Propanol	Benzene	32	298-308	2.06
1-Propanol	Toluene	10	298	1.55
1-Propanol	Ethylbenzene	60	223-363	6.83
2-Propanol	Benzene	27	293-303	5.59
1-Butanol	Benzene	41	298-318	1.38
1-Butanol	Cumene	14	298-308	3.40
1-Butanol	Ethylbenzene	8	298	1.73
1-Butanol	p-Xylene	7	298	1.03
1-Butanol	Toluene	9	298	1.30
1-Butanol	Naphthalene	19	303-323	1.23
2-Methyl-2-Propanol	Benzene	13	298	0.88
1-Pentanol	Benzene	14	293-298	1.25
1-Hexanol	Benzene	14	298	1.56
1-Hexanol	Toluene	36	303-333	2.48
1-Octanol	Benzene	4	293	1.69
1-Decanol	Benzene	4	293	0.54

Table 5.7 (cont.)

Component 1	Component 2	No. Data Points	Temperature Range (K)	%AAD
<i>Alcohol</i>	<i>Naphthene</i>			
Methanol	Cyclohexane	4	293	43.40
Ethanol	Cyclohexane	163	298-328	6.14
1-Propanol	Cyclohexane	36	298-328	1.91
1-Propanol	Methylcyclohexane	6	303	1.84
2-Propanol	Cyclohexane	8	298	1.80
1-Butanol	Cyclohexane	32	298-328	1.38
1-Butanol	Methylcyclohexane	6	303	1.18
1-Pentanol	Cyclohexane	40	298-328	1.57
1-Pentanol	Methylcyclohexane	6	303	1.55
2-Methyl-1-Propanol	Cyclohexane	6	303	0.91
1-Hexanol	Cyclohexane	5	293	1.15
1-Hexanol	Methylcyclohexane	6	303	1.27
1-Octanol	Cyclohexane	4	293	0.13
1-Decanol	Cyclohexane	3	293	0.73
<i>Alcohol</i>	<i>Ether</i>			
Methanol	Diethyl Ether	9	298	2.82
Ethanol	Diethyl Ether	7	298	2.29
1-Propanol	Diethyl Ether	7	298	2.04
Methanol	1,4-Dioxane	45	283-323	1.46
Ethanol	1,4-Dioxane	27	293-333	4.62
<i>Alcohol</i>	<i>Aldehyde</i>			
Ethanol	Benzaldehyde	9	298	4.12

Table 5.7 (cont.)

Component 1	Component 2	No. Data Points	Temperature Range (K)	%AAD
<i>Alcohol</i>	<i>Alkane</i>			
Methanol	n-Heptane	5	293	17.43
Ethanol	n-Hexane	16	298	4.60
Ethanol	n-Heptane	52	223-353	12.93
1-Propanol	n-Heptane	5	293	77.81
2-Propanol	n-Pentane	10	298	4.25
1-Butanol	n-Pentane	16	283-298	2.10
1-Pentanol	n-Hexane	41	298-328	2.21
2-Pentanol	n-Hexane	45	293-333	6.54
2-Methyl-1-Propanol	n-Hexane	6	303	1.36
2-Methyl-1-Propanol	n-Heptane	6	303	1.69
1-Hexanol	n-Heptane	6	293	90.15
1-Hexanol	n-Hexane	36	303-333	2.28
1-Octanol	n-Heptane	6	293	94.18
1-Decanol	n-Heptane	4	293	96.52
<i>Alcohol</i>	<i>Alcohol</i>			
1-Butanol	1-Propanol	9	298	1.74
1-Butanol	2-Propanol	9	298	1.67
Ethanol	Methanol	36	298-328	3.20
2-Methyl-1-Propanol	1-Butanol	9	298	1.71
<i>Alcohol</i>	<i>Amine</i>			
Ethanol	Aniline	15	293-298	8.72
1-Butanol	Aniline	36	298-313	5.06

Table 5.7 (cont.)

Component 1	Component 2	No. Data Points	Temperature Range (K)	%AAD
<i>Alcohol</i>	<i>Nitrile</i>			
Methanol	Acetonitrile	9	298	0.23
<i>Aldehyde</i>	<i>Phenol</i>			
Benzaldehyde	m-Cresol	7	308	3.49
Benzaldehyde	Phenol	7	308	4.59
<i>Aldehyde</i>	<i>Water</i>			
Acetaldehyde	Water	9	273	16.42
<i>Ether</i>	<i>Cl/F Alkane</i>			
Dimethyl Ether	Methyl Chloride	38	308-353	7.82
Diethyl Ether	Chloroform	25	288-298	1.18
1,4-Dioxane	Chloroform	27	298	1.56
<i>Ether</i>	<i>Aromatic</i>			
Anisole	Benzene	60	298-323	1.06
Diethyl Ether	Benzene	19	283-298	1.35
<i>Ether</i>	<i>Naphthene</i>			
Anisole	Cyclohexane	36	298-313	1.21
<i>Ether</i>	<i>Water</i>			
1,4-Dioxane	Water	158	293-323	24.44

Table 5.7 (cont.)

Component 1	Component 2	No. Data Points	Temperature Range (K)	%AAD
<i>Carboxylic Acid</i>	<i>Aromatic</i>			
Acetic Acid	Benzene	25	293-363	14.87
Acetic Acid	Toluene	9	283-323	23.42
Acetic Acid	Naphthalene	18	308-328	13.63
Propionic Acid	Toluene	9	308	5.16
Propionic Acid	Benzene	29	293-318	12.93
Butyric Acid	Benzene	8	298	0.46
n-Pentanoic Acid	Benzene	8	298	2.09
n-Hexanoic Acid	Benzene	8	298	1.29
n-Octanoic	Benzene	8	298	0.29
Propionic Acid	Ethylbenzene	9	308	3.81
Propionic Acid	Propylbenzene	11	308	4.36
Benzoic Acid	Benzene	16	303-318	0.93
<i>Carboxylic Acid</i>	<i>Cl/F Alkane</i>			
Acetic Acid	Carbon Tetrachloride	13	298	0.55
Acetic Acid	Chloroform	16	298	0.67
Butyric Acid	Carbon Tetrachloride	9	298	1.63
n-Hexanoic Acid	Carbon Tetrachloride	9	298	2.98
n-Octanoic Acid	Carbon Tetrachloride	9	298	2.56
<i>Carboxylic Acid</i>	<i>Water</i>			
Formic Acid	Water	70	293-358	4.46
Acetic Acid	Water	255	293-368	10.46
Propionic Acid	Water	30	291-333	16.05
Butyric Acid	Water	143	273-308	30.95
Isobutyric Acid	Water	46	293-313	31.18

Table 5.7 (cont.)

Component 1	Component 2	No. Data Points	Temperature Range (K)	%AAD
<i>Carboxylic Acid</i>	<i>Ketone</i>			
Acetic Acid	Acetophenone	9	298	4.90
Acetic Acid	Methyl Isobutyl Ketone	36	293-318	1.29
Acetic Acid	Acetone	54	293-323	2.35
Acetic Acid	Methyl Ethyl Ketone	27	298-318	0.83
Acetic Acid	Methyl Propyl Ketone	27	298-318	0.83
Formic Acid	Acetone	27	298-318	1.69
n-Butyric Acid	Acetone	27	298-318	1.13
<i>Carboxylic Acid</i>	<i>Amine</i>			
Acetic Acid	Aniline	34	291-373	55.27
Propionic Acid	Aniline	18	298	18.84
Propionic Acid	n-Butyl Amine	78	293-333	36.09
Propionic Acid	Di-n-Butyl Amine	61	293-333	53.39
<i>Carboxylic Acid</i>	<i>Alcohol</i>			
Benzoic Acid	Methanol	16	298-318	0.65
Benzoic Acid	1-Propanol	16	298-318	0.41
Acetic Acid	Ethanol	10	298	2.87
<i>Diol</i>	<i>Water</i>			
Ethylene Glycol	Water	71	263-303	35.93
<i>Ketone</i>	<i>Aromatic</i>			
Acetone	Benzene	53	293-323	1.79
Methyl Ethyl Ketone	Benzene	18	283-299	1.29

Table 5.7 (cont.)

Component 1	Component 2	No. Data Points	Temperature Range (K)	%AAD
<i>Ketone</i>	<i>Alkane</i>			
Acetone	n-Hexane	17	298	3.53
Acetone	n-Heptane	15	296	0.22
<i>Ketone</i>	<i>Alcohol</i>			
Acetone	Methanol	37	293-318	4.49
Acetone	Ethanol	9	298	10.51
Acetone	1-Butanol	9	298	4.91
Acetone	2-Methyl-1-Propanol	9	298	2.57
<i>Ketone</i>	<i>Phenol</i>			
Acetone	Phenol	45	283-323	6.06
<i>Ketone</i>	<i>Ketone</i>			
Methyl Isobutyl Ketone	Acetone	9	298	0.49
Methyl Ethyl Ketone	Acetone	18	293-313	0.31
Methyl Propyl Ketone	Acetone	18	293-313	0.31
<i>Ketone</i>	<i>Cl/F Alkane</i>			
Acetone	Carbon Tetrachloride	65	293-333	5.18
Acetone	Chloroform	34	293-308	2.80
2-Butanone	Carbon Tetrachloride	7	298	0.38
<i>Ketone</i>	<i>Water</i>			
Acetone	Water	338	273-333	24.41

Table 5.7 (cont.)

Component 1	Component 2	No. Data Points	Temperature Range (K)	%AAD
<i>Amine</i>	<i>Aromatic</i>			
Aniline	Toluene	36	298-313	3.85
Aniline	Benzene	57	298	10.45
Aniline	Naphthalene	16	308-328	3.56
Diethyl Amine	Benzene	15	293-308	10.91
<i>Amine</i>	<i>Alkane</i>			
Triethyl Amine	2,2,4-Trimethylpentane	14	303-313	3.13
<i>Amine</i>	<i>Water</i>			
Triethyl Amine	Water	49	278-293	44.77
n-Butyl Amine	Water	15	298-328	32.33
Diethyl Amine	Water	13	298	40.17
<i>Amine</i>	<i>Cl/F Alkane</i>			
Aniline	Carbon Tetrachloride	9	298	8.53
<i>Amine</i>	<i>Inorganic</i>			
Methyl Amine	Ammonia	209	273-673	1.02
<i>Amine</i>	<i>Phenol</i>			
Aniline	Phenol	4	308	2.59
Aniline	p-Cresol	10	298-323	20.99
<i>Phenol</i>	<i>Water</i>			
Phenol	Water	84	283-358	32.19

Table 5.7 (cont.)

Component 1	Component 2	No. Data Points	Temperature Range (K)	%AAD
<i>Phenol</i>	<i>Aromatic</i>			
o-Cresol	Benzene	32	298-323	2.78
o-Cresol	Toluene	9	308	1.55
p-Cresol	Benzene	9	308	10.29
p-Cresol	Toluene	11	308	10.29
Phenol	Toluene	6	283-303	0.55
Phenol	Benzene	18	293-298	7.27
<i>Phenol</i>	<i>Alkane</i>			
Phenol	n-Hexane	9	328	2.26
<i>Phenol</i>	<i>Naphthene</i>			
o-Cresol	Cyclohexane	9	308	2.02
p-Cresol	Cyclohexane	9	308	12.00
<i>Ester</i>	<i>Ketone</i>			
Propyl Propionate	Methyl Ethyl Ketone	9	298	0.17
Ethyl Acetate	Methyl Ethyl Ketone	9	298	0.44
Butyl Acetate	Methyl Isobutyl Ketone	8	298	1.69
<i>Ester</i>	<i>Ester</i>			
Methyl Acetate	Ethyl Acetate	7	298	0.56
<i>Ester</i>	<i>Ether</i>			
Ethyl Acetate	1,4-Dioxane	7	313	2.38
<i>Ester</i>	<i>CUF Alkane</i>			
Ethyl Acetate	Carbon Tetrachloride	9	293	0.86

5.4 Generalization of Binary Interaction Parameters

Although empirical binary interaction parameters provide the most accurate predictions, they have one distinct disadvantage. A model can no longer be predictive if it relies on empirical parameters that can only be determined if experimental data is available. For this reason it is beneficial to generalize the binary interaction parameters.

The simplest approach to generalize the binary interaction parameters is by using corresponding states. In other words, the binaries are generalized in terms of properties such as critical temperature, acentric factor, etc. In order to maintain the simplicity of the MSWIP model no further inputs to the model should be added; instead an attempt to generalize the binaries in terms of the existing inputs is made. This limits the generalization to critical temperature, T_c , acentric factor, ω , and molecular weight, M .

There are several families of binaries from the experimental database that can be used to determine if there is any correlation between the potential generalization parameters and the binaries. For example, there is viscosity data for benzene with nine different n-alkanes. The binary interaction parameters, k_{ij} and l_{ij} , are plotted versus T_c , ω , and M , Figures 5.6 to 5.11. The connecting lines in Figures 5.6 to 5.11 are included to help distinguish between family sets.

Figure 5.6: Binary Interaction Parameter k_{ij} Versus Molecular Weight

Figure 5.7: Binary Interaction Parameter k_{ij} Versus Critical Temperature

Figure 5.8: Binary Interaction Parameter k_{ij} Versus Acentric Factor

Figure 5.9: Binary Interaction Parameter I_{ij} Versus Molecular Weight

Figure 5.10: Binary Interaction Parameter l_{ij} Versus Critical Temperature

Figure 5.11: Binary Interaction Parameter l_{ij} Versus Acentric Factor

From the data presented in Figures 5.6 to 5.11, some trends are clear while others are not so obvious between the interaction parameters and the component properties. If an attempt is made to fit a correlation some of the binaries will have to suffer, differing significantly from their optimum value. A sensitivity analysis was performed to see how much of an impact this would have on the viscosity prediction. Six gas and six liquid binary mixtures were randomly chosen to represent the wide range of chemical families. Each binary interaction was independently perturbed $\pm 10\%$ for a group of six gas binaries and six liquid binaries. The results are summarized in Tables 5.8 and 5.9. In Table 5.8, the methyl chloride and dimethyl ether mixture appears to improve with perturbation, which would suggest that the binaries for that system were not truly optimized. This is deceptive and not the case because only a small subset of the total experimental data set was used in the sensitivity analysis.

Table 5.8: Binary Interaction Parameter (k_{ij} , l_{ij}) Sensitivity Analysis - Gas Viscosity

Mixture	Mixture	Optimized k_{ij} , l_{ij}	$k_{ij} \pm 10\%$	$l_{ij} \pm 10\%$
Component 1	Component 2	%AAD	%AAD	%AAD
Ethane	Propane	2.75	7.39 / 9.28	3.05 / 2.89
Carbon Dioxide	Propane	2.34	7.79 / 9.38	2.63 / 2.43
Oxygen	Ethylene	2.76	6.48 / 7.80	3.36 / 3.48
Ammonia	Methane	2.68	6.35 / 8.28	3.22 / 3.68
Ammonia	Ethylene	1.49	6.03 / 7.93	2.02 / 2.68
Ammonia	Methly Amine	1.02	7.21 / 7.31	2.05 / 1.80

Table 5.9: Binary Interaction Parameter (k_{ij} , l_{ij}) Sensitivity Analysis - Liquid Viscosity

Mixture Component 1	Mixture Component 2	Optimized k_{ij} , l_{ij} %AAD	$k_{ij} \pm 10\%$ %AAD	$l_{ij} \pm 10\%$ %AAD
n-Octane	n-Hexadecane	1.80	50.97 / 25.03	9.82 / 8.45
n-Hexane	Ethylbenzene	3.77	30.26 / 17.07	13.85 / 7.00
Methanol	Benzene	2.60	47.29 / 28.47	9.19 / 8.59
n-Pentanoic Acid	Benzene	2.09	34.68 / 23.41	12.60 / 12.13
n-Butanol	Acetone	4.91	52.53 / 26.39	20.62 / 13.04
Aniline	Phenol	2.59	32.86 / 25.31	39.89 / 29.90

These results show that both liquid and gas viscosities are quite sensitive to any change in the value of the binary interaction parameters, particularly so for the case of liquid viscosity. Based on this fact and the lack of a reasonable correlation between the binaries and the current model inputs, it was concluded that the binary interaction parameters can not be generalized without complicating the model by requiring additional inputs for mixture prediction.

Group contribution is another technique that can be used for generalization, but in order for this to be a possible avenue there should be a definite trend in the binary interaction parameters with increasing molecular weight within a chemical family. Figures 5.6 and 5.9 show some trends within a few of the families. Certainly, the data currently available is not enough to make a clear judgement on the potential trends and hence the ability to generalize the binaries.

There are large gaps in the data that would need to be filled in order to determine the necessary group contributions. This can be done using predicted viscosity data from other models. However, many of the other models were developed based on similar experimental data used in this work, hence, there is little guarantee as to the accuracy of the prediction for these uncharted components.

5.5 Comparison With Other Models

The same 14 binary mixtures that were used in the sensitivity analysis (Section 5.1) are also used to compare the results of the MSWIP model against two widely accepted viscosity models. For the gas viscosity the method of Reichenberg (1979) and Chung et al. (1984) are used, while the method of Grunberg-Nissan (Reid et al., 1987) and Chung et al. (1988) are used for liquid viscosity. These models were discussed in detail in Chapter 2.

For the Grunberg-Nissan method, Chung's pure component viscosity model was used to calculate the pure component viscosities. The liquid density was calculated using the Hankinson-Brost-Thomson method outlined in Reid et al. (1987). The Peng-Robinson equation of state was used to calculate the compressibility factor, z , and the gas density.

The results of the comparison for the gases are presented in Table 5.10, while the liquid results are presented in Table 5.11. The details of the comparison are included in Appendix A and the computer code for the three methods is given in Appendix B.

For the gas mixtures, Chung's model predicted very well for the majority of the sets with the exception of the methyl chloride / dimethyl ether and oxygen / ethylene. Reichenberg's model predicted the methyl chloride / dimethyl ether mixture much better than Chung's but overall the remaining Chung model %AADs are considerably lower.

It is obvious with the liquid mixture comparison that both Chung's and Grunberg-Nissan's models do not fare well with certain polar components. For many of the binary sets, one component was predicted well but the other component was far less accurate. Again, Chung's model predicted better viscosities overall than Grunberg-Nissan's model.

This comparison is biased in favor of the MSWIP model since this is the same data that was used to regress the binary interaction parameters, hence the %AADs for the mixtures are quite impressive. However, for both the gas and liquid mixtures it is interesting to note that for the pure component viscosity data, the MSWIP model typically predicted more accurate viscosities than any of the other models tested.

Table 5.10: Gas Viscosity Model Comparison

Temperature Range (K)	No. Data Points	MSWIP %AAD	Chung %AAD	Reichenberg %AAD
<i>Ethane - Propane</i>				
293 - 473	27	1.80	0.96	7.87
<i>Carbon Dioxide - Propane</i>				
300 - 500	27	1.95	3.32	8.09
<i>Oxygen - Ethylene</i>				
293 - 373	27	2.27	29.9	44.6
<i>Ammonia - Methane</i>				
288 - 353	76	2.68	6.01	8.80
<i>Ammonia - Ethylene</i>				
293 - 523	36	1.47	5.91	14.52
<i>Ammonia - Methly Amine</i>				
273 - 673	99	0.95	7.95	17.68
<i>Methyl Chloride - Dimethyl Ether</i>				
308 - 353	18	7.34	44.46	10.38

Table 5.11: Liquid Viscosity Model Comparison

Temperature (K)	No. Data Points	MSWIP %AAD	Chung %AAD	Grunberg-N %AAD
<i>n-Octane - n-Hexadecane</i>				
318 - 338	15	1.41	3.82	19.10
<i>n-Hexane - Ethylbenzene</i>				
298 - 323	18	3.70	44.17	23.50
<i>Methanol - Benzene</i>				
293 - 323	24	2.60	99.56	173.58
<i>n-Pentanoic Acid - Benzene</i>				
298	8	2.09	30.95	32.17
<i>n-Butanol - Acetone</i>				
298	11	4.91	32.38	41.54
<i>Aniline - Phenol</i>				
308	4	2.59	90.75	91.48
<i>Ethyl Acetate - 1,4-Dioxane</i>				
313	7	2.38	29.93	19.86

5.6 Summary

Mixing rules have been developed for the MSWIP viscosity model using two binary interaction parameters. The values for the binary interaction parameters were regressed from experimental viscosity data, and the optimized interaction parameters give good viscosity predictions with the exception of aqueous systems, amine / acid systems, and ethylene glycol. The model predicted viscosities for the remaining systems within 10% AAD and is able to predict the correct trend in the viscosity curve versus the mixture composition.

The binary interaction parameters could not be generalized through the use of corresponding states while still maintaining the model's simplicity since there is no correlation between the interaction parameters and any of the input component parameters. A sensitivity analysis on the interaction parameters showed that any deviation from the optimized values would have a negative impact on the predicted viscosity, particularly for liquid viscosity.

A comparison was made between several different viscosity models, including the MSWIP model, using 14 random binary mixtures, seven gas and seven liquid. Both Chung's and Grunberg-Nissan's models did not predict the viscosity of some polar components very well for the liquid mixtures. With the gas mixtures, Chung's model had better %AADs than Reichenberg's model. For both gas and liquid viscosity, the MSWIP model had impressive %AADs; however, this is an unfair comparison since this is the same data that was used to regress the binary interaction parameters used in the model.

CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

In this work, mixing rules were developed for the Modified Square Well Intermolecular Potential (MSWIP) viscosity model developed by Monnery (1995a). The mixing rules require two binary interaction parameters that were regressed from experimental viscosity data for a range of chemical families. Gas mixture viscosity data is sorely lacking in comparison to the available liquid mixture viscosity data, and hence only 34 gas mixtures were used versus the 242 liquid mixtures used.

The regressed binary interaction parameters give good viscosity predictions with the exception of aqueous systems, amine / acid systems, and ethylene glycol. The MSWIP model predicted viscosities for the majority of the binary mixtures within 10% AAD and is able to predict the correct trend in the viscosity curve versus the mixture composition.

In the regression of the binary interaction parameters, the MSWIP model was found to accurately predict trends in the viscosity-composition curves, including maxima. This is a significant accomplishment and can be attributed to the theoretical framework that the model is based on.

One of the objectives of this work is to maintain the simplicity of the MSWIP model along with its predictive nature. An attempt was made to generalize the binary interaction parameters through the use of corresponding states, but failed since there is no correlation between the interaction parameters and any of the input component parameters. A sensitivity analysis on the interaction parameters showed that any deviation from the optimized values will have a large, negative impact on the viscosity predicted, particularly for the liquid viscosity.

A comparison was made between several different viscosity models, including MSWIP, Chung, Grunberg-Nissan, and Reichenberg, using 14 random binary mixtures, seven gas and seven liquid. Both Chung's and Grunberg-Nissan's models did not predict very well liquid mixture viscosities for some of the polar components. For gas mixtures, Chung's model had better %AADs than Reichenberg's model. For both gas and liquid viscosity, the MSWIP model had impressive %AADs; however, this is an unfair comparison since this is the same data that was used to regress the binary interaction parameters. However, for both the gas and liquid mixtures it is interesting to note that for the pure component viscosity data that was included with the mixture data, the MSWIP model typically predicted more accurately than any of the other models tested.

6.2 Recommendations

The following recommendations can be made based on this work:

1. Further study into different combinations of mixing rules and possible trends for generalization should be pursued with the MSWIP viscosity model.
2. More work needs to be done with the binary interaction parameters in terms of continuity between liquid and gas systems. This will require more gas viscosity data than is currently available, either experimental data or perhaps some predicted data could be used where appropriate.
3. More data is needed for any future mixture viscosity work, particularly for gas mixtures. The Thermodynamics Research Center will soon have some of the newer electronic databases available, i.e. Data Expert or Source. Although these only cover liquid viscosities, these new databases have some useful tools that would be a great asset and should be considered for any future mixture viscosity work.

4. Although the binary interaction parameters could not be generalized for the tested mixing rules the MSWIP model is an excellent predictive model for pure component viscosity and is applicable to a wide range of components, perhaps even more so than any other model. This model should be used to its full advantage and could be coupled with other models that require pure component viscosity as input.

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APPENDIX A**EXPERIMENTAL DATA AND DETAILED RESULTS**

An Excel spreadsheet was used to compile the experimental binary viscosity data to compare with the calculated viscosity from the Modified Square Well Intermolecular Potential (MSWIP) viscosity model. A sample of one of the data sets in the spreadsheets including the experimental data, viscosity calculation, and binary interaction parameters is shown below. Following Table A1 are the experimental and predicted viscosities for the 276 binary mixtures used in this work are included in this Appendix.

Each data set in the spreadsheet contains the viscosity, temperature, pressure, composition, and the original source of the data. In the same spreadsheet the calculation of viscosity for the MSWIP model is clearly broken down, incorporating the mixing rules described in Chapter 5. The data for the comparison between viscosity models that was described in Chapter 5 is also included in the spreadsheet.

Table A.1: Sample of Detailed MSWIP Viscosity Calculation

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	b.1	k0.1	k1.1	k2.1	k3.1	k4.1	MW.1	Tc.1	a.1	alk.1	Density.1 (g/cm ³)
PENTANOIC ACID (1) - BENZENE (2)																
AC - AR																
00043 Jones, W. J.; Bowden, S. T.; Yamold, W. W.; Jones, W. H.; J. Phys Chem., 52, 763-780(1948)																
P = 0.101 MPa																
Pentanoic Ac																
144.3758	288.15	0.873007427	0	0.803	8.0300E-04	207.1384	0.7178	0.148811	0.512482	5.211887	1.038827	102.13	843.00	0.6658	417.85	0.833085
144.3758	288.15	0.875827238	0.0387	0.82	8.2000E-04	207.1384	0.7178	0.148811	0.512482	5.211887	1.038827	102.13	843.00	0.6658	417.85	0.833085
144.3758	288.15	0.878685042	0.0783	0.838	8.3800E-04	207.1384	0.7178	0.148811	0.512482	5.211887	1.038827	102.13	843.00	0.6658	417.85	0.833085
144.3758	288.15	0.881519735	0.1189	0.862	8.6200E-04	207.1384	0.7178	0.148811	0.512482	5.211887	1.038827	102.13	843.00	0.6658	417.85	0.833085
144.3758	288.15	0.884384918	0.1605	0.887	8.8700E-04	207.1384	0.7178	0.148811	0.512482	5.211887	1.038827	102.13	843.00	0.6658	417.85	0.833085
144.3758	288.15	0.886808655	0.3377	0.875	8.7500E-04	207.1384	0.7178	0.148811	0.512482	5.211887	1.038827	102.13	843.00	0.6658	417.85	0.833085
144.3758	288.15	0.8902048828	0.4334	0.82	8.2000E-04	207.1384	0.7178	0.148811	0.512482	5.211887	1.038827	102.13	843.00	0.6658	417.85	0.833085
144.3758	288.15	0.890989018	0.5343	1.062	1.0620E-03	207.1384	0.7178	0.148811	0.512482	5.211887	1.038827	102.13	843.00	0.6658	417.85	0.833085
144.3758	288.15	0.820418304	0.7637	1.438	1.4380E-03	207.1384	0.7178	0.148811	0.512482	5.211887	1.038827	102.13	843.00	0.6658	417.85	0.833085
144.3758	288.15	0.833084638	1	1.87	1.8700E-03	207.1384	0.7178	0.148811	0.512482	5.211887	1.038827	102.13	843.00	0.6658	417.85	0.833085
b.2																
k0.2																
144.3758	0.711	0.088407	0.574888	4.182	1.247888	78.1138	582.158	0.210023	385.4034	0.873007	0.711	0.088	0.575	4.182	1.248	385.4034
144.3758	0.711	0.088407	0.574888	4.182	1.247888	78.1138	582.158	0.210023	385.4034	0.873007	0.711	0.088	0.572	4.202822	1.230	387.3808
144.3758	0.711	0.088407	0.574888	4.182	1.247888	78.1138	582.158	0.210023	385.4034	0.873007	0.711	0.088	0.570	4.244189	1.213	389.4278
144.3758	0.711	0.088407	0.574888	4.182	1.247888	78.1138	582.158	0.210023	385.4034	0.873007	0.711	0.088	0.567	4.288805	1.198	371.5207
144.3758	0.711	0.088407	0.574888	4.182	1.247888	78.1138	582.158	0.210023	385.4034	0.873007	0.711	0.088	0.564	4.330471	1.183	373.8883
144.3758	0.711	0.088407	0.574888	4.182	1.247888	78.1138	582.158	0.210023	385.4034	0.873007	0.711	0.088	0.563	4.618472	1.132	382.8888
144.3758	0.711	0.088407	0.574888	4.182	1.247888	78.1138	582.158	0.210023	385.4034	0.873007	0.711	0.088	0.547	4.818828	1.111	387.8713
144.3758	0.711	0.088407	0.574888	4.182	1.247888	78.1138	582.158	0.210023	385.4034	0.873007	0.711	0.088	0.541	4.722837	1.082	383.1882
144.3758	0.711	0.088407	0.574888	4.182	1.247888	78.1138	582.158	0.210023	385.4034	0.873007	0.711	0.088	0.527	4.853194	1.082	404.7788
144.3758	0.711	0.088407	0.574888	4.182	1.247888	78.1138	582.158	0.210023	385.4034	0.873007	0.711	0.088	0.512	5.211887	1.038	417.85

α kT,mix	Ψ_1	Ψ_2	C	$g^0(\sigma_1;bp)$	$g(\sigma_1)$	$g^0(R\sigma_1;bp)$	$g(R\sigma_1)$	η_o (mPa.s)	First Term	Second Term	η/η_o	η_{pred} (mPa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD	$\frac{W}{M}$	$\frac{W}{M}$
1.25689	-0.78377	1.380831	3.288108	3.769214	2.842018	0.7872782	0.415742	0.017281	1.380718	9.238878	10.5884	0.601885	0.000802	-0.18328	0.183275			
1.232234	-0.78804	1.378337	3.352795	3.802484	2.871803	0.78213405	0.411681	0.01721	1.378515	8.418555	10.78707	0.823005	0.000823	0.484735	0.484735			
1.236087	-0.80878	1.388448	3.425082	3.847818	3.003088	0.75880228	0.407307	0.017138	1.387488	8.605704	11.00317	0.845872	0.000848	1.075448	1.075448			
1.248087	-0.82188	1.41622	3.503552	3.884882	3.035712	0.75128422	0.40281	0.017084	1.417711	8.800863	11.21857	0.870705	0.000871	1.315027	1.315027			
1.253283	-0.83571	1.434878	3.588832	3.84435	3.088941	0.74551423	0.388388	0.018888	1.439338	10.00432	11.44388	0.897883	0.000888	1.555026	1.555026			
1.284152	-0.88637	1.520107	4.007813	4.187628	3.2723591	0.72015878	0.378847	0.018871	1.542387	10.81182	12.45418	0.832122	0.000832	0.883248	0.883248			
1.300927	-0.83084	1.588013	4.278764	4.287028	3.312818	0.70587186	0.38833	0.018501	1.608134	11.43048	13.03858	0.82	0.00082	-2.7E-05	2.68E-05			
1.318686	-0.86788	1.618809	4.587084	4.440937	3.411411	0.68037288	0.357053	0.018324	1.680318	11.98895	13.68027	1.026587	0.001027	-3.3348	3.334595			
1.357827	-1.05348	1.737845	5.447813	4.782485	3.845288	0.65504588	0.332251	0.016848	1.888837	13.32314	15.18287	1.318755	0.00132	-8.08505	8.085048			
1.401811	-1.15707	1.878875	6.722277	5.218081	3.943053	0.61272323	0.303884	0.015533	2.138085	14.95877	17.08886	1.78528	0.001785	-8.37787	8.377868			
																2.080384		
																	MU	MU
																	Total Error for All Temps.	18.72315
																	1.000881	1.000881

n-BUTANE (1) - METHANE (2)							
Temp. (K)	Exp. Density (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
(from TPRC)							
(n-Butane)							
293.2	0.00075	0.1568	1.0120E-05	1.06549E-05	5.28526749	5.285267	Total %AAD= 11.47934
293.2	0.00125	0.1586	1.0020E-05	1.06403E-05	6.19087914	6.190879	
293.2	0.00125	0.3026	9.3300E-06	9.57098E-06	2.58281886	2.582819	
293.2	0.00125	0.4579	8.7200E-06	8.71746E-06	-0.0291024	0.029102	
293.2	0.0015	0.3026	9.3320E-06	9.57084E-06	2.5593988	2.559399	
293.2	0.0015	0.4579	8.7210E-06	8.71686E-06	-0.047434	0.047434	
293.2	0.00175	0.1586	1.0029E-05	1.06412E-05	6.10401132	6.104011	
293.2	0.00175	0.3026	9.3390E-06	9.57073E-06	2.48136607	2.481366	
293.2	0.00175	0.4579	8.7240E-06	8.7163E-06	-0.0883158	0.088316	
293.2	0.00175	0.6447	8.1350E-06	8.00862E-06	-1.5535608	1.553561	
293.2	0.002	0.3026	9.3400E-06	9.57065E-06	2.46950488	2.469505	
293.2	0.002	0.4579	8.7260E-06	8.71576E-06	-0.1173765	0.117376	
293.2	0.002	0.6447	8.1310E-06	8.00772E-06	-1.5162245	1.516225	
293.2	0.00225	0.1586	1.0037E-05	1.06421E-05	6.02875579	6.028756	
293.2	0.00225	0.3026	9.3410E-06	9.57059E-06	2.45791447	2.457914	
293.2	0.00225	0.4579	8.7280E-06	8.71525E-06	-0.1460825	0.146082	
293.2	0.00225	0.6447	8.1300E-06	8.00685E-06	-1.5147488	1.514749	
293.2	0.0025	0.3026	9.3430E-06	9.57056E-06	2.43562755	2.435628	
293.2	0.0025	0.4579	8.7270E-06	8.71477E-06	-0.1401232	0.140123	
293.2	0.0025	0.6447	8.1280E-06	8.00602E-06	-1.5007105	1.500711	
293.2	0.00275	0.1586	1.0046E-05	1.06431E-05	5.94396028	5.94396	
293.2	0.00275	0.3026	9.3460E-06	9.57055E-06	2.40265626	2.402656	
293.2	0.00275	0.4579	8.7260E-06	8.71432E-06	-0.1338312	0.133831	
293.2	0.00275	0.6447	8.1250E-06	8.00523E-06	-1.4741057	1.474106	
293.2	0.003	0.3026	9.3490E-06	9.57057E-06	2.36996851	2.369969	
293.2	0.003	0.4579	8.7250E-06	8.7139E-06	-0.1272101	0.12721	
293.2	0.00325	0.1586	1.0052E-05	1.06442E-05	5.89179221	5.891792	
293.2	0.00325	0.3026	9.3500E-06	9.57061E-06	2.359453	2.359453	
293.2	0.00325	0.4579	8.7230E-06	8.71351E-06	-0.1088133	0.108813	

Temp. (K)	Exp. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
293.2	0.0035	0.3026	9.3500E-06	9.57067E-06	2.3601458	2.360146	
293.2	0.0035	0.4579	8.7210E-06	8.71314E-06	-0.090087	0.090087	
293.2	0.00375	0.1568	1.0080E-05	1.06808E-05	5.97247647	5.972476	
293.2	0.00375	0.3026	9.3500E-06	9.57076E-06	2.36109712	2.361097	
293.2	0.00425	0.1568	1.0088E-05	1.06621E-05	5.90122115	5.901221	
293.2	0.00475	0.1568	1.0072E-05	1.06635E-05	5.87298051	5.872981	
293.2	0.0055	0.1568	1.0080E-05	1.06658E-05	5.81129416	5.811294	
			<i>Average Error for Temp.</i>				2.623064
294.3	0.14	0.1	1.8350E-05	1.42087E-05	-22.568148	22.56815	
294.3	0.16	0.1	2.0080E-05	1.57084E-05	-21.770711	21.77071	
294.3	0.18	0.1	2.1980E-05	1.75014E-05	-20.375857	20.37586	
294.3	0.2	0.1	2.3940E-05	1.96207E-05	-18.042263	18.04226	
294.3	0.22	0.1	2.5920E-05	2.21042E-05	-14.721263	14.72126	
			<i>Average Error for Temp.</i>				19.49565
303.2	0.00075	0.3026	9.6180E-06	9.8998E-06	2.92991134	2.929911	
303.2	0.00125	0.1568	1.0342E-05	1.10158E-05	6.51516078	6.515161	
303.2	0.00125	0.3062	9.6310E-06	9.87596E-06	2.54345094	2.543451	
303.2	0.00125	0.4579	9.0150E-06	9.02016E-06	0.05725736	0.057257	
303.2	0.0015	0.4579	9.0150E-06	9.01969E-06	0.05203037	0.05203	
303.2	0.0015	0.6447	8.4150E-06	8.29005E-06	-1.4848459	1.484846	
303.2	0.00175	0.1568	1.0352E-05	1.10169E-05	6.42265927	6.422659	
303.2	0.00175	0.3062	9.6410E-06	9.87593E-06	2.4367856	2.436786	
303.2	0.00175	0.4579	9.0200E-06	9.01925E-06	-0.0083174	0.008317	
303.2	0.00175	0.6447	8.4160E-06	8.28924E-06	-1.5061486	1.506149	
303.2	0.002	0.4579	9.0200E-06	9.01884E-06	-0.0128736	0.012874	
303.2	0.002	0.6447	8.4180E-06	8.28847E-06	-1.5386995	1.5387	
303.2	0.00225	0.1568	1.0362E-05	1.1018E-05	6.33119854	6.331199	
303.2	0.00225	0.3062	9.6500E-06	9.876E-06	2.34198664	2.341987	
303.2	0.00225	0.4579	9.0200E-06	9.01846E-06	-0.0171054	0.017105	
303.2	0.00225	0.6447	8.4150E-06	8.28774E-06	-1.5123197	1.51232	

Temp. (K)	Exp. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
303.2	0.0025	0.4579	9.0190E-06	9.0181E-06	-0.0099323	0.009932	
303.2	0.0025	0.6447	8.4130E-06	8.28704E-06	-1.497211	1.497211	
303.2	0.00275	0.1568	1.0370E-05	1.10193E-05	6.26126011	6.26126	
303.2	0.00275	0.3062	9.6540E-06	9.87617E-06	2.3013429	2.301343	
303.2	0.00275	0.4579	9.0180E-06	9.01778E-06	-0.0024425	0.002442	
303.2	0.00275	0.6447	8.4100E-06	8.28638E-06	-1.4699704	1.46997	
303.2	0.003	0.4579	9.0160E-06	9.01748E-06	0.01645264	0.016453	
303.2	0.003	0.6447	8.4090E-06	8.28575E-06	-1.4657491	1.465749	
303.2	0.00325	0.1568	1.0378E-05	1.10206E-05	6.19228101	6.192281	
303.2	0.00325	0.3062	9.6600E-06	9.87644E-06	2.24056952	2.24057	
303.2	0.00325	0.6447	8.4060E-06	8.28515E-06	-1.4376871	1.437687	
303.2	0.0035	0.4579	9.0100E-06	9.01697E-06	0.07740048	0.0774	
303.2	0.0035	0.6447	8.4000E-06	8.28458E-06	-1.3740054	1.374005	
303.2	0.00375	0.1568	1.0386E-05	1.10221E-05	6.12425609	6.124256	
303.2	0.00375	0.3062	9.6600E-06	9.8768E-06	2.24433578	2.244336	
303.2	0.00375	0.4579	9.0090E-06	9.01676E-06	0.08613687	0.086137	
303.2	0.00425	0.1568	1.0390E-05	1.10236E-05	6.09801142	6.098011	
303.2	0.00425	0.3062	9.6600E-06	9.87726E-06	2.24909223	2.249092	
303.2	0.0045	0.3062	9.6580E-06	9.87753E-06	2.27301417	2.273014	
303.2	0.00475	0.1586	1.0394E-05	1.10093E-05	5.92018507	5.920185	
303.2	0.00525	0.1586	1.0400E-05	1.1011E-05	5.87522129	5.875221	
Average Error for Temp.							2.457495
310.9	0.04	0.1	1.2090E-05	1.22219E-05	1.09071571	1.090716	
310.9	0.06	0.1	1.2950E-05	1.26456E-05	-2.3504944	2.350494	
310.9	0.08	0.1	1.3970E-05	1.32335E-05	-5.2723041	5.272304	
310.9	0.1	0.1	1.5260E-05	1.39991E-05	-8.2630329	8.263033	
310.9	0.12	0.1	1.6750E-05	1.49582E-05	-10.697288	10.69729	
310.9	0.14	0.1	1.8450E-05	1.6129E-05	-12.579826	12.57983	
310.9	0.16	0.1	2.0240E-05	1.75323E-05	-13.378106	13.37811	
310.9	0.18	0.1	2.2150E-05	1.91917E-05	-13.355914	13.35591	
310.9	0.2	0.1	2.4190E-05	2.11343E-05	-12.632206	12.63221	

Temp. (K)	Exp. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
310.9	0.22	0.3	3.9250E-05	2.09097E-05	-46.7268	46.7268	
310.9	0.24	0.3	4.1230E-05	2.33798E-05	-43.2947	43.2947	
310.9	0.26	0.3	4.3260E-05	2.62178E-05	-39.394785	39.39479	
310.9	0.28	0.3	4.5420E-05	2.94655E-05	-35.126604	35.1266	
310.9	0.3	0.3	4.7650E-05	3.31691E-05	-30.390039	30.39004	
310.9	0.34	0.5	6.6100E-05	4.15931E-05	-37.075499	37.0755	
310.9	0.36	0.5	6.7980E-05	4.71263E-05	-30.676273	30.67627	
310.9	0.38	0.5	6.9870E-05	5.3374E-05	-23.609495	23.60949	
310.9	0.4	0.5	7.1900E-05	6.04192E-05	-15.967762	15.96776	
310.9	0.42	0.5	7.4100E-05	6.83555E-05	-7.7524122	7.752412	
310.9	0.44	0.5	7.6530E-05	7.72895E-05	0.99241362	0.992414	
310.9	0.46	0.606	7.9200E-05	8.76459E-05	10.6639897	10.66399	
310.9	0.48	0.606	8.9400E-05	9.8953E-05	10.6856861	10.68569	
310.9	0.5	0.606	1.0280E-04	0.000111642	8.60068407	8.600684	
310.9	0.52	0.606	1.1740E-04	0.000125883	7.2258298	7.22583	
Average Error for Temp.							17.82512
344.3	0.04	0.1	1.3210E-05	1.35084E-05	2.2586707	2.258671	
344.3	0.06	0.1	1.4050E-05	1.39625E-05	-0.6227938	0.622794	
344.3	0.08	0.1	1.5070E-05	1.45841E-05	-3.2245357	3.224536	
344.3	0.1	0.1	1.6230E-05	1.53871E-05	-5.1931775	5.193177	
344.3	0.12	0.1	1.7590E-05	1.63879E-05	-6.8338034	6.833803	
344.3	0.14	0.1	1.9150E-05	1.76049E-05	-8.0682929	8.068293	
344.3	0.16	0.1	2.0830E-05	1.90592E-05	-8.5011553	8.501155	
344.3	0.16	0.3	2.5390E-05	1.66433E-05	-34.449221	34.44922	
344.3	0.18	0.3	2.7830E-05	1.82268E-05	-34.506769	34.50677	
344.3	0.2	0.3	3.0470E-05	2.00782E-05	-34.104936	34.10494	
344.3	0.22	0.3	3.3330E-05	2.2252E-05	-33.317714	33.31771	
344.3	0.24	0.3	3.6250E-05	2.46988E-05	-31.865411	31.86541	
344.3	0.26	0.5	4.7160E-05	2.61329E-05	-44.586706	44.58671	
344.3	0.28	0.5	4.9160E-05	2.93694E-05	-40.25743	40.25743	
344.3	0.3	0.5	5.1280E-05	3.30506E-05	-35.548813	35.54881	

Temp. (K)	Exp. Density (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
344.3	0.32	0.5	5.3440E-05	3.72248E-05	-30.342855	30.34286	
344.3	0.34	0.5	5.5640E-05	4.19467E-05	-24.610589	24.61059	
344.3	0.36	0.5	5.8030E-05	4.72778E-05	-18.528691	18.52869	
Average Error for Temp.							22.04564
377.6	0.02	0.3	1.2160E-05	1.24544E-05	2.42085902	2.420859	
377.6	0.02	0.606	1.1210E-05	1.05925E-05	-5.5084556	5.508456	
377.6	0.04	0.1	1.4440E-05	1.47709E-05	2.29164862	2.291649	
377.6	0.04	0.3	1.2860E-05	1.27207E-05	-1.0834266	1.083427	
377.6	0.04	0.606	1.1770E-05	1.08214E-05	-8.0593764	8.059376	
377.6	0.06	0.1	1.5040E-05	1.52548E-05	1.42790379	1.427904	
377.6	0.06	0.3	1.3840E-05	1.31385E-05	-5.0686852	5.068685	
377.6	0.06	0.606	1.2500E-05	1.12041E-05	-10.366929	10.36693	
377.6	0.08	0.1	1.6020E-05	1.59103E-05	-0.6846692	0.684669	
377.6	0.08	0.3	1.5080E-05	1.37179E-05	-9.0324939	9.032494	
377.6	0.08	0.606	1.3430E-05	1.17487E-05	-12.518755	12.51876	
377.6	0.1	0.1	1.7240E-05	1.67522E-05	-2.8293499	2.82935	
377.6	0.1	0.3	1.6780E-05	1.44711E-05	-13.759947	13.75995	
377.6	0.1	0.606	1.4560E-05	1.24665E-05	-14.319493	14.31949	
377.6	0.12	0.1	1.8760E-05	1.77972E-05	-5.1321859	5.132186	
377.6	0.12	0.3	1.8790E-05	1.54123E-05	-17.975826	17.97583	
377.6	0.12	0.606	1.5820E-05	1.33712E-05	-16.478879	15.47888	
377.6	0.14	0.1	2.0200E-05	1.90643E-05	-5.6221532	5.622153	
377.6	0.14	0.3	2.1040E-05	1.65681E-05	-21.301802	21.3018	
377.6	0.14	0.606	1.7180E-05	1.44789E-05	-15.72227	15.72227	
377.6	0.16	0.1	2.2120E-05	2.05753E-05	-6.9833976	6.983398	
377.6	0.16	0.3	2.3480E-05	1.79271E-05	-23.64965	23.64965	
377.6	0.16	0.606	1.8580E-05	1.58078E-05	-14.920507	14.92051	
377.6	0.18	0.1	2.3880E-05	2.23547E-05	-6.3873827	6.387383	
377.6	0.18	0.3	2.5960E-05	1.95404E-05	-24.728622	24.72862	
377.6	0.18	0.606	2.0080E-05	1.73784E-05	-13.454248	13.45425	
377.6	0.2	0.1	2.5700E-05	2.44306E-05	-4.9392643	4.939264	

Temp. (K)	Exp. Density (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
377.6	0.2	0.606	2.1770E-05	1.92139E-05	-11.741592	11.74159	
377.6	0.22	0.1	2.7560E-05	2.68349E-05	-2.6310132	2.631013	
377.6	0.22	0.5	3.4720E-05	2.19291E-05	-36.840233	36.84023	
377.6	0.22	0.606	2.3650E-05	2.134E-05	-9.7674042	9.767404	
377.6	0.24	0.5	3.7200E-05	2.4385E-05	-34.448835	34.44884	
377.6	0.24	0.606	2.5790E-05	2.37857E-05	-7.7715687	7.771569	
377.6	0.26	0.5	3.9740E-05	2.71949E-05	-31.567957	31.56796	
377.6	0.26	0.606	2.8230E-05	2.65832E-05	-5.8334703	5.83347	
377.6	0.28	0.5	4.2300E-05	3.03957E-05	-28.142512	28.14251	
377.6	0.28	0.606	3.0970E-05	2.97685E-05	-3.8794144	3.879414	
377.6	0.3	0.5	4.4870E-05	3.40292E-05	-24.160546	24.16055	
377.6	0.3	0.606	3.3980E-05	3.3382E-05	-1.7597483	1.759748	
377.6	0.32	0.606	3.7250E-05	3.74689E-05	0.58756699	0.587567	
377.6	0.34	0.606	4.0850E-05	4.20798E-05	3.01040666	3.010407	
377.6	0.36	0.606	4.5100E-05	4.72717E-05	4.81533735	4.815337	
377.6	0.38	0.606	5.0220E-05	5.3109E-05	5.75277352	5.752774	
377.6	0.4	0.606	5.6390E-05	5.96643E-05	5.80657852	5.806579	
377.6	0.42	0.606	6.3150E-05	6.70198E-05	6.12790434	6.127904	
377.6	0.44	0.606	7.0720E-05	7.52686E-05	6.43190394	6.431904	
Average Error for Temp.							10.7988
444.3	0.02	0.606	1.3420E-05	1.24869E-05	-6.9527478	6.952748	
444.3	0.04	0.606	1.4020E-05	1.2755E-05	-9.0228888	9.022889	
444.3	0.06	0.606	1.4800E-05	1.31754E-05	-10.97715	10.97715	
444.3	0.08	0.606	1.5730E-05	1.37565E-05	-12.546211	12.54621	
444.3	0.1	0.606	1.6820E-05	1.45095E-05	-13.736837	13.73684	
444.3	0.12	0.606	1.7990E-05	1.54477E-05	-14.131852	14.13185	
444.3	0.14	0.606	1.9240E-05	1.65865E-05	-13.791511	13.79151	
444.3	0.16	0.606	2.0580E-05	1.79434E-05	-12.811343	12.81134	
444.3	0.18	0.606	2.2010E-05	1.95381E-05	-11.230882	11.23088	
444.3	0.2	0.606	2.3640E-05	2.13925E-05	-9.5069842	9.506984	
444.3	0.22	0.606	2.5520E-05	2.35315E-05	-7.7918013	7.791801	

Temp. (K)	Exp. Density (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
444.3	0.22	0.75	1.9600E-05	2.2686E-05	15.656007	15.65601	
444.3	0.24	0.606	2.7680E-05	2.59827E-05	-6.1319127	6.131913	
444.3	0.24	0.75	2.2200E-05	2.50549E-05	12.8599624	12.85996	
444.3	0.26	0.606	3.0180E-05	2.8777E-05	-4.6488835	4.648884	
444.3	0.26	0.75	2.4960E-05	2.77721E-05	11.2666111	11.26661	
444.3	0.28	0.606	3.2980E-05	3.1949E-05	-3.1259856	3.125986	
444.3	0.28	0.75	2.7680E-05	3.08526E-05	11.4615378	11.46154	
444.3	0.3	0.606	3.6020E-05	3.55378E-05	-1.3386361	1.338636	
444.3	0.3	0.75	3.0500E-05	3.43321E-05	12.5643588	12.56436	
444.3	0.32	0.606	3.9430E-05	3.9587E-05	0.39806658	0.398067	
444.3	0.32	0.75	3.3480E-05	3.82511E-05	14.2505428	14.25054	
444.3	0.34	0.606	4.3260E-05	4.41456E-05	2.04709226	2.047092	
444.3	0.34	0.75	3.6560E-05	4.26544E-05	16.6695931	16.66959	
444.3	0.36	0.606	4.7700E-05	4.9269E-05	3.28932713	3.289327	
444.3	0.38	0.606	5.2920E-05	5.50197E-05	3.96775652	3.967757	9.314448
			Average Error for Temp.				
477.6	0.1	0.606	1.8200E-05	1.55203E-05	-14.723483	14.72348	
477.6	0.12	0.606	1.9320E-05	1.64804E-05	-14.697726	14.69773	
477.6	0.14	0.606	2.0500E-05	1.76421E-05	-13.940888	13.94089	
477.6	0.16	0.606	2.1830E-05	1.90229E-05	-12.858783	12.85878	
477.6	0.18	0.606	2.3350E-05	2.06425E-05	-11.595458	11.59546	
477.6	0.2	0.606	2.5000E-05	2.25227E-05	-9.9090584	9.909058	
477.6	0.22	0.606	2.6800E-05	2.46884E-05	-7.8790606	7.879061	
477.6	0.24	0.606	2.8800E-05	2.71671E-05	-5.669806	5.669806	
477.6	0.26	0.606	3.1330E-05	2.99897E-05	-4.2779995	4.278	
477.6	0.28	0.606	3.4200E-05	3.31909E-05	-2.9506434	2.950643	
477.6	0.3	0.606	3.7520E-05	3.68095E-05	-1.8936528	1.893653	
477.6	0.32	0.606	4.1210E-05	4.08892E-05	-0.7783501	0.77835	
477.6	0.34	0.606	4.5480E-05	4.54792E-05	-0.0016622	0.001662	
477.6	0.36	0.606	5.0300E-05	5.06349E-05	0.66579311	0.665793	7.274455
			Average Error for Temp.				

Temp. (K)	Exp. Density (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
CARBON DIOXIDE (1) - METHANE (2)							
(from TPRC)							
(CO2)							
293.2	0.0025	0.3257	1.2840E-05	1.31967E-05	2.77788655	2.777887	
293.2	0.0025	0.4806	1.3460E-05	1.35789E-05	0.88360484	0.883605	
293.2	0.0025	0.6624	1.4010E-05	1.39955E-05	-0.1035404	0.10354	
293.2	0.0025	1	1.4678E-05	1.47557E-05	0.52948967	0.52949	
293.2	0.005	0.3257	1.2870E-05	1.3201E-05	2.57163756	2.571638	
293.2	0.005	0.4806	1.3470E-05	1.35808E-05	0.82248382	0.822484	
293.2	0.005	0.6624	1.4020E-05	1.39956E-05	-0.1739342	0.173934	
293.2	0.005	0.8565	1.4450E-05	1.44278E-05	-0.1538511	0.153851	
293.2	0.005	1	1.4680E-05	1.47551E-05	0.51157589	0.511576	
293.2	0.0075	0.3257	1.2900E-05	1.32067E-05	2.37716706	2.377167	
293.2	0.0075	0.4806	1.3505E-05	1.35839E-05	0.58416237	0.584162	
293.2	0.0075	0.6624	1.4034E-05	1.39969E-05	-0.2644633	0.264463	
293.2	0.0075	1	1.4690E-05	1.47555E-05	0.44611425	0.446114	
293.2	0.01	0.3257	1.2930E-05	1.32137E-05	2.19423146	2.194231	
293.2	0.01	0.4806	1.3530E-05	1.35882E-05	0.43018689	0.430187	
293.2	0.01	0.6624	1.4050E-05	1.39992E-05	-0.361215	0.361215	
293.2	0.01	0.8565	1.4478E-05	1.44297E-05	-0.3338503	0.33385	
293.2	0.0125	0.3257	1.2968E-05	1.32221E-05	1.95973018	1.95973	
293.2	0.015	0.3257	1.3002E-05	1.32319E-05	1.76834291	1.768343	
293.2	0.015	0.4806	1.3586E-05	1.36004E-05	0.10568887	0.105689	
293.2	0.015	0.6624	1.4094E-05	1.40071E-05	-0.6163026	0.616303	
293.2	0.015	0.8565	1.4505E-05	1.44354E-05	-0.4795471	0.479547	
293.2	0.0175	0.3257	1.3046E-05	1.32431E-05	1.5104851	1.510486	
293.2	0.02	0.3257	1.3090E-05	1.32556E-05	1.26471336	1.264713	
293.2	0.02	0.4806	1.3650E-05	1.36172E-05	-0.2399526	0.239953	
293.2	0.02	0.6624	1.4140E-05	1.40191E-05	-0.6548124	0.654812	
Total Error for All Temps.						529.3765	1.082582
Total %AAD=						3.435595	1.32852842
						<i>klj</i>	<i>llj</i>

Temp. (K)	Exp. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
293.2	0.02	0.8565	1.4535E-05	1.4449E-05	-0.6199604	0.61996	
293.2	0.0225	0.3257	1.3132E-05	1.32694E-05	1.04629911	1.046299	
293.2	0.025	0.3257	1.3180E-05	1.32846E-05	0.79367837	0.793678	
293.2	0.025	0.4806	1.3720E-05	1.36387E-05	-0.5922608	0.592261	
293.2	0.025	0.6624	1.4205E-05	1.40351E-05	-1.1957389	1.195739	
293.2	0.025	0.8565	1.4572E-05	1.44579E-05	-0.7830349	0.783035	
293.2	0.03	0.4806	1.3810E-05	1.36649E-05	-1.0509845	1.050985	
293.2	0.03	0.6624	1.4280E-05	1.40551E-05	-1.5746323	1.574632	
293.2	0.03	0.8565	1.4620E-05	1.44744E-05	-0.9959083	0.995908	
293.2	0.0325	0.4806	1.3850E-05	1.36797E-05	-1.2299595	1.22996	
293.2	0.035	0.6624	1.4350E-05	1.40791E-05	-1.8878193	1.887819	
293.2	0.035	0.8565	1.4670E-05	1.44944E-05	-1.1973141	1.197314	
293.2	0.0375	0.6624	1.4387E-05	1.40926E-05	-2.0465955	2.046595	
293.2	0.04	0.8565	1.4730E-05	1.45177E-05	-1.4410164	1.441016	
293.2	0.045	0.8565	1.4800E-05	1.45445E-05	-1.7261054	1.726105	
						1.118434	
303.2	0.0025	0.3257	1.3252E-05	1.36438E-05	2.95641912	2.956419	
303.2	0.0025	0.4806	1.3890E-05	1.40425E-05	1.09756242	1.097562	
303.2	0.0025	0.6624	1.4476E-05	1.44759E-05	-0.0005423	0.000542	
303.2	0.0025	0.8565	1.4925E-05	1.49253E-05	0.00178669	0.001787	
303.2	0.0025	1	1.5170E-05	1.52642E-05	0.62124822	0.621248	
303.2	0.005	0.3257	1.3282E-05	1.3649E-05	2.76331355	2.763314	
303.2	0.005	0.4806	1.3910E-05	1.40452E-05	0.97227136	0.972271	
303.2	0.005	0.6624	1.4490E-05	1.4477E-05	-0.090058	0.090058	
303.2	0.005	0.8565	1.4938E-05	1.49255E-05	-0.0838021	0.083802	
303.2	0.005	1	1.5180E-05	1.52644E-05	0.55627992	0.55628	
303.2	0.0075	0.3257	1.3318E-05	1.36557E-05	2.53530246	2.535302	
303.2	0.0075	0.4806	1.3935E-05	1.40493E-05	0.82002126	0.820021	
303.2	0.0075	0.6624	1.4508E-05	1.44791E-05	-0.1991119	0.199112	
303.2	0.01	0.3257	1.3350E-05	1.36636E-05	2.34943679	2.349437	
303.2	0.01	0.4806	1.3962E-05	1.40545E-05	0.66249652	0.662497	

Temp. (K)	Exp. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%D	%AD	%AAD
303.2	0.01	0.6624	1.4530E-05	1.44824E-05	-0.3279139	0.327914	
303.2	0.01	0.8565	1.4967E-05	1.4929E-05	-0.2536064	0.253606	
303.2	0.0125	0.3257	1.3385E-05	1.3673E-05	2.15172301	2.151723	
303.2	0.0125	0.4806	1.3992E-05	1.40609E-05	0.49247355	0.492474	
303.2	0.015	0.3257	1.3421E-05	1.36837E-05	1.95754028	1.95754	
303.2	0.015	0.4806	1.4025E-05	1.40685E-05	0.31005474	0.310055	
303.2	0.015	0.6624	1.4570E-05	1.4492E-05	-0.5356122	0.535612	
303.2	0.015	0.8565	1.4998E-05	1.49364E-05	-0.4105698	0.41057	
303.2	0.0175	0.3257	1.3461E-05	1.36958E-05	1.74420712	1.744207	
303.2	0.0175	0.4806	1.4060E-05	1.40772E-05	0.12250797	0.122508	
303.2	0.02	0.3257	1.3502E-05	1.37092E-05	1.53463634	1.534636	
303.2	0.02	0.4806	1.4099E-05	1.40871E-05	-0.0842614	0.084261	
303.2	0.02	0.6624	1.4622E-05	1.45056E-05	-0.7958607	0.795861	
303.2	0.02	0.8565	1.5034E-05	1.49474E-05	-0.5758656	0.575866	
303.2	0.0225	0.3257	1.3549E-05	1.3724E-05	1.29145508	1.291455	
303.2	0.025	0.3257	1.3599E-05	1.37401E-05	1.03763393	1.037634	
303.2	0.025	0.4806	1.4172E-05	1.41104E-05	-0.4348957	0.434896	
303.2	0.025	0.6624	1.4690E-05	1.45233E-05	-1.1348826	1.134883	
303.2	0.025	0.8565	1.5075E-05	1.49619E-05	-0.7499545	0.749954	
303.2	0.03	0.4806	1.4260E-05	1.41382E-05	-0.8540432	0.854043	
303.2	0.03	0.6624	1.4760E-05	1.45449E-05	-1.4573749	1.457375	
303.2	0.03	0.8565	1.5128E-05	1.49799E-05	-0.9788357	0.978836	
303.2	0.035	0.6624	1.4830E-05	1.45704E-05	-1.7503309	1.750331	
303.2	0.035	0.8565	1.5180E-05	1.50013E-05	-1.1770821	1.177082	
303.2	0.0375	0.6624	1.4865E-05	1.45847E-05	-1.8858831	1.885883	
303.2	0.04	0.8565	1.5243E-05	1.50261E-05	-1.4228613	1.422861	
303.2	0.045	0.8565	1.5310E-05	1.50543E-05	-1.6702021	1.670202	
						1.071298	
323.3	0.1	0.757	1.7390E-05	1.64474E-05	-5.4201056	5.420106	
323.3	0.2	0.757	2.0600E-05	1.87717E-05	-8.8750929	8.875093	
323.3	0.3	0.757	2.5100E-05	2.29393E-05	-8.6081847	8.608185	

Temp. (K)	Exp. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
323.3	0.4	0.757	3.1550E-05	2.93838E-05	-6.8660153	6.866015	
323.3	0.5	0.757	4.0500E-05	3.86883E-05	-4.4733929	4.473393	
323.3	0.6	0.757	5.2500E-05	5.16349E-05	-1.6478293	1.647829	
323.3	0.7	0.757	6.7500E-05	6.92826E-05	2.64091338	2.640913	
323.3	0.75	0.757	7.6500E-05	8.03041E-05	4.97273335	4.972733	
323.3	0.8	0.757	8.7500E-05	9.30861E-05	6.384065	6.384065	
						5.543148	
323.5	0.05	0.245	1.4600E-05	1.47264E-05	0.86560173	0.865602	
323.5	0.06	0.536	1.5700E-05	1.53885E-05	-1.9843928	1.984393	
323.5	0.1	0.245	1.6480E-05	1.58038E-05	-4.1033318	4.103332	
323.5	0.1	0.536	1.7080E-05	1.60997E-05	-5.7396013	5.739601	
323.5	0.15	0.245	1.9000E-05	1.76187E-05	-7.2702494	7.270249	
323.5	0.15	0.536	1.8850E-05	1.72913E-05	-8.2687154	8.268715	
323.5	0.175	0.245	2.0050E-05	1.88404E-05	-6.0328874	6.032887	
323.5	0.2	0.245	2.2180E-05	2.0296E-05	-8.4941799	8.49418	
323.5	0.2	0.536	2.1000E-05	1.90171E-05	-9.4425197	9.44252	
323.5	0.25	0.245	2.6150E-05	2.39961E-05	-8.2368484	8.236848	
323.5	0.25	0.536	2.3700E-05	2.13436E-05	-9.9425425	9.942542	
323.5	0.3	0.245	3.1040E-05	2.89228E-05	-6.8209645	6.820964	
323.5	0.3	0.536	2.7000E-05	2.43515E-05	-9.8090886	9.809089	
323.5	0.35	0.245	3.8100E-05	3.53354E-05	-7.2561518	7.256152	
323.5	0.35	0.536	3.0900E-05	2.81371E-05	-8.9414164	8.941416	
323.5	0.4	0.245	4.3850E-05	4.35646E-05	-0.6508466	0.650847	
323.5	0.4	0.536	3.5460E-05	3.2815E-05	-7.4591864	7.459186	
323.5	0.42	0.245	4.7000E-05	4.74561E-05	0.97034086	0.970341	
323.5	0.45	0.536	4.0900E-05	3.85219E-05	-5.8144193	5.814419	
323.5	0.5	0.536	4.7400E-05	4.54213E-05	-4.1744223	4.174422	
323.5	0.55	0.536	5.4700E-05	5.37092E-05	-1.8112996	1.8113	
323.5	0.6	0.536	6.2500E-05	6.36215E-05	1.79447321	1.794473	
						5.721976	

Temp. (K)	Exp. Density (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
373.5	0.05	0.536	1.7600E-05	1.77672E-05	0.95014506	0.950145	
373.5	0.1	0.536	1.8950E-05	1.85559E-05	-2.0799298	2.07993	
373.5	0.15	0.536	2.0800E-05	1.98307E-05	-4.6601805	4.66018	
373.5	0.2	0.536	2.3000E-05	2.16469E-05	-5.8831674	5.883167	
373.5	0.25	0.536	2.5700E-05	2.40721E-05	-6.3342255	6.334226	
373.5	0.3	0.536	2.8950E-05	2.71875E-05	-6.0880405	6.08804	
373.5	0.35	0.536	3.2800E-05	3.10897E-05	-5.2141985	5.214198	
373.5	0.4	0.536	3.7400E-05	3.58938E-05	-4.0271833	4.027183	
373.5	0.45	0.536	4.2850E-05	4.17369E-05	-2.597607	2.597607	
373.5	0.5	0.536	4.9300E-05	4.8783E-05	-1.0487615	1.048761	
373.5	0.55	0.536	5.6400E-05	5.72286E-05	1.46912769	1.469128	
						3.668415	
373.6	0.05	0.757	1.8320E-05	1.83662E-05	0.25209078	0.252091	
373.6	0.1	0.757	1.9450E-05	1.90048E-05	-2.2890172	2.289017	
373.6	0.15	0.757	2.1000E-05	2.00276E-05	-4.6304947	4.630495	
373.6	0.2	0.757	2.2900E-05	2.14691E-05	-6.248651	6.248651	
373.6	0.25	0.757	2.5250E-05	2.33715E-05	-7.4397425	7.439743	
373.6	0.3	0.757	2.7780E-05	2.57845E-05	-7.1830502	7.18305	
373.6	0.4	0.757	3.4200E-05	3.23828E-05	-5.3134	5.3134	
373.6	0.5	0.757	4.2700E-05	4.18434E-05	-2.0060855	2.006085	
373.6	0.6	0.757	5.4500E-05	5.49451E-05	0.81661525	0.816615	
373.6	0.7	0.757	6.9500E-05	7.27451E-05	4.66920044	4.6692	
						4.084835	
373.7	0.02	0.245	1.5670E-05	1.65758E-05	5.78039354	5.780394	
373.7	0.05	0.245	1.6400E-05	1.6961E-05	3.42060954	3.42061	
373.7	0.1	0.245	1.8060E-05	1.81412E-05	0.44963522	0.449635	
373.7	0.12	0.245	1.8950E-05	1.882E-05	-0.6858414	0.685841	
373.7	0.15	0.245	2.0500E-05	2.00834E-05	-2.0324376	2.032438	
373.7	0.2	0.245	2.3700E-05	2.2918E-05	-3.2994764	3.299476	
373.7	0.25	0.245	2.7650E-05	2.68112E-05	-3.0334744	3.033474	

Temp. (K)	Exp. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
373.7	0.3	0.245	3.2550E-05	3.19731E-05	-1.7722363	1.772236	
373.7	0.33	0.245	3.6000E-05	3.57872E-05	-0.5909952	0.590995	
373.7	0.35	0.245	3.8600E-05	3.867E-05	0.18145908	0.181459	2.124656
422.8	0.05	0.536	1.9600E-05	2.00685E-05	2.39009488	2.390095	
422.8	0.1	0.536	2.0090E-05	2.09325E-05	4.19349867	4.193499	
422.8	0.15	0.536	2.2820E-05	2.22957E-05	-2.2977494	2.297749	
422.8	0.2	0.536	2.5030E-05	2.4216E-05	-3.2520927	3.252093	
422.8	0.25	0.536	2.8080E-05	2.67641E-05	-4.6863279	4.686328	
422.8	0.3	0.536	3.0090E-05	3.00242E-05	-0.2188351	0.218835	
422.8	0.35	0.536	3.4580E-05	3.40964E-05	-1.3984568	1.398459	
422.8	0.4	0.536	3.9100E-05	3.91E-05	-1.192E-08	1.19E-08	
422.8	0.45	0.536	4.4700E-05	4.51769E-05	1.06680399	1.066804	2.167096
423.4	0.02	0.245	1.7200E-05	1.86921E-05	8.67472278	8.674723	
423.4	0.04	0.245	1.7740E-05	1.89544E-05	6.84549212	6.845492	
423.4	0.05	0.245	1.8040E-05	1.91253E-05	6.01591097	6.015911	
423.4	0.1	0.245	1.9900E-05	2.04065E-05	2.54509924	2.545099	
423.4	0.15	0.245	2.2260E-05	2.2482E-05	0.99729083	0.997291	
423.4	0.2	0.245	2.6700E-05	2.54902E-05	-4.5309785	4.530979	
423.4	0.25	0.245	3.0600E-05	2.96061E-05	-3.2478971	3.247897	
423.4	0.28	0.245	3.3700E-05	3.26969E-05	-2.9764402	2.97644	
423.4	0.3	0.245	3.5900E-05	3.50504E-05	-2.3664515	2.366452	
423.4	0.32	0.245	3.8100E-05	3.76603E-05	-1.1540654	1.154065	3.935435
423.9	0.05	0.757	2.0400E-05	2.08119E-05	2.01911685	2.019117	
423.9	0.1	0.757	2.1530E-05	2.15181E-05	-0.0551288	0.055129	
423.9	0.2	0.757	2.4890E-05	2.41431E-05	-3.0007551	3.000755	
423.9	0.25	0.757	2.7220E-05	2.61421E-05	-3.9599466	3.959947	

Temp. (K)	Exp. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
423.9	0.3	0.757	2.9700E-05	2.86649E-05	-3.4851383	3.485138	
423.9	0.4	0.757	3.6020E-05	3.55302E-05	-1.3599315	1.359932	
423.9	0.5	0.757	4.4480E-05	4.53379E-05	1.92864222	1.928642	
423.9	0.55	0.757	5.0000E-05	5.15868E-05	3.1735373	3.173537	
423.9	0.6	0.757	5.6500E-05	5.88935E-05	4.236286	4.236286	
						2.579831	
472.8	0.02	0.245	1.9000E-05	2.07649E-05	9.23639622	9.236396	
472.8	0.04	0.245	1.9450E-05	2.1046E-05	8.20574986	8.20575	
472.8	0.05	0.245	1.9700E-05	2.12329E-05	7.78134515	7.781345	
472.8	0.08	0.245	2.0060E-05	2.19684E-05	9.51322283	9.513223	
472.8	0.1	0.245	2.0140E-05	2.2613E-05	12.2792117	12.27921	
472.8	0.12	0.245	2.0240E-05	2.33904E-05	15.565074	15.56507	
472.8	0.14	0.245	2.2330E-05	2.43091E-05	8.86299943	8.862999	
472.8	0.15	0.245	2.3800E-05	2.48245E-05	4.30447947	4.304479	
472.8	0.16	0.245	2.4300E-05	2.53788E-05	4.43969451	4.439695	
472.8	0.18	0.245	2.5840E-05	2.66101E-05	2.98032406	2.980324	
472.8	0.2	0.245	2.6700E-05	2.80145E-05	4.92307015	4.92307	
472.8	0.23	0.245	2.8950E-05	3.04735E-05	5.26247928	5.262479	
472.8	0.25	0.245	3.0600E-05	3.23685E-05	5.7795639	5.779564	
472.8	0.28	0.245	3.3700E-05	3.56345E-05	5.74044173	5.740442	
472.8	0.3	0.245	3.5900E-05	3.81202E-05	6.18441761	6.184418	
						7.403898	
473.6	0.05	0.757	2.2340E-05	2.31869E-05	3.79093263	3.790933	
473.6	0.1	0.757	2.4410E-05	2.39584E-05	-1.850068	1.850068	
473.6	0.15	0.757	2.5000E-05	2.51338E-05	0.53505918	0.535059	
473.6	0.2	0.757	2.7000E-05	2.67515E-05	-0.9204352	0.920435	
473.6	0.25	0.757	2.9280E-05	2.88579E-05	-1.4416045	1.441604	
473.6	0.3	0.757	3.1700E-05	3.15072E-05	-0.6083367	0.608337	
473.6	0.35	0.757	3.4600E-05	3.4762E-05	0.46818255	0.468183	
473.6	0.4	0.757	3.7950E-05	3.86949E-05	1.96294935	1.962949	

[illegible]

Temp. (K)	Exp. Density (g/cm3)	Mole Frac. (CO2)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
CARBON DIOXIDE (1) - NITROGEN (2) (from TPRC)							
293.2	0.002	0.1607	1.7222E-05	1.82303E-05	5.85459922	5.854599	Total %AAD= 3.198685
293.2	0.0025	0.0738	1.7440E-05	1.90685E-05	9.3377235	9.337724	
293.2	0.0025	0.106	1.7460E-05	1.87296E-05	7.27146614	7.271466	
293.2	0.0025	0.2333	1.7215E-05	1.76872E-05	2.74280702	2.742807	
293.2	0.0025	0.3101	1.6840E-05	1.72129E-05	2.21452183	2.214522	
293.2	0.0025	0.3752	1.6708E-05	1.68702E-05	0.97059781	0.970598	
293.2	0.0025	0.5054	1.6192E-05	1.6296E-05	0.64255903	0.642559	
293.2	0.004	0.1607	1.7240E-05	1.82382E-05	5.79028691	5.790287	
293.2	0.005	0.0738	1.7470E-05	1.90812E-05	9.22285184	9.222852	
293.2	0.005	0.106	1.7491E-05	1.87414E-05	7.1486179	7.148618	
293.2	0.005	0.1607	1.7250E-05	1.82424E-05	5.75324461	5.753245	
293.2	0.005	0.2333	1.7210E-05	1.76955E-05	2.82103737	2.821037	
293.2	0.005	0.3101	1.6870E-05	1.72195E-05	2.07146169	2.071462	
293.2	0.005	0.3752	1.6722E-05	1.68753E-05	0.91697454	0.916975	
293.2	0.005	0.5054	1.6221E-05	1.62989E-05	0.48043522	0.480435	
293.2	0.006	0.1607	1.7260E-05	1.82468E-05	5.71703153	5.717032	
293.2	0.0075	0.0738	1.7500E-05	1.90948E-05	9.11337086	9.113371	
293.2	0.0075	0.106	1.7520E-05	1.8754E-05	7.04334549	7.043345	
293.2	0.0075	0.2333	1.7213E-05	1.77047E-05	2.85637787	2.856378	
293.2	0.0075	0.3752	1.6740E-05	1.68814E-05	0.8444275	0.844428	
293.2	0.0075	0.5054	1.6252E-05	1.63027E-05	0.31196856	0.311969	
293.2	0.008	0.1607	1.7285E-05	1.82558E-05	5.61650979	5.61651	
293.2	0.01	0.0738	1.7532E-05	1.91093E-05	8.99678498	8.996785	
293.2	0.01	0.106	1.7546E-05	1.87675E-05	6.96157902	6.961579	
293.2	0.01	0.1607	1.7311E-05	1.82654E-05	5.51327732	5.513277	
293.2	0.01	0.2333	1.7225E-05	1.77147E-05	2.84274143	2.842741	
293.2	0.01	0.3101	1.6930E-05	1.7235E-05	1.80168522	1.801685	
293.2	0.01	0.3752	1.6760E-05	1.68882E-05	0.76493488	0.764935	
293.2	0.01	0.5054	1.6286E-05	1.63073E-05	0.13087055	0.130871	

Temp. (K)	Exp. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
293.2	0.012	0.1607	1.7340E-05	1.8275E-05	5.39519211	5.395192	
293.2	0.0125	0.106	1.7570E-05	1.8781E-05	6.89706957	6.89707	
293.2	0.0125	0.2333	1.7242E-05	1.7725E-05	2.80404777	2.804048	
293.2	0.014	0.1607	1.7372E-05	1.8286E-05	5.26238137	5.262381	
293.2	0.015	0.0738	1.7608E-05	1.9140E-05	8.70552717	8.705527	
293.2	0.015	0.106	1.7600E-05	1.8797E-05	6.80115015	6.80115	
293.2	0.015	0.1607	1.7390E-05	1.8291E-05	5.18520591	5.185206	
293.2	0.015	0.2333	1.7260E-05	1.7737E-05	2.7641864	2.764186	
293.2	0.015	0.3101	1.6990E-05	1.7253E-05	1.55292689	1.552927	
293.2	0.015	0.3752	1.6812E-05	1.6904E-05	0.54910888	0.549109	
293.2	0.015	0.5054	1.6351E-05	1.6319E-05	-0.195794	0.195794	
293.2	0.02	0.0738	1.7670E-05	1.9175E-05	8.5223115	8.522312	
293.2	0.02	0.106	1.7644E-05	1.8829E-05	6.72143982	6.72144	
293.2	0.02	0.2333	1.7318E-05	1.7762E-05	2.5682903	2.56829	
293.2	0.02	0.3101	1.7070E-05	1.7275E-05	1.20594743	1.205947	
293.2	0.02	0.3752	1.6870E-05	1.6923E-05	0.31777173	0.317772	
293.2	0.02	0.5054	1.6420E-05	1.6333E-05	-0.5246982	0.524698	
293.2	0.025	0.0738	1.7748E-05	1.9214E-05	8.26234247	8.262342	
293.2	0.025	0.106	1.7682E-05	1.8866E-05	6.69762154	6.697622	
293.2	0.025	0.2333	1.7375E-05	1.7791E-05	2.39819493	2.398195	
293.2	0.025	0.3101	1.7150E-05	1.7301E-05	0.88071589	0.880716	
293.2	0.025	0.3752	1.6930E-05	1.6946E-05	0.09478583	0.094786	
293.2	0.025	0.5054	1.6490E-05	1.6351E-05	-0.8378573	0.837857	
293.2	0.0275	0.106	1.7710E-05	1.8885E-05	6.63879264	6.638793	
293.2	0.0275	0.2333	1.7408E-05	1.7807E-05	2.29408039	2.29408	
293.2	0.03	0.0738	1.7820E-05	1.9256E-05	8.06068867	8.060689	
293.2	0.03	0.2333	1.7437E-05	1.7823E-05	2.21844296	2.218443	
293.2	0.03	0.3101	1.7230E-05	1.7329E-05	0.5768886	0.576889	
293.2	0.03	0.3752	1.6990E-05	1.6971E-05	-0.1081859	0.108186	
293.2	0.03	0.5054	1.6560E-05	1.6372E-05	-1.1296209	1.129621	
293.2	0.0325	0.0738	1.7860E-05	1.9278E-05	7.94369764	7.943698	
293.2	0.0325	0.3752	1.7022E-05	1.6986E-05	-0.2139682	0.213968	

Temp. (K)	Exp. Density (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
293.2	0.035	0.3101	1.7310E-05	1.73609E-05	0.29417696	0.294177	
293.2	0.035	0.5054	1.6630E-05	1.63971E-05	-1.4003542	1.400354	
293.2	0.0025	0.5057	1.6280E-05	1.62949E-05	0.09122317	0.091223	
293.2	0.0025	0.6568	1.5726E-05	1.5748E-05	0.14010517	0.140105	
293.2	0.0025	0.6882	1.5692E-05	1.56453E-05	-0.2978887	0.297889	
293.2	0.0025	0.787	1.5355E-05	1.53399E-05	-0.098046	0.098046	
293.2	0.0025	0.9044	1.4938E-05	1.50067E-05	0.45960986	0.45961	
293.2	0.005	0.5057	1.6309E-05	1.62977E-05	-0.0690736	0.069074	
293.2	0.005	0.6568	1.5749E-05	1.5749E-05	2.5544E-06	2.55E-06	
293.2	0.005	0.6882	1.5710E-05	1.56459E-05	-0.4078861	0.407886	
293.2	0.005	0.787	1.5365E-05	1.53399E-05	-0.163534	0.163534	
293.2	0.005	0.8131	1.5296E-05	1.52631E-05	-0.2151775	0.215177	
293.2	0.005	0.9044	1.4950E-05	1.50061E-05	0.37533339	0.375333	
293.2	0.0075	0.5057	1.6338E-05	1.63015E-05	-0.2234054	0.223405	
293.2	0.0075	0.6568	1.5773E-05	1.57509E-05	-0.1401176	0.140118	
293.2	0.0075	0.6882	1.5728E-05	1.56475E-05	-0.5116363	0.511636	
293.2	0.01	0.5057	1.6362E-05	1.63061E-05	-0.3415961	0.341596	
293.2	0.01	0.6568	1.5800E-05	1.57537E-05	-0.293202	0.293202	
293.2	0.01	0.6882	1.5746E-05	1.565E-05	-0.6095363	0.609536	
293.2	0.01	0.787	1.5380E-05	1.53426E-05	-0.2431814	0.243181	
293.2	0.01	0.8131	1.5324E-05	1.52656E-05	-0.3814022	0.381402	
293.2	0.01	0.9044	1.4972E-05	1.5008E-05	0.24050922	0.240509	
293.2	0.015	0.5057	1.6423E-05	1.63178E-05	-0.6407391	0.640739	
293.2	0.015	0.6568	1.5858E-05	1.57617E-05	-0.6070343	0.607034	
293.2	0.015	0.6882	1.5790E-05	1.56575E-05	-0.8389067	0.838907	
293.2	0.015	0.787	1.5390E-05	1.53488E-05	-0.2676007	0.267601	
293.2	0.015	0.8131	1.5360E-05	1.52715E-05	-0.5759495	0.575949	
293.2	0.015	0.9044	1.5000E-05	1.50135E-05	0.08992443	0.089924	
293.2	0.02	0.5057	1.6485E-05	1.63326E-05	-0.9243462	0.924346	
293.2	0.02	0.6568	1.5918E-05	1.5773E-05	-0.9106698	0.91067	
293.2	0.02	0.6882	1.5835E-05	1.56683E-05	-1.0526924	1.052692	
293.2	0.02	0.787	1.5430E-05	1.53583E-05	-0.4644292	0.464429	

Temp. (K)	Exp. Density (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
293.2	0.02	0.8131	1.5400E-05	1.52808E-05	-0.773815	0.773815	
293.2	0.02	0.9044	1.5033E-05	1.50223E-05	-0.0709665	0.070967	
293.2	0.026	0.5057	1.6550E-05	1.63506E-05	-1.2047999	1.2048	
293.2	0.026	0.6568	1.5975E-05	1.57875E-05	-1.1736766	1.173677	
293.2	0.025	0.6882	1.5884E-05	1.56822E-05	-1.2701609	1.270161	
293.2	0.025	0.787	1.5700E-05	1.53711E-05	-2.0951181	2.095118	
293.2	0.025	0.8131	1.5450E-05	1.52933E-05	-1.0139433	1.013943	
293.2	0.025	0.9044	1.5072E-05	1.50344E-05	-0.2493242	0.249324	
293.2	0.03	0.5057	1.6618E-05	1.63717E-05	-1.4821618	1.482162	
293.2	0.03	0.6568	1.6040E-05	1.58051E-05	-1.4645447	1.464545	
293.2	0.03	0.6882	1.5949E-05	1.56993E-05	-1.5655436	1.565544	
293.2	0.03	0.787	1.5520E-05	1.53869E-05	-0.8573443	0.857344	
293.2	0.03	0.8131	1.5502E-05	1.5309E-05	-1.244925	1.244925	
293.2	0.03	0.9044	1.5120E-05	1.50497E-05	-0.4650179	0.465018	
293.2	0.036	0.5057	1.6898E-05	1.63959E-05	-2.9715237	2.971524	
293.2	0.036	0.6568	1.6108E-05	1.58258E-05	-1.7521922	1.752192	
293.2	0.036	0.6882	1.6011E-05	1.57195E-05	-1.8208303	1.82083	
293.2	0.036	0.787	1.5570E-05	1.54059E-05	-1.0538098	1.05381	
293.2	0.036	0.8131	1.5564E-05	1.53278E-05	-1.5176637	1.517664	
293.2	0.036	0.9044	1.5182E-05	1.50681E-05	-0.7503029	0.750303	
293.2	0.0376	0.5057	1.6725E-05	1.64091E-05	-1.8886904	1.88869	
293.2	0.0376	0.6568	1.6140E-05	1.58372E-05	-1.8758104	1.87581	
293.2	0.04	0.6882	1.6078E-05	1.57427E-05	-2.0854884	2.085488	
293.2	0.04	0.787	1.5630E-05	1.5428E-05	-1.2924671	1.292467	
293.2	0.04	0.8131	1.5628E-05	1.53497E-05	-1.7810486	1.781049	
293.2	0.04	0.9044	1.5258E-05	1.50896E-05	-1.1037364	1.103736	
293.2	0.0425	0.9044	1.5296E-05	1.51015E-05	-1.271568	1.271568	
293.2	0.045	0.8131	1.5699E-05	1.53746E-05	-2.0663936	2.066394	
293.2	0.05	0.8131	1.5770E-05	1.54026E-05	-2.329742	2.329742	2.376598
304.2	0.0025	0.0738	1.7965E-05	1.97403E-05	9.88213623	9.882136	

Temp. (K)	Exp. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
304.2	0.0026	0.3101	1.7370E-05	1.78439E-05	2.72826542	2.728265	
304.2	0.005	0.0738	1.7992E-05	1.97538E-05	9.79186952	9.79187	
304.2	0.005	0.3101	1.7391E-05	1.78512E-05	2.64636811	2.646368	
304.2	0.005	0.8131	1.5852E-05	1.5841E-05	-0.0692297	0.06923	
304.2	0.01	0.0738	1.8060E-05	1.97833E-05	9.54185623	9.541856	
304.2	0.01	0.3101	1.7466E-05	1.78684E-05	2.303906	2.303906	
304.2	0.01	0.8131	1.5892E-05	1.58453E-05	-0.2941087	0.294109	
304.2	0.0125	0.0738	1.8092E-05	1.97993E-05	9.43693711	9.436937	
304.2	0.015	0.0738	1.8130E-05	1.98163E-05	9.30105007	9.30105	
304.2	0.015	0.3101	1.7548E-05	1.78888E-05	1.9422317	1.942232	
304.2	0.015	0.8131	1.5938E-05	1.5853E-05	-0.5336297	0.53363	
304.2	0.02	0.0738	1.8190E-05	1.98528E-05	9.1413938	9.141394	
304.2	0.02	0.3101	1.7620E-05	1.79124E-05	1.65975813	1.659758	
304.2	0.02	0.8131	1.5980E-05	1.58639E-05	-0.7264559	0.726456	
304.2	0.0225	0.0738	1.8225E-05	1.98724E-05	9.03930308	9.039303	
304.2	0.025	0.0738	1.8260E-05	1.98929E-05	8.94245579	8.942456	
304.2	0.025	0.3101	1.7699E-05	1.79393E-05	1.35748089	1.357481	
304.2	0.025	0.8131	1.6029E-05	1.58781E-05	-0.9417267	0.941727	
304.2	0.0275	0.3101	1.7732E-05	1.79539E-05	1.25117455	1.251175	
304.2	0.03	0.0738	1.8340E-05	1.99365E-05	8.70513287	8.705133	
304.2	0.03	0.3101	1.7774E-05	1.79693E-05	1.09851925	1.098519	
304.2	0.03	0.8131	1.6087E-05	1.58953E-05	-1.1916003	1.1916	
304.2	0.0325	0.3101	1.7812E-05	1.79854E-05	0.97371837	0.973718	
304.2	0.035	0.8131	1.6149E-05	1.59156E-05	-1.4450061	1.445006	
304.2	0.04	0.8131	1.6212E-05	1.5939E-05	-1.6836666	1.683667	
304.2	0.045	0.8131	1.6280E-05	1.59655E-05	-1.9318937	1.931894	
Average Error for Temp.							4.020773
Total Error for All Temps.							$\frac{kJ}{IJ}$ 0.948172
							$\frac{IJ}{IJ}$ 1.5

ARGON (1) - CARBON DIOXIDE (2)

Temp. (K)	Exp. Density (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
(from TPRC)		(CO2)	Total %AAD= 0.848396				
293.2	0.005	0.2675	2.0308E-05	2.07098E-05	1.97859801	1.978598	
293.2	0.005	0.3324	1.9764E-05	2.00679E-05	1.53764533	1.537645	
293.2	0.005	0.5398	1.8160E-05	1.82405E-05	0.44323583	0.443236	
293.2	0.005	0.6339	1.7420E-05	1.74767E-05	0.32546318	0.325463	
293.2	0.005	0.8425	1.5842E-05	1.58757E-05	0.21299436	0.212994	
293.2	0.005	0.9172	1.5294E-05	1.53335E-05	0.25815675	0.258157	
293.2	0.01	0.2675	2.0330E-05	2.07199E-05	1.91804895	1.918049	
293.2	0.01	0.3324	1.9820E-05	2.0076E-05	1.29147476	1.291475	
293.2	0.01	0.5398	1.8220E-05	1.82436E-05	0.12971792	0.129718	
293.2	0.01	0.6339	1.7460E-05	1.74785E-05	0.10578383	0.105784	
293.2	0.01	0.8425	1.5880E-05	1.58765E-05	-0.022113	0.022113	
293.2	0.01	0.9172	1.5320E-05	1.53345E-05	0.09491726	0.094917	
293.2	0.015	0.2675	2.0380E-05	2.07322E-05	1.72795753	1.727958	
293.2	0.015	0.3324	1.9880E-05	2.00862E-05	1.03738324	1.037383	
293.2	0.015	0.5398	1.8282E-05	1.82493E-05	-0.0692751	0.069275	
293.2	0.015	0.6339	1.7508E-05	1.7483E-05	-0.1426988	0.142699	
293.2	0.015	0.8425	1.5910E-05	1.58805E-05	-0.1854521	0.185452	
293.2	0.015	0.9172	1.5342E-05	1.5339E-05	-0.0192734	0.019273	
293.2	0.02	0.2675	2.0440E-05	2.07464E-05	1.49905018	1.49905	
293.2	0.02	0.3324	1.9942E-05	2.00986E-05	0.78530174	0.785302	
293.2	0.02	0.5398	1.8320E-05	1.82575E-05	-0.341168	0.341168	
293.2	0.02	0.6339	1.7550E-05	1.74902E-05	-0.3409017	0.340902	
293.2	0.02	0.8425	1.5950E-05	1.58875E-05	-0.3915689	0.391569	
293.2	0.02	0.9172	1.5380E-05	1.53468E-05	-0.2161436	0.216144	
293.2	0.025	0.2675	2.0511E-05	2.07626E-05	1.2268971	1.226897	
293.2	0.025	0.3324	2.0000E-05	2.0113E-05	0.56522527	0.565225	
293.2	0.025	0.5398	1.8378E-05	1.8268E-05	-0.5985108	0.598511	
293.2	0.025	0.6339	1.7600E-05	1.74998E-05	-0.5690553	0.569055	
293.2	0.025	0.8425	1.5998E-05	1.58975E-05	-0.628062	0.628062	
293.2	0.025	0.9172	1.5422E-05	1.53576E-05	-0.4178402	0.41784	

Temp. (K)	Exp. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
293.2	0.03	0.2675	2.0580E-05	2.07809E-05	0.97602207	0.976022	
293.2	0.03	0.3324	2.0075E-05	2.01295E-05	0.27160367	0.271604	
293.2	0.03	0.5398	1.8440E-05	1.82808E-05	-0.8632117	0.863212	
293.2	0.03	0.6339	1.7680E-05	1.7512E-05	-0.8381489	0.838149	
293.2	0.03	0.8425	1.6050E-05	1.59104E-05	-0.8700556	0.870056	
293.2	0.03	0.9172	1.5478E-05	1.53714E-05	-0.6888585	0.688858	
293.2	0.035	0.2675	2.0660E-05	2.0801E-05	0.68267974	0.68268	
293.2	0.035	0.3324	2.0148E-05	2.0148E-05	0.00012239	0.000122	
293.2	0.035	0.5398	1.8500E-05	1.82959E-05	-1.1031372	1.103137	
293.2	0.035	0.6339	1.7720E-05	1.75265E-05	-1.0917426	1.091743	
293.2	0.035	0.8425	1.6113E-05	1.5926E-05	-1.1605703	1.16057	
293.2	0.035	0.9172	1.5525E-05	1.53882E-05	-0.8814082	0.881408	
293.2	0.04	0.2675	2.0738E-05	2.08232E-05	0.41069117	0.410691	
293.2	0.04	0.3324	2.0226E-05	2.01685E-05	-0.2841218	0.284122	
293.2	0.04	0.5398	1.8579E-05	1.83133E-05	-1.430268	1.430268	
293.2	0.04	0.6339	1.7800E-05	1.75435E-05	-1.4410088	1.441009	
293.2	0.04	0.8425	1.6174E-05	1.59444E-05	-1.419477	1.419477	
293.2	0.04	0.9172	1.5582E-05	1.54079E-05	-1.1174661	1.117466	
293.2	0.045	0.2675	2.0820E-05	2.08472E-05	0.13084904	0.130849	
293.2	0.045	0.3324	2.0318E-05	2.0191E-05	-0.6248495	0.624849	
293.2	0.045	0.5398	1.8660E-05	1.83329E-05	-1.7531591	1.753159	
293.2	0.045	0.6339	1.7898E-05	1.75628E-05	-1.8726355	1.872635	
293.2	0.045	0.8425	1.6238E-05	1.59656E-05	-1.6776493	1.677649	
293.2	0.045	0.9172	1.5640E-05	1.54305E-05	-1.3395033	1.339503	
293.2	0.05	0.5398	1.8758E-05	1.83547E-05	-2.15013	2.15013	
293.2	0.05	0.6339	1.8010E-05	1.75845E-05	-2.3623767	2.362377	
293.2	0.05	0.8425	1.6300E-05	1.59895E-05	-1.9049633	1.904963	
293.2	0.05	0.9172	1.5700E-05	1.5456E-05	-1.5539935	1.553993	
							0.861735
303.2	0.005	0.2675	2.0880E-05	2.14048E-05	2.51346109	2.513461	
303.2	0.005	0.3324	2.0378E-05	2.07457E-05	1.80463186	1.804632	

Temp. (K)	Exp. Density (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
303.2	0.005	0.5398	1.8715E-05	1.88652E-05	0.80244657	0.802447	
303.2	0.005	0.6339	1.7970E-05	1.80774E-05	0.59789985	0.5979	
303.2	0.005	0.8425	1.6360E-05	1.64237E-05	0.3896298	0.38963	
303.2	0.005	0.9172	1.5796E-05	1.58629E-05	0.42382715	0.423827	
303.2	0.01	0.2675	2.0940E-05	2.14162E-05	2.27418084	2.274181	
303.2	0.01	0.3324	2.0422E-05	2.07552E-05	1.63133374	1.631334	
303.2	0.01	0.5398	1.8758E-05	1.88698E-05	0.5959886	0.595989	
303.2	0.01	0.6339	1.8100E-05	1.80807E-05	-0.1064397	0.10644	
303.2	0.01	0.8425	1.6400E-05	1.64261E-05	0.15887774	0.158878	
303.2	0.01	0.9172	1.5820E-05	1.58656E-05	0.28810461	0.288105	
303.2	0.015	0.2675	2.1008E-05	2.14297E-05	2.00734993	2.00735	
303.2	0.015	0.3324	2.0490E-05	2.07667E-05	1.35058373	1.350584	
303.2	0.015	0.5398	1.8812E-05	1.8877E-05	0.34527891	0.345279	
303.2	0.015	0.6339	1.8074E-05	1.80868E-05	0.07059101	0.070591	
303.2	0.015	0.8425	1.6438E-05	1.64316E-05	-0.0391084	0.039108	
303.2	0.015	0.9172	1.5860E-05	1.58716E-05	0.07307681	0.073077	
303.2	0.02	0.2675	2.1080E-05	2.14452E-05	1.73255064	1.732551	
303.2	0.02	0.3324	2.0558E-05	2.07804E-05	1.0819236	1.081924	
303.2	0.02	0.5398	1.8880E-05	1.88865E-05	0.03454488	0.034545	
303.2	0.02	0.6339	1.8140E-05	1.80954E-05	-0.2460874	0.246087	
303.2	0.02	0.8425	1.6480E-05	1.64401E-05	-0.2422019	0.242202	
303.2	0.02	0.9172	1.5900E-05	1.58808E-05	-0.1209722	0.120972	
303.2	0.025	0.2675	2.1160E-05	2.14627E-05	1.43068454	1.430685	
303.2	0.025	0.3324	2.0620E-05	2.07962E-05	0.85436492	0.854365	
303.2	0.025	0.5398	1.8941E-05	1.88984E-05	-0.2247625	0.224762	
303.2	0.025	0.6339	1.8198E-05	1.81065E-05	-0.5030646	0.503065	
303.2	0.025	0.8425	1.6520E-05	1.64515E-05	-0.4147242	0.414724	
303.2	0.025	0.9172	1.5942E-05	1.5893E-05	-0.3074333	0.307433	
303.2	0.03	0.2675	2.1240E-05	2.14822E-05	1.14038231	1.140382	
303.2	0.03	0.3324	2.0680E-05	2.0814E-05	0.64773982	0.64774	
303.2	0.03	0.5398	1.9020E-05	1.89126E-05	-0.5645368	0.564537	
303.2	0.03	0.6339	1.8260E-05	1.812E-05	-0.7667991	0.766799	

Temp. (K)	Exp. Density (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
303.2	0.03	0.8425	1.6578E-05	1.64657E-05	-0.6773377	0.677338	
303.2	0.03	0.9172	1.5995E-05	1.59082E-05	-0.5427308	0.542731	
303.2	0.035	0.2675	2.1310E-05	2.15037E-05	0.90878411	0.908784	
303.2	0.035	0.3324	2.0758E-05	2.08338E-05	0.36492993	0.36493	
303.2	0.035	0.5398	1.9100E-05	1.89291E-05	-0.8948615	0.894862	
303.2	0.035	0.6339	1.8326E-05	1.81359E-05	-1.037247	1.037247	
303.2	0.035	0.8425	1.6634E-05	1.64827E-05	-0.909518	0.909518	
303.2	0.035	0.9172	1.6050E-05	1.59263E-05	-0.7705708	0.770571	
303.2	0.04	0.2675	2.1380E-05	2.15271E-05	0.68783437	0.687834	
303.2	0.04	0.3324	2.0830E-05	2.08556E-05	0.12269488	0.122695	
303.2	0.04	0.5398	1.9180E-05	1.89478E-05	-1.2107339	1.210734	
303.2	0.04	0.6339	1.8400E-05	1.81542E-05	-1.3357489	1.335749	
303.2	0.04	0.8425	1.6700E-05	1.65025E-05	-1.1828927	1.182893	
303.2	0.04	0.9172	1.6115E-05	1.59474E-05	-1.040284	1.040284	
303.2	0.045	0.5398	1.9260E-05	1.89687E-05	-1.5124403	1.51244	
303.2	0.045	0.6339	1.8478E-05	1.81749E-05	-1.6403869	1.640387	
303.2	0.045	0.8425	1.6778E-05	1.65249E-05	-1.5083497	1.50835	
303.2	0.045	0.9172	1.6180E-05	1.59713E-05	-1.2900197	1.29002	
							0.835057
							<i>klj</i>
							<i>klj</i> 1.5
							<i>Total Error for All Temps.</i> 93.40356 0.904236
							Total %AAD= 1.695315

ARGON (1) - NITROGEN (2)
(from TPRC)

<i>(Argon)</i>							
293.2	0.0025	0.2263	1.8730E-05	1.9489E-05	4.05257382	4.052574	
293.2	0.0025	0.4054	1.9638E-05	1.9638E-05	4.5267E-06	4.53E-06	
293.2	0.0025	0.6138	2.0610E-05	2.04552E-05	-0.7508893	0.750889	
293.2	0.0025	0.801	2.1445E-05	2.18699E-05	1.98149476	1.981495	
293.2	0.005	0.2263	1.8750E-05	1.95031E-05	4.01660351	4.016604	
293.2	0.005	0.4054	1.9886E-05	1.96511E-05	-0.1770723	0.177072	
293.2	0.005	0.6138	2.0640E-05	2.04672E-05	-0.8370392	0.837039	

Temp. (K)	Exp. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{red} (Pa.s)	%D	%AD	%AAD
303.2	0.0025	0.2263	1.9270E-05	2.01057E-05	4.33656078	4.336561	
303.2	0.0025	0.4054	2.0178E-05	2.02619E-05	0.41603164	0.416032	
303.2	0.0025	0.801	2.2069E-05	2.25694E-05	2.2675252	2.267525	
303.2	0.005	0.2263	1.9310E-05	2.01203E-05	4.19639667	4.196397	
303.2	0.005	0.4054	2.0226E-05	2.02757E-05	0.24561808	0.245618	
303.2	0.005	0.6138	2.1190E-05	2.11203E-05	-0.3290404	0.32904	
303.2	0.005	0.801	2.2100E-05	2.25809E-05	2.17595491	2.175955	
303.2	0.0075	0.2263	1.9348E-05	2.01369E-05	4.07218477	4.072185	
303.2	0.0075	0.4054	2.0265E-05	2.02902E-05	0.12452984	0.12453	
303.2	0.0075	0.6138	2.1230E-05	2.11336E-05	-0.4543045	0.454304	
303.2	0.0075	0.801	2.2130E-05	2.25929E-05	2.09191447	2.091914	
303.2	0.01	0.2263	1.9382E-05	2.01523E-05	3.97450787	3.974508	
303.2	0.01	0.4054	2.0300E-05	2.03056E-05	0.02766419	0.027664	
303.2	0.01	0.6138	2.1270E-05	2.11475E-05	-0.5757608	0.575761	
303.2	0.01	0.801	2.2158E-05	2.26056E-05	2.01995847	2.019958	
303.2	0.0125	0.2263	1.9420E-05	2.01697E-05	3.86036419	3.860364	
303.2	0.0125	0.4054	2.0340E-05	2.03218E-05	-0.0893907	0.089391	
303.2	0.0125	0.6138	2.1308E-05	2.11622E-05	-0.6841125	0.684113	
303.2	0.0125	0.801	2.2192E-05	2.26188E-05	1.92326464	1.923265	
303.2	0.015	0.2263	1.9450E-05	2.01879E-05	3.79392578	3.793926	
303.2	0.015	0.4054	2.0370E-05	2.03388E-05	-0.1529546	0.152955	
303.2	0.015	0.6138	2.1345E-05	2.11776E-05	-0.7841065	0.784107	
303.2	0.015	0.801	2.2225E-05	2.26326E-05	1.83409004	1.83409	
303.2	0.02	0.2263	1.9512E-05	2.02271E-05	3.66480297	3.664803	
303.2	0.02	0.4054	2.0425E-05	2.03754E-05	-0.2429864	0.242986	
303.2	0.02	0.6138	2.1422E-05	2.12106E-05	-0.9869668	0.986967	
303.2	0.02	0.801	2.2290E-05	2.2662E-05	1.66901092	1.669011	
303.2	0.025	0.2263	1.9570E-05	2.02698E-05	3.57606512	3.576065	
303.2	0.025	0.4054	2.0489E-05	2.04152E-05	-0.3601206	0.360121	
303.2	0.025	0.6138	2.1498E-05	2.12464E-05	-1.1613002	1.1613	
303.2	0.025	0.801	2.2360E-05	2.26938E-05	1.49275353	1.492754	
303.2	0.03	0.2263	1.9620E-05	2.03162E-05	3.54855216	3.548552	

Temp. (K)	Exp. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
303.2	0.03	0.4054	2.0542E-05	2.04584E-05	-0.4069661	0.406966	
303.2	0.03	0.6138	2.1565E-05	2.1285E-05	-1.2982425	1.298243	
303.2	0.03	0.801	2.2430E-05	2.27279E-05	1.32817608	1.328176	
303.2	0.035	0.6138	2.1630E-05	2.13266E-05	-1.4027163	1.402716	
303.2	0.035	0.801	2.2501E-05	2.27644E-05	1.17073382	1.170734	
							1.695664
							<i>k_{ij}</i>
Total Error for All Temps.							<i>l_{ij}</i>
							1.100277
							1.05003547

CARBON TETRAFLUORIDE (1) - METHANE (2)
(from TPRC)

Total %AAD= 9.697654

<i>(CF₄)</i>							
323.3	0.05	0.25	1.6430E-05	1.65331E-05	0.6275983	0.627598	
323.3	0.1	0.25	1.7900E-05	1.73341E-05	-3.1612443	3.161244	
323.3	0.15	0.25	1.9620E-05	1.8643E-05	-4.979439	4.979439	
323.3	0.2	0.25	2.1720E-05	2.05228E-05	-5.5120238	5.512024	
323.3	0.25	0.25	2.4200E-05	2.30509E-05	-4.7484602	4.74846	
323.3	0.3	0.25	2.7230E-05	2.63212E-05	-3.3375969	3.337597	
323.3	0.35	0.25	3.0900E-05	3.0447E-05	-1.4658707	1.465871	
323.3	0.4	0.25	3.5230E-05	3.55654E-05	0.95200101	0.952001	
323.3	0.45	0.25	4.0440E-05	4.18419E-05	3.46651489	3.466515	
							3.138972
323.4	0.05	0.539	1.8100E-05	1.81701E-05	0.38708632	0.387086	
323.4	0.1	0.539	1.9130E-05	1.87384E-05	-2.0467861	2.046786	
323.4	0.2	0.539	2.1720E-05	2.09261E-05	-3.6553253	3.655325	
323.4	0.3	0.539	2.5080E-05	2.47309E-05	-1.3918608	1.391861	
323.4	0.4	0.539	2.9420E-05	3.04958E-05	3.65659928	3.656599	
323.4	0.5	0.539	3.5030E-05	3.86716E-05	10.3957506	10.39575	
323.4	0.6	0.539	4.2320E-05	4.98514E-05	17.7964278	17.79643	
323.4	0.7	0.539	5.1180E-05	6.48221E-05	26.6551604	26.65516	

Temp. (K)	Exp. Density (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
323.5	0.15	0.733	1.9640E-05	2.06258E-05	5.01924791	5.019248	8.248125
323.5	0.2	0.733	2.2000E-05	2.17691E-05	-1.0496284	1.049628	
323.5	0.3	0.733	2.4750E-05	2.51167E-05	1.48154815	1.481548	
323.5	0.4	0.733	2.8260E-05	3.0101E-05	6.51440874	6.514409	
323.5	0.5	0.733	3.2650E-05	3.70511E-05	13.4796794	13.47968	
323.5	0.6	0.733	3.7200E-05	4.63855E-05	24.6920981	24.6921	
323.5	0.7	0.733	4.5000E-05	5.86405E-05	30.3121771	30.31218	
323.5	0.8	0.733	5.3800E-05	7.45121E-05	38.4983124	38.49831	
323.5	0.85	0.733	5.9720E-05	8.40791E-05	40.7887877	40.78879	
							17.98177
373.5	0.05	0.25	1.8560E-05	1.90475E-05	2.62675476	2.626755	
373.5	0.1	0.25	1.9900E-05	1.99375E-05	0.1885112	0.188511	
373.5	0.15	0.25	2.1550E-05	2.13523E-05	-0.917181	0.917181	
373.5	0.2	0.25	2.3550E-05	2.33587E-05	-0.8121691	0.812169	
373.5	0.25	0.25	2.6050E-05	2.6038E-05	-0.0461696	0.04617	
373.5	0.3	0.25	2.9100E-05	2.94881E-05	1.33369256	1.333693	
373.5	0.35	0.25	3.2750E-05	3.38272E-05	3.28901827	3.289018	
373.5	0.4	0.25	3.7500E-05	3.91974E-05	4.52632045	4.52632	
							1.717477
373.8	0.1	0.733	2.2090E-05	2.28325E-05	3.36135519	3.361355	
373.8	0.2	0.733	2.4070E-05	2.49745E-05	3.75762426	3.757624	
373.8	0.25	0.733	2.5400E-05	2.65646E-05	4.58521043	4.58521	
373.8	0.3	0.733	2.6900E-05	2.85424E-05	6.10563179	6.105632	
373.8	0.4	0.733	3.0440E-05	3.3811E-05	11.0743378	11.07434	
373.8	0.5	0.733	3.4900E-05	4.11312E-05	17.8543397	17.85434	
373.8	0.6	0.733	4.0320E-05	5.09504E-05	26.3650458	26.36505	
373.8	0.7	0.733	4.7100E-05	6.38442E-05	35.550377	35.55038	
373.8	0.75	0.733	5.1470E-05	7.16695E-05	39.2452107	39.24521	

Temp. (K)	Exp. Density (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
373.9	0.05	0.539	2.0400E-05	2.09816E-05	2.85117058	2.851171	16.43324
373.9	0.1	0.539	2.1350E-05	2.16247E-05	1.28643285	1.286433	
373.9	0.2	0.539	2.3900E-05	2.39879E-05	0.36783964	0.36784	
373.9	0.25	0.539	2.5520E-05	2.57737E-05	0.99413076	0.994131	
373.9	0.3	0.539	2.7400E-05	2.80159E-05	2.24764909	2.247649	
373.9	0.4	0.539	3.1700E-05	3.40675E-05	7.4685145	7.468515	
373.9	0.5	0.539	3.7300E-05	4.26151E-05	14.2496601	14.24966	
373.9	0.6	0.539	4.0300E-05	5.42804E-05	34.690828	34.69083	
422.3	0.05	0.539	2.2580E-05	2.36246E-05	4.62642577	4.626426	8.019528
422.3	0.05	0.733	2.3480E-05	2.50296E-05	6.59945651	6.599457	
422.3	0.1	0.539	2.3400E-05	2.43367E-05	4.00289844	4.002898	
422.3	0.1	0.733	2.4150E-05	2.56998E-05	6.41746912	6.417469	
422.3	0.15	0.539	2.4300E-05	2.541E-05	4.56792998	4.56793	
422.3	0.2	0.539	2.5920E-05	2.68765E-05	3.69014454	3.690145	
422.3	0.2	0.733	2.6200E-05	2.80136E-05	6.92231851	6.922319	
422.3	0.25	0.539	2.8000E-05	2.87743E-05	2.765392	2.765392	
422.3	0.25	0.733	2.7580E-05	2.9712E-05	7.73021991	7.73022	11.75616
422.3	0.3	0.539	2.9320E-05	3.11478E-05	6.23383072	6.233831	
422.3	0.3	0.733	2.9100E-05	3.18157E-05	9.3323838	9.332384	
422.3	0.4	0.539	3.3700E-05	3.75323E-05	11.3718613	11.37186	
422.3	0.4	0.733	3.2650E-05	3.74007E-05	14.5502945	14.55029	
422.3	0.45	0.539	3.5770E-05	4.16684E-05	16.489789	16.48979	
422.3	0.5	0.539	3.9380E-05	4.65325E-05	18.1627273	18.16273	
422.3	0.5	0.733	3.7000E-05	4.51458E-05	22.0157428	22.01574	
422.3	0.6	0.733	4.2480E-05	5.55337E-05	30.729054	30.72905	11.75616
422.3	0.65	0.733	4.5720E-05	6.19063E-05	35.4030073	35.40301	

Temp. (K)	Exp. Density (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
423.8	0.025	0.25	1.9800E-05	2.12116E-05	7.12951541	7.129515	
423.8	0.05	0.25	2.0320E-05	2.15129E-05	5.87035987	5.87036	
423.8	0.1	0.25	2.1600E-05	2.24893E-05	4.11727488	4.117275	
423.8	0.15	0.25	2.3300E-05	2.40133E-05	3.06126253	3.061263	
423.8	0.2	0.25	2.5440E-05	2.6156E-05	2.81465201	2.814652	
423.8	0.225	0.25	2.6700E-05	2.74859E-05	2.94339418	2.943394	
423.8	0.25	0.25	2.8000E-05	2.90042E-05	3.58635145	3.586351	
423.8	0.3	0.25	3.1000E-05	3.26617E-05	5.36039149	5.360391	
423.8	0.35	0.25	3.3880E-05	3.72537E-05	9.95780487	9.957805	4.982334
472.6	0.025	0.25	2.1480E-05	2.3523E-05	9.51109059	9.511091	
472.6	0.05	0.25	2.2050E-05	2.38569E-05	8.19442347	8.194423	
472.6	0.075	0.25	2.2660E-05	2.43184E-05	7.31874852	7.318749	
472.6	0.1	0.25	2.3400E-05	2.49148E-05	6.47336855	6.473369	
472.6	0.125	0.25	2.4220E-05	2.5654E-05	5.92084198	5.920842	
472.6	0.15	0.25	2.5100E-05	2.65453E-05	5.75805263	5.758053	
472.6	0.175	0.25	2.6080E-05	2.75985E-05	5.82245393	5.822454	
472.6	0.2	0.25	2.7170E-05	2.88247E-05	6.09011582	6.090116	
472.6	0.225	0.25	2.8330E-05	3.02359E-05	6.72741553	6.727416	
472.6	0.25	0.25	2.9650E-05	3.18453E-05	7.40391999	7.40392	
472.6	0.275	0.25	3.1100E-05	3.36673E-05	8.25493816	8.254938	
472.6	0.3	0.25	3.2800E-05	3.57178E-05	8.89563993	8.89564	7.197584
473.4	0.05	0.733	2.5380E-05	2.79245E-05	10.0254419	10.02544	
473.4	0.1	0.733	2.6200E-05	2.86629E-05	9.40043509	9.400435	
473.4	0.15	0.733	2.7140E-05	2.97319E-05	9.5501597	9.55016	
473.4	0.2	0.733	2.8250E-05	3.11583E-05	10.2947355	10.29474	
473.4	0.25	0.733	2.9550E-05	3.29742E-05	11.5878762	11.58788	
473.4	0.3	0.733	3.1080E-05	3.52169E-05	13.3104022	13.3104	
473.4	0.35	0.733	3.2700E-05	3.79284E-05	15.9888588	15.98886	

Press. (atm)	Temp. (K)	Density ** (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
** Calculated from PREOS								
PROPANE (1) - CARBON DIOXIDE (2)								
(from TPRC)								
(C3H8)								
1	300	0.001797231	0.05	1.4520E-05	1.44613E-05	-0.4042458	0.404246	Total %AAD= 2.341171
1	300	0.001797892	0.1	1.4110E-05	1.38995E-05	-1.4916683	1.491668	Comp %AAD= 1.952583
1	300	0.001798607	0.15	1.3720E-05	1.34E-05	-2.3325246	2.332525	
1	300	0.001799377	0.2	1.3340E-05	1.29495E-05	-2.9275717	2.927572	
1	300	0.001800201	0.25	1.2980E-05	1.25375E-05	-3.4092257	3.409226	
1	300	0.001801081	0.3	1.2620E-05	1.21558E-05	-3.6784699	3.67847	
1	300	0.001802015	0.35	1.2260E-05	1.1798E-05	-3.7685388	3.768539	
1	300	0.001803005	0.4	1.1910E-05	1.14593E-05	-3.7838448	3.783845	
1	300	0.001804051	0.45	1.1560E-05	1.11365E-05	-3.6630903	3.66309	
1	300	0.001805153	0.5	1.1220E-05	1.08275E-05	-3.4985992	3.498599	
1	300	0.001806312	0.55	1.0890E-05	1.0531E-05	-3.2970339	3.297034	
1	300	0.001807527	0.6	1.0570E-05	1.02467E-05	-3.0584246	3.058425	
1	300	0.001808799	0.65	1.0250E-05	9.97509E-06	-2.6820567	2.682057	
1	300	0.001810129	0.7	9.9400E-06	9.71682E-06	-2.2452587	2.245259	
1	300	0.001811517	0.75	9.6300E-06	9.473E-06	-1.6302842	1.630284	
1	300	0.001812964	0.8	9.3300E-06	9.24491E-06	-0.9120352	0.912035	
1	300	0.001814469	0.85	9.0400E-06	9.0339E-06	-0.0674637	0.067464	
1	300	0.001816034	0.9	8.7500E-06	8.8414E-06	1.04452467	1.044525	
1	300	0.001817659	0.95	8.4700E-06	8.66881E-06	2.34724724	2.347247	
2.433795								
1	400	0.001343392	0.05	1.8890E-05	1.92384E-05	1.84428989	1.84429	
1	400	0.001343673	0.1	1.8380E-05	1.84713E-05	0.49673074	0.496731	
1	400	0.001343973	0.15	1.7880E-05	1.77904E-05	-0.5011071	0.501107	
1	400	0.001344293	0.2	1.7380E-05	1.71781E-05	-1.1614057	1.161406	
1	400	0.001344631	0.25	1.6910E-05	1.66206E-05	-1.7115934	1.711593	
1	400	0.001344989	0.3	1.6420E-05	1.61066E-05	-1.9084035	1.908404	
1	400	0.001345367	0.35	1.5980E-05	1.56278E-05	-2.2039831	2.203983	
1	400	0.001345763	0.4	1.5530E-05	1.51776E-05	-2.2690596	2.26906	

Press. (atm)	Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{red} (Pa.s)	%D	%AD	%AAD
1	400	0.001346179	0.45	1.5090E-05	1.47514E-05	-2.2435937	2.243594	
1	400	0.001346615	0.5	1.4660E-05	1.43462E-05	-2.1405696	2.14057	
1	400	0.00134707	0.55	1.4230E-05	1.39601E-05	-1.8969537	1.896954	
1	400	0.001347545	0.6	1.3800E-05	1.35923E-05	-1.5051264	1.505126	
1	400	0.001348039	0.65	1.3390E-05	1.32429E-05	-1.0983756	1.098376	
1	400	0.001348553	0.7	1.3000E-05	1.29126E-05	-0.6721955	0.672195	
1	400	0.001349087	0.75	1.2610E-05	1.26024E-05	-0.0601422	0.060142	
1	400	0.00134964	0.8	1.2220E-05	1.23137E-05	0.76647146	0.766471	
1	400	0.001350214	0.85	1.1840E-05	1.20478E-05	1.75544931	1.755449	
1	400	0.001350808	0.9	1.1460E-05	1.18065E-05	3.02392951	3.02393	
1	400	0.001351421	0.95	1.1090E-05	1.15914E-05	4.52107006	4.52107	2.118697
1	500	0.001073401	0.05	2.2900E-05	2.38689E-05	4.23115101	4.231151	
1	500	0.001073558	0.1	2.2280E-05	2.28967E-05	2.76792236	2.767922	
1	500	0.001073724	0.15	2.1670E-05	2.20352E-05	1.68543016	1.68543	
1	500	0.001073898	0.2	2.1070E-05	2.12626E-05	0.91419705	0.914197	
1	500	0.001074081	0.25	2.0480E-05	2.05614E-05	0.39742823	0.397428	
1	500	0.001074272	0.3	1.9910E-05	1.99177E-05	0.03882352	0.038824	
1	500	0.001074472	0.35	1.9350E-05	1.93209E-05	-0.1505845	0.150584	
1	500	0.00107468	0.4	1.8800E-05	1.87626E-05	-0.1988674	0.198867	
1	500	0.001074897	0.45	1.8280E-05	1.8237E-05	-0.2351191	0.235119	
1	500	0.001075122	0.5	1.7740E-05	1.774E-05	1.6495E-06	1.65E-06	
1	500	0.001075355	0.55	1.7210E-05	1.7269E-05	0.34303371	0.343034	
1	500	0.001075597	0.6	1.6640E-05	1.68229E-05	1.09903924	1.099039	
1	500	0.001075848	0.65	1.6080E-05	1.64013E-05	1.99798546	1.997985	
1	500	0.001076107	0.7	1.5680E-05	1.60047E-05	2.07083622	2.070836	
1	500	0.001076375	0.75	1.5200E-05	1.56342E-05	2.85644702	2.856447	
1	500	0.001076651	0.8	1.4830E-05	1.52911E-05	3.10890745	3.108907	
1	500	0.001076936	0.85	1.4290E-05	1.49769E-05	4.80684765	4.806848	
1	500	0.00107723	0.9	1.3870E-05	1.46934E-05	5.93684412	5.936844	
1	500	0.001077532	0.95	1.3470E-05	1.44425E-05	7.21969346	7.219693	2.108377

Press. (atm)	Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
1	550	0.000975518	0.05	2.4810E-05	2.6131E-05	5.32451659	5.324517	
1	550	0.000975645	0.1	2.4120E-05	2.5057E-05	3.88480532	3.884805	
1	550	0.000975777	0.15	2.3460E-05	2.41062E-05	2.75431744	2.754317	
1	550	0.000975916	0.2	2.2810E-05	2.32543E-05	1.94798664	1.947987	
1	550	0.00097606	0.25	2.2190E-05	2.24823E-05	1.31735282	1.317353	
1	550	0.00097621	0.3	2.1580E-05	2.17749E-05	0.90317014	0.90317	
1	550	0.000976366	0.35	2.0980E-05	2.11202E-05	0.66831061	0.668311	
1	550	0.000976528	0.4	2.0360E-05	2.05092E-05	0.73280713	0.732807	
1	550	0.000976695	0.45	1.9800E-05	1.99352E-05	0.68302602	0.683026	
1	550	0.000976869	0.5	1.9240E-05	1.93937E-05	0.79910752	0.799108	
1	550	0.000977049	0.55	1.8680E-05	1.88819E-05	1.0805682	1.080568	
1	550	0.000977234	0.6	1.8140E-05	1.83981E-05	1.42255	1.42255	
1	550	0.000977426	0.65	1.7620E-05	1.79419E-05	1.82711022	1.82711	
1	550	0.000977623	0.7	1.7120E-05	1.75139E-05	2.30085206	2.300852	
1	550	0.000977827	0.75	1.6620E-05	1.71149E-05	2.9779286	2.977929	
1	550	0.000978036	0.8	1.6130E-05	1.67464E-05	3.82131942	3.821319	
1	550	0.000978251	0.85	1.5640E-05	1.64099E-05	4.92240949	4.922409	
1	550	0.000978473	0.9	1.5160E-05	1.61072E-05	6.24783994	6.24784	
1	550	0.0009787	0.95	1.4700E-05	1.58402E-05	7.7565079	7.756508	2.703815
				Average Error for Temp.				
				Total Error for All Temps.				11j
								0.5

ETHYLENE (1) - CARBON MONOXIDE (2)
(from TPRC)

Total %AAD= 4.717255

		(C2H4)							
1	300	0.001138177	0.05	1.7280E-05	1.85373E-05	7.2760715	7.276071		
1	300	0.001138457	0.1	1.6800E-05	1.75034E-05	4.18679421	4.186794		
1	300	0.001138751	0.15	1.6350E-05	1.65908E-05	1.47273053	1.472731		
1	300	0.001139062	0.2	1.5910E-05	1.57822E-05	-0.8030174	0.803017		
1	300	0.001139388	0.25	1.5480E-05	1.50637E-05	-2.6894694	2.689469		
1	300	0.001139729	0.3	1.5080E-05	1.44235E-05	-4.3531598	4.35316		

Press. (atm)	Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
1	300	0.001140086	0.35	1.4690E-05	1.38523E-05	-5.7024602	5.70246	
1	300	0.001140459	0.4	1.4290E-05	1.3342E-05	-6.6339903	6.63399	
1	300	0.001140847	0.45	1.3920E-05	1.28859E-05	-7.4285286	7.428529	
1	300	0.001141251	0.5	1.3510E-05	1.24785E-05	-7.6349304	7.63493	
1	300	0.001141671	0.55	1.3180E-05	1.2115E-05	-8.0807118	8.080712	
1	300	0.001142107	0.6	1.2800E-05	1.17912E-05	-7.8809293	7.880929	
1	300	0.001142559	0.65	1.2460E-05	1.15039E-05	-7.6730565	7.673057	
1	300	0.001143027	0.7	1.2120E-05	1.12502E-05	-7.1769764	7.176976	
1	300	0.00114351	0.75	1.1800E-05	1.10274E-05	-6.5472174	6.547217	
1	300	0.00114401	0.8	1.1480E-05	1.08337E-05	-5.6297289	5.629729	
1	300	0.001144527	0.85	1.1170E-05	1.06673E-05	-4.5007595	4.500759	
1	300	0.001145059	0.9	1.0870E-05	1.05267E-05	-3.1583665	3.158367	
1	300	0.001145608	0.95	1.0600E-05	1.04108E-05	-1.7846536	1.784654	5.29545
1	400	0.000853154	0.05	2.1340E-05	2.41513E-05	13.1738685	13.17387	
1	400	0.000853276	0.1	2.0850E-05	2.2845E-05	9.5684733	9.568473	
1	400	0.000853404	0.15	2.0380E-05	2.16901E-05	6.42856903	6.428569	
1	400	0.000853538	0.2	1.9900E-05	2.06654E-05	3.84602285	3.846023	
1	400	0.000853679	0.25	1.9410E-05	1.97534E-05	1.76894004	1.76894	
1	400	0.000853825	0.3	1.8940E-05	1.89399E-05	-0.000613	0.000613	
1	400	0.000853978	0.35	1.8450E-05	1.82132E-05	-1.2836954	1.283695	
1	400	0.000854137	0.4	1.8000E-05	1.75633E-05	-2.4269586	2.426959	
1	400	0.000854302	0.45	1.7530E-05	1.69821E-05	-3.1263513	3.126351	
1	400	0.000854473	0.5	1.7090E-05	1.64626E-05	-3.6712525	3.671252	
1	400	0.000854651	0.55	1.6650E-05	1.59988E-05	-3.9111113	3.911111	
1	400	0.000854834	0.6	1.6200E-05	1.55858E-05	-3.791513	3.791513	
1	400	0.000855024	0.65	1.5800E-05	1.52193E-05	-3.675551	3.675551	
1	400	0.00085522	0.7	1.5400E-05	1.48957E-05	-3.2749005	3.274901	
1	400	0.000855422	0.75	1.5020E-05	1.46119E-05	-2.7167754	2.716775	
1	400	0.000855631	0.8	1.4660E-05	1.43655E-05	-2.0086495	2.008649	
1	400	0.000855846	0.85	1.4320E-05	1.41543E-05	-1.1570333	1.157033	
1	400	0.000856067	0.9	1.4000E-05	1.39765E-05	-0.1675813	0.167581	
1	400	0.000856294	0.95	1.3700E-05	1.38308E-05	0.95483768	0.954838	

Press. (atm)	Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
1	500	0.000682441	0.05	2.4970E-05	2.94959E-05	18.1253156	18.12532	3.523721
1	500	0.000682511	0.1	2.4440E-05	2.79356E-05	14.3028803	14.30288	
1	500	0.000682585	0.15	2.3910E-05	2.65549E-05	11.0618681	11.06187	
1	500	0.000682661	0.2	2.3400E-05	2.53286E-05	8.24209323	8.242093	
1	500	0.000682741	0.25	2.2960E-05	2.42365E-05	5.55969746	5.559697	
1	500	0.000682823	0.3	2.2350E-05	2.32617E-05	4.07919233	4.079192	
1	500	0.000682908	0.35	2.1830E-05	2.23903E-05	2.56678706	2.566787	
1	500	0.000682997	0.4	2.1350E-05	2.16108E-05	1.2215059	1.221506	
1	500	0.000683088	0.45	2.0850E-05	2.09133E-05	0.30378416	0.303784	
1	500	0.000683183	0.5	2.0380E-05	2.02898E-05	-0.4428354	0.442835	
1	500	0.00068328	0.55	1.9910E-05	1.97331E-05	-0.8886693	0.888669	
1	500	0.00068338	0.6	1.9450E-05	1.92374E-05	-1.0931375	1.093137	
1	500	0.000683484	0.65	1.8990E-05	1.87977E-05	-1.0126432	1.012643	
1	500	0.00068359	0.7	1.8510E-05	1.84098E-05	-0.5415161	0.541516	
1	500	0.000683699	0.75	1.8070E-05	1.807E-05	1.016E-06	1.02E-06	4.08231
1	500	0.000683812	0.8	1.7650E-05	1.77754E-05	0.71046122	0.710461	
1	500	0.000683927	0.85	1.7280E-05	1.75235E-05	1.40889355	1.408894	
1	500	0.000684046	0.9	1.6900E-05	1.73121E-05	2.43870499	2.438705	
1	500	0.000684167	0.95	1.6550E-05	1.71398E-05	3.56389679	3.563897	
1	550	0.000620396	0.05	2.6580E-05	3.20838E-05	20.7066875	20.70669	
1	550	0.000620453	0.1	2.6000E-05	3.04017E-05	16.9298034	16.9298	
1	550	0.000620513	0.15	2.5470E-05	2.89127E-05	13.5168283	13.51683	
1	550	0.000620575	0.2	2.4900E-05	2.75899E-05	10.8029746	10.80297	
1	550	0.000620639	0.25	2.4380E-05	2.64115E-05	8.33263684	8.332637	
1	550	0.000620705	0.3	2.3820E-05	2.53594E-05	6.46274089	6.462741	
1	550	0.000620774	0.35	2.2800E-05	2.44188E-05	7.10006615	7.100066	
1	550	0.000620844	0.4	2.2300E-05	2.35772E-05	5.72742908	5.727429	
1	550	0.000620917	0.45	2.1800E-05	2.28242E-05	4.69803902	4.698039	
1	550	0.000620992	0.5	2.1800E-05	2.21509E-05	1.6094503	1.60945	
1	550	0.000621069	0.55	2.1300E-05	2.15498E-05	1.17282774	1.172828	
1	550	0.000621149	0.6	2.0860E-05	2.10147E-05	0.74159349	0.741593	

Press. (atm)	Temp. (K)	Density ** (g/cm³)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
1	550	0.00062123	0.65	2.0460E-05	2.05401E-05	0.39169149	0.391691	
1	550	0.000621314	0.7	1.9920E-05	2.01216E-05	1.01200745	1.012007	
1	550	0.0006214	0.75	1.9520E-05	1.97552E-05	1.20496834	1.204968	
1	550	0.000621488	0.8	1.9080E-05	1.94378E-05	1.87511599	1.875116	
1	550	0.000621579	0.85	1.8660E-05	1.91666E-05	2.71493061	2.714931	
1	550	0.000621671	0.9	1.8280E-05	1.89395E-05	3.6079399	3.60794	
1	550	0.000621766	0.95	1.7900E-05	1.87548E-05	4.775512	4.775512	
Average Error for Temp.								5.967539
<i>Total Error for All Temps.</i>								<i>kJ</i>
								<i>I/J</i>
							358.5114	1.086729
								1.18237218

Temp. (K)	Density ** (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
** Calculated from PR EOS							
NITROGEN (1) - CARBON MONOXIDE (2)							
(from TPRC)							
P= 1 atm							
(Nitrogen)							
300	0.00113791	0	1.7760E-05	1.97141E-05	11.0027782	11.00278	
300	0.00113792	0.05	1.7760E-05	1.88022E-05	5.86826396	5.868264	
300	0.00113792	0.1	1.7760E-05	1.80711E-05	1.75171739	1.751717	
300	0.00113792	0.15	1.7760E-05	1.74872E-05	-1.5361063	1.536106	
300	0.00113793	0.2	1.7760E-05	1.70251E-05	-4.138148	4.138148	
300	0.00113793	0.25	1.7760E-05	1.66654E-05	-6.1632757	6.163276	
300	0.00113794	0.3	1.7760E-05	1.63935E-05	-7.6944434	7.694443	
300	0.00113794	0.35	1.7760E-05	1.61982E-05	-8.7941215	8.794122	
300	0.00113795	0.4	1.7760E-05	1.60714E-05	-9.5078479	9.507848	
300	0.00113795	0.45	1.7770E-05	1.60077E-05	-9.9171777	9.917178	
300	0.00113796	0.5	1.7770E-05	1.6004E-05	-9.9380557	9.938056	
300	0.00113796	0.55	1.7780E-05	1.60595E-05	-9.6767576	9.676758	
300	0.00113797	0.6	1.7780E-05	1.61756E-05	-9.0236178	9.023618	
300	0.00113797	0.65	1.7780E-05	1.63563E-05	-8.007454	8.007454	
300	0.00113798	0.7	1.7790E-05	1.6608E-05	-6.6442859	6.644286	
300	0.00113798	0.75	1.7790E-05	1.69402E-05	-4.7770452	4.777045	
300	0.00113799	0.8	1.7790E-05	1.73658E-05	-2.3846937	2.384694	
300	0.001138	0.85	1.7800E-05	1.7902E-05	0.57329998	0.5733	
300	0.001138	0.9	1.7800E-05	1.85719E-05	4.33625303	4.336253	
300	0.00113801	0.95	1.7800E-05	1.94055E-05	9.01939164	9.019392	
300	0.00113802	1	1.7810E-05	2.04434E-05	14.7859532	14.78595	
							6.302735
400	0.00085304	0	2.1830E-05	2.56355E-05	17.4322169	17.43222	
400	0.00085304	0.05	2.1840E-05	2.44163E-05	11.7962642	11.79626	
400	0.00085305	0.1	2.1840E-05	2.34372E-05	7.31318472	7.313185	
400	0.00085305	0.15	2.1840E-05	2.26537E-05	3.72557664	3.725577	
400	0.00085306	0.2	2.1840E-05	2.20322E-05	0.87983097	0.879831	

Total %AAD= 6.051433

Temp. (K)	Density ^{mm} (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
400	0.00085306	0.25	2.1850E-05	2.15472E-05	-1.3860229	1.386023	
400	0.00085307	0.3	2.1850E-05	2.11793E-05	-3.0697735	3.069774	
400	0.00085307	0.35	2.1850E-05	2.09139E-05	-4.2843664	4.284366	
400	0.00085308	0.4	2.1850E-05	2.07404E-05	-5.0783954	5.078395	
400	0.00085308	0.45	2.1860E-05	2.06516E-05	-5.5279456	5.527946	
400	0.00085309	0.5	2.1860E-05	2.06435E-05	-5.5650345	5.565034	
400	0.00085309	0.55	2.1860E-05	2.0715E-05	-5.2378732	5.237873	
400	0.0008531	0.6	2.1860E-05	2.08681E-05	-4.5375247	4.537525	
400	0.0008531	0.65	2.1860E-05	2.11079E-05	-3.4407108	3.440711	
400	0.00085311	0.7	2.1870E-05	2.14428E-05	-1.953381	1.953381	
400	0.00085311	0.75	2.1880E-05	2.18853E-05	0.02417201	0.024172	
400	0.00085312	0.8	2.1880E-05	2.24523E-05	2.61579816	2.615798	
400	0.00085313	0.85	2.1880E-05	2.31666E-05	5.8804615	5.880462	
400	0.00085313	0.9	2.1880E-05	2.40583E-05	9.95558229	9.955582	
400	0.00085314	0.95	2.1890E-05	2.51672E-05	14.9710127	14.97101	
400	0.00085314	1	2.1900E-05	2.65468E-05	21.2181088	21.21811	
							5.118048
500	0.00068237	0	2.5480E-05	3.12668E-05	22.711277	22.71128	
500	0.00068238	0.05	2.5500E-05	2.97518E-05	16.6736983	16.6737	
500	0.00068238	0.1	2.5500E-05	2.85339E-05	11.8977338	11.89773	
500	0.00068239	0.15	2.5510E-05	2.75582E-05	8.02919572	8.029196	
500	0.00068239	0.2	2.5520E-05	2.67833E-05	4.95037353	4.950374	
500	0.00068239	0.25	2.5520E-05	2.61777E-05	2.57720584	2.577206	
500	0.0006824	0.3	2.5530E-05	2.57174E-05	0.73414011	0.73414	
500	0.0006824	0.35	2.5530E-05	2.53845E-05	-0.5697731	0.569773	
500	0.0006824	0.4	2.5540E-05	2.5166E-05	-1.4644732	1.464473	
500	0.00068241	0.45	2.5540E-05	2.50529E-05	-1.9071508	1.907151	
500	0.00068241	0.5	2.5540E-05	2.50404E-05	-1.9561876	1.956188	
500	0.00068242	0.55	2.5550E-05	2.51271E-05	-1.6551232	1.655123	
500	0.00068242	0.6	2.5550E-05	2.53155E-05	-0.9178477	0.917848	
500	0.00068243	0.65	2.5560E-05	2.56118E-05	0.20249214	0.202492	
500	0.00068243	0.7	2.5560E-05	2.60264E-05	1.82456604	1.824566	

Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
500	0.00068243	0.75	2.5560E-05	2.65745E-05	3.96914867	3.969149	
500	0.00068244	0.8	2.5570E-05	2.72771E-05	6.67625914	6.676259	
500	0.00068244	0.85	2.5580E-05	2.81621E-05	10.0942689	10.09427	
500	0.00068245	0.9	2.5580E-05	2.92665E-05	14.4117574	14.41176	
500	0.00068245	0.95	2.5590E-05	3.06395E-05	19.7325121	19.73251	
500	0.00068245	1	2.5600E-05	3.23472E-05	26.3561443	26.35614	5.802311
550	0.00062034	0	2.7140E-05	3.39924E-05	25.2483012	25.2483	
550	0.00062034	0.05	2.7150E-05	3.23334E-05	19.0915509	19.09155	
550	0.00062035	0.1	2.7150E-05	3.09993E-05	14.1779483	14.17795	
550	0.00062035	0.15	2.7150E-05	2.99302E-05	10.2400233	10.24002	
550	0.00062035	0.2	2.7160E-05	2.90806E-05	7.07156926	7.071559	
550	0.00062036	0.25	2.7160E-05	2.84163E-05	4.62565694	4.625657	
550	0.00062036	0.3	2.7160E-05	2.79111E-05	2.76553152	2.765532	
550	0.00062036	0.35	2.7160E-05	2.75454E-05	1.41896667	1.418967	
550	0.00062037	0.4	2.7170E-05	2.73049E-05	0.49647863	0.496479	
550	0.00062037	0.45	2.7180E-05	2.718E-05	-1.631E-06	1.63E-06	
550	0.00062038	0.5	2.7180E-05	2.71653E-05	-0.0541134	0.054113	
550	0.00062038	0.55	2.7190E-05	2.72594E-05	0.25512076	0.255121	
550	0.00062038	0.6	2.7200E-05	2.74648E-05	0.97366837	0.973668	
550	0.00062039	0.65	2.7210E-05	2.77885E-05	2.12609792	2.126098	
550	0.00062039	0.7	2.7220E-05	2.82418E-05	3.75375364	3.753754	
550	0.00062039	0.75	2.7230E-05	2.88412E-05	5.91705782	5.917058	
550	0.0006204	0.8	2.7240E-05	2.96096E-05	8.69910016	8.6991	
550	0.0006204	0.85	2.7240E-05	3.05775E-05	12.2522713	12.25227	
550	0.0006204	0.9	2.7250E-05	3.17853E-05	16.6432467	16.64325	
550	0.00062041	0.95	2.7260E-05	3.32866E-05	22.1080008	22.108	
550	0.00062041	1	2.7270E-05	3.51537E-05	28.9096503	28.90965	6.982639
Average Error for Temp.							
Total Error for All Temps.							
						kij (b)	kij (Tc)
						459.9089	1.376627
							0.5

Temp. (K)	Density ^{me} (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
OXYGEN (1) - CARBON MONOXIDE (2)							
(from TPRC)							
P= 1 atm							
(Oxygen)							
300	0.00113791	0	1.7760E-05	1.97141E-05	11.0027782	11.00278	Total %AAD= 4.938954
300	0.00114605	0.05	1.7900E-05	1.91663E-05	7.07444522	7.074445	
300	0.00115418	0.1	1.8050E-05	1.87272E-05	3.75167622	3.751676	
300	0.00116231	0.15	1.8190E-05	1.83793E-05	1.04049357	1.040494	
300	0.00117044	0.2	1.8330E-05	1.8109E-05	-1.2059232	1.205923	
300	0.00117858	0.25	1.8480E-05	1.79056E-05	-3.1080599	3.10806	
300	0.00118671	0.3	1.8620E-05	1.77612E-05	-4.6120812	4.612081	
300	0.00119485	0.35	1.8760E-05	1.76699E-05	-5.8105668	5.810567	
300	0.00120298	0.4	1.8910E-05	1.7628E-05	-6.779465	6.779465	
300	0.00121112	0.45	1.9060E-05	1.76336E-05	-7.4834792	7.483479	
300	0.00121926	0.5	1.9210E-05	1.7687E-05	-7.9280096	7.92801	
300	0.00122739	0.55	1.9350E-05	1.77902E-05	-8.0607717	8.060772	
300	0.00123553	0.6	1.9500E-05	1.79474E-05	-7.9621717	7.962172	
300	0.00124367	0.65	1.9640E-05	1.81646E-05	-7.5119861	7.511986	
300	0.00125181	0.7	1.9780E-05	1.84506E-05	-6.7210345	6.721034	
300	0.00125995	0.75	1.9920E-05	1.88164E-05	-5.5403418	5.540342	
300	0.00126809	0.8	2.0070E-05	1.92764E-05	-3.9543347	3.954335	
300	0.00127623	0.85	2.0190E-05	1.98489E-05	-1.689367	1.689367	
300	0.00128437	0.9	2.0320E-05	2.05575E-05	1.16879117	1.168791	
300	0.00129251	0.95	2.0450E-05	2.14325E-05	4.80428159	4.804282	
300	0.00130065	1	2.0570E-05	2.25137E-05	9.44914924	9.449149	
							5.083541
400	0.00085304	0	2.1830E-05	2.56355E-05	17.4322169	17.43222	
400	0.00085913	0.05	2.2010E-05	2.48931E-05	13.0988377	13.09884	
400	0.00086522	0.1	2.2200E-05	2.42963E-05	9.44281001	9.44281	
400	0.00087131	0.15	2.2400E-05	2.38222E-05	6.34931529	6.349315	
400	0.0008774	0.2	2.2580E-05	2.34529E-05	3.86589095	3.865891	
400	0.00088349	0.25	2.2780E-05	2.31744E-05	1.73121481	1.731215	

Temp. (K)	Density ^{exp} (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
400	0.00088958	0.3	2.2960E-05	2.2976E-05	0.0698164	0.069816	
400	0.00088567	0.35	2.3160E-05	2.28503E-05	-1.3372913	1.337291	
400	0.00090176	0.4	2.3340E-05	2.27922E-05	-2.3469039	2.346904	
400	0.00090785	0.45	2.3540E-05	2.27996E-05	-3.1454655	3.145465	
400	0.00091395	0.5	2.3720E-05	2.28725E-05	-3.5730977	3.573098	
400	0.00092004	0.55	2.3920E-05	2.30137E-05	-3.7889508	3.788951	
400	0.00092613	0.6	2.4120E-05	2.32286E-05	-3.6957902	3.69579	
400	0.00093222	0.65	2.4300E-05	2.35253E-05	-3.1881963	3.188196	
400	0.00093832	0.7	2.4500E-05	2.3915E-05	-2.3879525	2.387953	
400	0.00094441	0.75	2.4690E-05	2.44123E-05	-1.1246173	1.124617	
400	0.0009505	0.8	2.4880E-05	2.50363E-05	0.62836896	0.628369	
400	0.0009566	0.85	2.5080E-05	2.58112E-05	2.91540566	2.915406	
400	0.00096269	0.9	2.5280E-05	2.67679E-05	5.88585195	5.885852	
400	0.00096879	0.95	2.5470E-05	2.79469E-05	9.7247046	9.724705	
400	0.00097488	1	2.5680E-05	2.94009E-05	14.4895394	14.48954	
500	0.00068237	0	2.5480E-05	3.12668E-05	22.711277	22.71128	4.121078
500	0.00068724	0.05	2.5690E-05	3.0336E-05	18.0848643	18.08486	
500	0.00069211	0.1	2.5900E-05	2.95867E-05	14.2343516	14.23435	
500	0.00069698	0.15	2.6120E-05	2.89906E-05	10.9898657	10.98987	
500	0.00070184	0.2	2.6340E-05	2.85254E-05	8.29689673	8.296897	
500	0.00070671	0.25	2.6580E-05	2.81741E-05	5.99722125	5.997221	
500	0.00071158	0.3	2.6810E-05	2.79235E-05	4.15337261	4.153373	
500	0.00071645	0.35	2.7050E-05	2.77644E-05	2.64111606	2.641116	
500	0.00072132	0.4	2.7280E-05	2.76908E-05	1.50570336	1.505703	
500	0.00072619	0.45	2.7520E-05	2.76997E-05	0.65288732	0.652887	
500	0.00073106	0.5	2.7760E-05	2.77914E-05	0.11321463	0.113215	
500	0.00073593	0.55	2.8000E-05	2.79694E-05	-0.1093618	0.109362	
500	0.0007408	0.6	2.8240E-05	2.82401E-05	0.00034738	0.000347	
500	0.00074567	0.65	2.8470E-05	2.86136E-05	0.50431349	0.504313	
500	0.00075054	0.7	2.8710E-05	2.91036E-05	1.37090642	1.370906	
500	0.00075541	0.75	2.8950E-05	2.97282E-05	2.68824233	2.688242	

Temp. (K)	Density ** (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
500	0.00076028	0.8	2.9200E-05	3.05109E-05	4.48942341	4.489423	
500	0.00076515	0.85	2.9440E-05	3.14815E-05	6.93445801	6.934458	
500	0.00077002	0.9	2.9680E-05	3.26785E-05	10.1026791	10.10268	
500	0.00077489	0.95	2.9920E-05	3.41517E-05	14.1433989	14.1434	
500	0.00077976	1	3.0170E-05	3.59668E-05	19.2138186	19.21382	
<i>Average Error for Temp.</i>							5.632243
<i>Total Error for All Temps.</i>							<i>kij</i>
							<i>lij</i>
							0.5
							-0.44048056

CARBON DIOXIDE (1) - OXYGEN (2)
(from TPRC)

P= 1 atm Total %AAD= 1.273318

		(CO2)					
300	0.00130065	0	2.0080E-05	2.25137E-05	12.1199701	12.11997	
300	0.00132525	0.05	2.0440E-05	2.17055E-05	6.19115936	6.191159	
300	0.00134986	0.1	2.0090E-05	2.10142E-05	4.60021795	4.600218	
300	0.00137449	0.15	1.9740E-05	2.0412E-05	3.40408478	3.404085	
300	0.00139914	0.2	1.9410E-05	1.98791E-05	2.41685393	2.416854	
300	0.00142381	0.25	1.9080E-05	1.94012E-05	1.68368659	1.683687	
300	0.00144849	0.3	1.8760E-05	1.89677E-05	1.10688324	1.106883	
300	0.0014732	0.35	1.8450E-05	1.85702E-05	0.65139478	0.651395	
300	0.00149794	0.4	1.8150E-05	1.82026E-05	0.28971416	0.289714	
300	0.00152269	0.45	1.7860E-05	1.786E-05	2.9075E-05	2.91E-05	
300	0.00154747	0.5	1.7680E-05	1.75387E-05	-0.799333	0.799333	
300	0.00157227	0.55	1.7300E-05	1.72357E-05	-0.3718405	0.37184	
300	0.00159709	0.6	1.7020E-05	1.69487E-05	-0.4187763	0.418776	
300	0.00162194	0.65	1.6750E-05	1.66761E-05	-0.4411165	0.441116	
300	0.00164681	0.7	1.6500E-05	1.64166E-05	-0.5057172	0.505717	
300	0.00167171	0.75	1.6230E-05	1.61691E-05	-0.3749723	0.374972	
300	0.00169664	0.8	1.5980E-05	1.59333E-05	-0.2924479	0.292448	
300	0.00172159	0.85	1.5730E-05	1.57086E-05	-0.136065	0.136065	
300	0.00174657	0.9	1.5480E-05	1.5495E-05	0.09711724	0.097117	

Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
300	0.00177158	0.95	1.5230E-05	1.52927E-05	0.41162599	0.411626	
300	0.00179662	1	1.4900E-05	1.51019E-05	1.35488434	1.354884	1.273318
<i>Average Error for Temp.</i>							
<i>Total Error for All Temps.</i>							
							<i>kij</i>
							1.5

OXYGEN (1) - NITROGEN (2)
(from TPRC)

P= 1 atm		Total %AAD= 15.28341					
		(Oxygen)					
300	0.00113802	0	1.7810E-05	2.04434E-05	14.7859532	14.78595	
300	0.00114614	0.05	1.7950E-05	1.96166E-05	9.28474667	9.284747	
300	0.00115427	0.1	1.8090E-05	1.89514E-05	4.76187153	4.761872	
300	0.0011624	0.15	1.8230E-05	1.84184E-05	1.03350162	1.033502	
300	0.00117053	0.2	1.8380E-05	1.79953E-05	-2.0928482	2.092848	
300	0.00117866	0.25	1.8500E-05	1.76654E-05	-4.5112712	4.511271	
300	0.00118679	0.3	1.8660E-05	1.74162E-05	-6.6658489	6.665849	
300	0.00119492	0.35	1.8800E-05	1.72386E-05	-8.305412	8.305412	
300	0.00120306	0.4	1.8940E-05	1.71268E-05	-9.5735581	9.573558	
300	0.00121119	0.45	1.9080E-05	1.70775E-05	-10.495385	10.49539	
300	0.00121932	0.5	1.9220E-05	1.709E-05	-11.082159	11.08216	
300	0.00122745	0.55	1.9370E-05	1.71661E-05	-11.378015	11.37801	
300	0.00123558	0.6	1.9500E-05	1.73099E-05	-11.23145	11.23145	
300	0.00124372	0.65	1.9650E-05	1.75281E-05	-10.798254	10.79825	
300	0.00125185	0.7	1.9800E-05	1.78305E-05	-9.9467297	9.94673	
300	0.00125998	0.75	1.9940E-05	1.82301E-05	-8.5753156	8.575316	
300	0.00126812	0.8	2.0070E-05	1.87439E-05	-6.6074837	6.607484	
300	0.00127625	0.85	2.1210E-05	1.93944E-05	-8.5602564	8.560256	
300	0.00128438	0.9	2.0330E-05	2.02111E-05	-0.5850521	0.585052	
300	0.00129252	0.95	2.0460E-05	2.12332E-05	3.77893802	3.778938	
300	0.00130065	1	2.0570E-05	2.25137E-05	9.44914924	9.449149	7.3299

Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
400	0.00085314	0	2.1900E-05	2.65468E-05	21.2181088	21.21811	
400	0.00085923	0.05	2.2090E-05	2.5444E-05	15.18351	15.18351	
400	0.00086531	0.1	2.2280E-05	2.45563E-05	10.2167134	10.21671	
400	0.0008714	0.15	2.2460E-05	2.38447E-05	6.16516948	6.165169	
400	0.00087748	0.2	2.2650E-05	2.328E-05	2.78134075	2.781341	
400	0.00088357	0.25	2.2840E-05	2.284E-05	5.8651E-05	5.87E-05	
400	0.00088966	0.3	2.3030E-05	2.25084E-05	-2.2649293	2.264929	
400	0.00089574	0.35	2.3220E-05	2.22733E-05	-4.0770216	4.077022	
400	0.00090183	0.4	2.3410E-05	2.2127E-05	-5.4805565	5.480556	
400	0.00090792	0.45	2.3600E-05	2.20652E-05	-6.5033975	6.503397	
400	0.000914	0.5	2.3790E-05	2.2087E-05	-7.1586493	7.158649	
400	0.00092009	0.55	2.3980E-05	2.21945E-05	-7.4456907	7.445691	
400	0.00092618	0.6	2.4170E-05	2.23934E-05	-7.3505871	7.350587	
400	0.00093227	0.65	2.4360E-05	2.26924E-05	-6.8458394	6.845839	
400	0.00093835	0.7	2.4540E-05	2.31042E-05	-5.850983	5.850983	
400	0.00094444	0.75	2.4730E-05	2.36459E-05	-4.383596	4.383596	
400	0.00095053	0.8	2.4920E-05	2.43403E-05	-2.3263587	2.326359	
400	0.00095662	0.85	2.5110E-05	2.52168E-05	0.42549766	0.425498	
400	0.00096271	0.9	2.5300E-05	2.63147E-05	4.01079239	4.010792	
400	0.0009688	0.95	2.5490E-05	2.7686E-05	8.61501318	8.615013	
400	0.00097488	1	2.5680E-05	2.94009E-05	14.4895394	14.48954	5.63609
500	0.00068245	0	2.5600E-05	3.23472E-05	26.3561443	26.35614	
500	0.00068732	0.05	2.5820E-05	3.09792E-05	19.9812523	19.98125	
500	0.00069218	0.1	2.6110E-05	2.98776E-05	14.4295521	14.42955	
500	0.00069705	0.15	2.6280E-05	2.89945E-05	10.3290687	10.32907	
500	0.00070191	0.2	2.6510E-05	2.82938E-05	6.72879601	6.728796	
500	0.00070678	0.25	2.6740E-05	2.77483E-05	3.77078811	3.770788	
500	0.00071164	0.3	2.6970E-05	2.73378E-05	1.36363965	1.36364	
500	0.00071651	0.35	2.7190E-05	2.70477E-05	-0.5233127	0.523313	
500	0.00072137	0.4	2.7420E-05	2.68685E-05	-2.0111854	2.011185	
500	0.00072624	0.45	2.7650E-05	2.6795E-05	-3.0921697	3.09217	

Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD			
ETHYLENE (1) - NITROGEN (2) (from TPRC)										
P= 1 atm								Total %AAD= 5.162589		
(Ethylene)										
300	0.00113802	0	1.7810E-05	2.04434E-05	14.7859532	14.78595		kij	lij	0.5
300	0.00113825	0.05	1.7310E-05	1.89694E-05	9.58652082	9.586521				
300	0.00113851	0.1	1.6820E-05	1.77322E-05	5.42357521	5.423575				
300	0.00113878	0.15	1.6380E-05	1.66799E-05	1.8307568	1.830757				
300	0.00113907	0.2	1.5920E-05	1.57756E-05	-0.9073268	0.907327				
300	0.00113938	0.25	1.5500E-05	1.49923E-05	-3.2754014	3.275401				
300	0.0011397	0.3	1.5080E-05	1.43098E-05	-5.1072018	5.107202				
300	0.00114005	0.35	1.4680E-05	1.37125E-05	-6.5908994	6.590899				
300	0.00114041	0.4	1.4300E-05	1.31879E-05	-7.7769801	7.77698				
300	0.00114079	0.45	1.3900E-05	1.27264E-05	-8.4434417	8.443442				
300	0.00114118	0.5	1.3550E-05	1.232E-05	-9.0775645	9.077564				
300	0.0011416	0.55	1.3200E-05	1.19624E-05	-9.3759258	9.375926				
300	0.00114203	0.6	1.2880E-05	1.16483E-05	-9.5629663	9.562966				
300	0.00114249	0.65	1.2550E-05	1.13734E-05	-9.3750985	9.375099				
300	0.00114296	0.7	1.2250E-05	1.11342E-05	-9.1082205	9.10822				
300	0.00114345	0.75	1.1950E-05	1.09278E-05	-8.553699	8.553699				
300	0.00114395	0.8	1.1680E-05	1.07518E-05	-7.9467938	7.946794				
300	0.00114448	0.85	1.1400E-05	1.06043E-05	-6.9801706	6.980171				
300	0.00114503	0.9	1.1170E-05	1.04836E-05	-6.1446759	6.144676				
300	0.00114559	0.95	1.0900E-05	1.03888E-05	-4.6901611	4.690161				
300	0.00114617	1	1.0330E-05	1.03188E-05	-0.108425	0.108425				
							6.829336			
400	0.00085314	0	2.1900E-05	2.65468E-05	21.2181088	21.21811				
400	0.00085325	0.05	2.1350E-05	2.47101E-05	15.7380316	15.73803				
400	0.00085336	0.1	2.0880E-05	2.31625E-05	10.9315524	10.93155				
								Total %AAD= 5.162589		
								Total Error for All Temps.		
								1135.183 1.378755 0.5		
								993.9406 1.890298 -0.61121411		

Temp. (K)	Density ^{mm} (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
400	0.00085348	0.15	2.0350E-05	2.18412E-05	7.32800059	7.328001	
400	0.00085361	0.2	1.9850E-05	2.07018E-05	4.29141911	4.291419	
400	0.00085374	0.25	1.9350E-05	1.97117E-05	1.86930748	1.869307	
400	0.00085388	0.3	1.8850E-05	1.88462E-05	-0.0198947	0.019895	
400	0.00085402	0.35	1.8380E-05	1.80865E-05	-1.5969319	1.596932	
400	0.00085418	0.4	1.7900E-05	1.74175E-05	-2.6955573	2.695557	
400	0.00085434	0.45	1.7480E-05	1.68274E-05	-3.7335004	3.7335	
400	0.0008545	0.5	1.7000E-05	1.63065E-05	-4.0791406	4.079141	
400	0.00085467	0.55	1.6580E-05	1.58472E-05	-4.4200396	4.42004	
400	0.00085485	0.6	1.6150E-05	1.54428E-05	-4.3789377	4.378938	
400	0.00085504	0.65	1.5750E-05	1.50862E-05	-4.2019505	4.20195	
400	0.00085523	0.7	1.5390E-05	1.4779E-05	-3.9703114	3.970311	
400	0.00085543	0.75	1.5000E-05	1.45115E-05	-3.2564346	3.256435	
400	0.00085564	0.8	1.4680E-05	1.42829E-05	-2.7047613	2.704761	
400	0.00085585	0.85	1.4350E-05	1.40908E-05	-1.806317	1.806317	
400	0.00085607	0.9	1.4050E-05	1.39332E-05	-0.8314384	0.831438	
400	0.00085629	0.95	1.3760E-05	1.38086E-05	0.35343256	0.353433	
400	0.00085653	1	1.3480E-05	1.37161E-05	1.7511801	1.75118	
							4.116156
500	0.00068245	0	2.5600E-05	3.23472E-05	26.3561443	26.35614	
500	0.00068252	0.05	2.4950E-05	3.01747E-05	20.9406853	20.94069	
500	0.00068258	0.1	2.4380E-05	2.83401E-05	16.2434249	16.24342	
500	0.00068265	0.15	2.3780E-05	2.67704E-05	12.5752172	12.57522	
500	0.00068272	0.2	2.3200E-05	2.54138E-05	9.54203337	9.542033	
500	0.0006828	0.25	2.2600E-05	2.42324E-05	7.22287668	7.222877	
500	0.00068288	0.3	2.2180E-05	2.31977E-05	4.58822845	4.588228	
500	0.00068296	0.35	2.1550E-05	2.22676E-05	3.42268754	3.422688	
500	0.00068304	0.4	2.1000E-05	2.14848E-05	2.30847874	2.308479	
500	0.00068313	0.45	2.0500E-05	2.07754E-05	1.34337362	1.343374	
500	0.00068322	0.5	2.0000E-05	2.01482E-05	0.74115241	0.741152	
500	0.00068331	0.55	1.9550E-05	1.95942E-05	0.2259309	0.225931	
500	0.00068341	0.6	1.9100E-05	1.91057E-05	0.02990967	0.02991	

Temp. (K)	Density ^{exp} (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
500	0.00068351	0.65	1.8680E-05	1.86767E-05	-0.0177902	0.01779	
500	0.00068361	0.7	1.8320E-05	1.8302E-05	-0.0985201	0.09852	
500	0.00068372	0.75	1.7950E-05	1.79773E-05	0.15218176	0.152182	
500	0.00068383	0.8	1.7600E-05	1.76993E-05	0.56424438	0.564244	
500	0.00068394	0.85	1.7300E-05	1.74651E-05	0.95435116	0.954351	
500	0.00068405	0.9	1.7000E-05	1.72725E-05	1.60264854	1.602649	
500	0.00068417	0.95	1.6700E-05	1.71196E-05	2.51258169	2.512582	
500	0.00068429	1	1.6220E-05	1.70053E-05	4.84135659	4.841357	4.478227
550	0.00062041	0	2.7270E-05	3.51537E-05	28.9096503	28.90965	
550	0.00062046	0.05	2.6680E-05	3.28207E-05	23.0159566	23.01596	
550	0.00062052	0.1	2.6120E-05	3.0849E-05	18.1049383	18.10494	
550	0.00062057	0.15	2.5550E-05	2.91606E-05	14.1315499	14.13155	
550	0.00062063	0.2	2.5000E-05	2.77003E-05	10.8011971	10.8012	
550	0.00062069	0.25	2.4480E-05	2.64277E-05	7.95610958	7.95611	
550	0.00062076	0.3	2.3930E-05	2.53122E-05	5.77597437	5.775974	
550	0.00062082	0.35	2.3400E-05	2.43304E-05	3.9759214	3.975921	
550	0.00062089	0.4	2.2900E-05	2.34637E-05	2.46141925	2.461419	
550	0.00062096	0.45	2.2400E-05	2.26973E-05	1.32724829	1.327248	
550	0.00062103	0.5	2.1900E-05	2.20193E-05	0.54489365	0.544894	
550	0.0006211	0.55	2.1420E-05	2.142E-05	-1.267E-07	1.27E-07	
550	0.00062118	0.6	2.0960E-05	2.08913E-05	-0.3277731	0.327773	
550	0.00062126	0.65	2.0500E-05	2.04266E-05	-0.3579621	0.357962	
550	0.00062134	0.7	2.0050E-05	2.00205E-05	-0.1471771	0.147177	
550	0.00062142	0.75	1.9610E-05	1.96684E-05	0.29782405	0.297824	
550	0.0006215	0.8	1.9190E-05	1.93666E-05	0.92049502	0.920495	
550	0.00062159	0.85	1.8780E-05	1.91122E-05	1.76884354	1.768844	
550	0.00062168	0.9	1.8350E-05	1.89026E-05	3.01157421	3.011574	
550	0.00062177	0.95	1.7950E-05	1.87361E-05	4.37922542	4.379225	
550	0.00062186	1	1.7530E-05	1.86111E-05	6.16740158	6.167402	5.226636
Average Error for Temp.							kij
							4.478227
							5.226636
							4.478227

Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%D	%AD	%AAD
ETHYLENE (1) - OXYGEN (2)							
(from TPRC)							
P= 1 atm							
(Ethylene)							
293	0.00133183	0	1.0120E-05	1.0077E-05	-0.4250609	0.425061	
293	0.00132384	0.05	1.0320E-05	1.03831E-05	0.61099228	0.610992	
293	0.00131585	0.1	1.0920E-05	1.0708E-05	-1.9416209	1.941621	
293	0.00130786	0.15	1.1320E-05	1.10522E-05	-2.3655375	2.365538	
293	0.00129992	0.2	1.1720E-05	1.14164E-05	-2.5901982	2.590198	
293	0.00129197	0.25	1.2250E-05	1.18014E-05	-3.6619302	3.66193	
293	0.00128403	0.3	1.2600E-05	1.22082E-05	-3.1095345	3.109534	
293	0.00127611	0.35	1.3050E-05	1.26381E-05	-3.1566888	3.156689	
293	0.0012682	0.4	1.3480E-05	1.30925E-05	-2.8743603	2.87436	
293	0.0012603	0.45	1.3950E-05	1.35736E-05	-2.6984072	2.698407	
293	0.00125241	0.5	1.4420E-05	1.40835E-05	-2.3333965	2.333396	
293	0.00124453	0.55	1.4930E-05	1.46253E-05	-2.0407915	2.040791	
293	0.00123666	0.6	1.5450E-05	1.52025E-05	-1.6016479	1.601648	
293	0.0012288	0.65	1.6000E-05	1.58197E-05	-1.1266212	1.126621	
293	0.00122096	0.7	1.6550E-05	1.64826E-05	-0.4074787	0.407479	
293	0.00121312	0.75	1.7120E-05	1.71982E-05	0.45676871	0.456769	
293	0.00120529	0.8	1.7700E-05	1.79759E-05	1.55861695	1.558617	
293	0.00119747	0.85	1.8320E-05	1.88276E-05	2.77074155	2.770742	
293	0.00118966	0.9	1.8950E-05	1.97893E-05	4.32338402	4.323384	
293	0.00118186	0.95	1.9580E-05	2.08225E-05	6.34555802	6.345558	
293	0.00117407	1	2.0190E-05	2.20171E-05	9.04961403	9.049614	
							2.419699
323	0.00120777	0	1.1070E-05	1.11098E-05	0.3599343	0.359934	
323	0.00120047	0.05	1.1500E-05	1.14482E-05	-0.4507368	0.450737	
323	0.00119317	0.1	1.1950E-05	1.1807E-05	-1.1969891	1.196989	
323	0.00118589	0.15	1.2390E-05	1.21867E-05	-1.6405459	1.640546	
							1.5
							3.00125426

Temp. (K)	Density ^{ref} (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
323	0.00117861	0.2	1.2820E-05	1.26882E-05	-1.8083386	1.808339	
323	0.00117134	0.25	1.3280E-05	1.30121E-05	-2.017107	2.017107	
323	0.00116408	0.3	1.3720E-05	1.34597E-05	-1.8973031	1.897303	
323	0.00115683	0.35	1.4200E-05	1.39322E-05	-1.8859469	1.885947	
323	0.00114959	0.4	1.4680E-05	1.44313E-05	-1.6941894	1.694189	
323	0.00114236	0.45	1.5180E-05	1.4959E-05	-1.4558109	1.455811	
323	0.00113513	0.5	1.5680E-05	1.55178E-05	-1.0342346	1.034235	
323	0.00112791	0.55	1.6200E-05	1.61108E-05	-0.5503717	0.550372	
323	0.0011207	0.6	1.6750E-05	1.67418E-05	-0.0487027	0.048703	
323	0.0011135	0.65	1.7320E-05	1.74156E-05	0.55192203	0.551922	
323	0.0011063	0.7	1.7920E-05	1.81381E-05	1.21688838	1.216888	
323	0.00109911	0.75	1.8520E-05	1.89168E-05	2.14279235	2.142792	
323	0.00109193	0.8	1.9160E-05	1.97617E-05	3.14021344	3.140213	
323	0.00108476	0.85	1.9820E-05	2.06852E-05	4.365324	4.365324	
323	0.00107759	0.9	2.0480E-05	2.17043E-05	5.97795812	5.977958	
323	0.00107043	0.95	2.1150E-05	2.28417E-05	7.99852992	7.99853	
323	0.00106327	1	2.1810E-05	2.41292E-05	10.6335184	10.63352	
							2.161784
373	0.00104556	0	1.2620E-05	1.28098E-05	1.50430163	1.504302	
373	0.00103919	0.05	1.3100E-05	1.32016E-05	0.77549396	0.775494	
373	0.00103282	0.1	1.3560E-05	1.36164E-05	0.41585975	0.41586	
373	0.00102646	0.15	1.4040E-05	1.40548E-05	0.105394	0.105394	
373	0.00102011	0.2	1.4520E-05	1.45175E-05	-0.016935	0.016935	
373	0.00101376	0.25	1.5000E-05	1.50056E-05	0.03702733	0.037027	
373	0.00100742	0.3	1.5520E-05	1.552E-05	9.8414E-06	9.84E-06	
373	0.00100108	0.35	1.6020E-05	1.60623E-05	0.26419277	0.264193	
373	0.00099475	0.4	1.6550E-05	1.66343E-05	0.50932152	0.509322	
373	0.00098842	0.45	1.7100E-05	1.72381E-05	0.80752319	0.807523	
373	0.0009821	0.5	1.7650E-05	1.78764E-05	1.28263476	1.282635	
373	0.00097578	0.55	1.8220E-05	1.85525E-05	1.82490317	1.824903	
373	0.00096947	0.6	1.8830E-05	1.92705E-05	2.33950387	2.339504	
373	0.00096316	0.65	1.9480E-05	2.00356E-05	2.85217666	2.852177	

Temp. (K)	Density ^{exp} (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
373	0.00095685	0.7	2.0120E-05	2.08542E-05	3.6489733	3.648973	
373	0.00095055	0.75	2.0800E-05	2.17344E-05	4.49246333	4.492463	
373	0.00094426	0.8	2.1480E-05	2.26869E-05	5.61880234	5.618802	
373	0.00093797	0.85	2.2180E-05	2.37254E-05	6.96744841	6.967448	
373	0.00093168	0.9	2.2880E-05	2.48681E-05	8.68913544	8.689135	
373	0.00092539	0.95	2.3600E-05	2.61398E-05	10.7618361	10.76184	
373	0.00091911	1	2.4330E-05	2.75752E-05	13.3380826	13.33808	2.70577
					<i>Average Error for Temp.</i>		
					<i>Total Error for All Temps.</i>		
					<i>klj</i>	138.4578	0.936735
					<i>llj</i>	1.5	

Temp.	Density **	Mole Frac.	Exp. Viscosity	η_{pred}	%D	%AD	%AAD
(K)	(g/cm3)		(Pa.s)	(Pa.s)			
** Calculated from PR EOS							
OXYGEN (1) - METHANE (2)							
(from TPRC)							
P= 1 atm							
(Oxygen)							
293.2	0.000668049	0	1.1120E-05	1.21829E-05	9.55836598	9.558366	Total %AAD= 2.26647252
293.2	0.000701222	0.05	1.1680E-05	1.24414E-05	6.51912591	6.519126	
293.2	0.000734391	0.1	1.2220E-05	1.27275E-05	4.15322132	4.153221	
293.2	0.000767557	0.15	1.2720E-05	1.30398E-05	2.5142201	2.51422	
293.2	0.000800718	0.2	1.3250E-05	1.33769E-05	0.95759878	0.957599	
293.2	0.000833877	0.25	1.3760E-05	1.37373E-05	-0.1651069	0.165107	
293.2	0.000867032	0.3	1.4120E-05	1.41195E-05	-0.0033786	0.003379	
293.2	0.000900183	0.35	1.4660E-05	1.45222E-05	-0.9402105	0.94021	
293.2	0.000933332	0.4	1.5120E-05	1.49439E-05	-1.1646042	1.164604	
293.2	0.000966478	0.45	1.5540E-05	1.53838E-05	-1.0054408	1.005441	
293.2	0.000999621	0.5	1.5970E-05	1.58411E-05	-0.8068277	0.806828	
293.2	0.001032761	0.55	1.6380E-05	1.63162E-05	-0.3893492	0.389349	
293.2	0.001065899	0.6	1.6810E-05	1.681E-05	7.4568E-06	7.46E-06	
293.2	0.001099034	0.65	1.7220E-05	1.73246E-05	0.60757864	0.607579	
293.2	0.001132167	0.7	1.7650E-05	1.78636E-05	1.21014755	1.210148	
293.2	0.001165297	0.75	1.8050E-05	1.8432E-05	2.11613874	2.116139	
293.2	0.001198426	0.8	1.8450E-05	1.90366E-05	3.17935878	3.179359	
293.2	0.001231553	0.85	1.8890E-05	1.96863E-05	4.21571554	4.215716	
293.2	0.001264678	0.9	1.9300E-05	2.03924E-05	5.66013235	5.660132	
293.2	0.001297801	0.95	1.9700E-05	2.11686E-05	7.45481471	7.454815	
293.2	0.001330923	1	2.0110E-05	2.20319E-05	9.55710083	9.557101	
Average Error for Temp.							2.26647252
Total Error for All Temps.							klj 1.196295739

PROPANE (1) - METHANE (2)
(from TPRC)

Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
P=	1 atm						
		(Propane)				Total %AAD=	5.272566478
293	0.000668508	0	1.0860E-05	1.21749E-05	12.1073585	12.10736	
293	0.000727249	0.05	1.0640E-05	1.17476E-05	10.4093664	10.40937	
293	0.000786063	0.1	1.0420E-05	1.13519E-05	8.94339351	8.943394	
293	0.000844958	0.15	1.0220E-05	1.09874E-05	7.50840647	7.508406	
293	0.00090394	0.2	1.0040E-05	1.06528E-05	6.10359068	6.103591	
293	0.000963015	0.25	9.8600E-06	1.03468E-05	4.93711067	4.937111	
293	0.001022189	0.3	9.6900E-06	1.00678E-05	3.89897993	3.89898	
293	0.001081469	0.35	9.5400E-06	9.81429E-06	2.87510691	2.875107	
293	0.001140861	0.4	9.4000E-06	9.58473E-06	1.96518627	1.965186	
293	0.001200373	0.45	9.2600E-06	9.37774E-06	1.27148722	1.271487	
293	0.001260011	0.5	9.1400E-06	9.19204E-06	0.56935659	0.569357	
293	0.001319782	0.55	9.0100E-06	9.02847E-06	0.18278312	0.182783	
293	0.001379692	0.6	8.8800E-06	8.88E-06	-6.553E-07	6.55E-07	
293	0.00143975	0.65	8.7600E-06	8.75173E-06	-0.0943781	0.094378	
293	0.00149961	0.7	8.6400E-06	8.64089E-06	0.01032261	0.010323	
293	0.001560334	0.75	8.5200E-06	8.54683E-06	0.31486046	0.31486	
293	0.001620875	0.8	8.4200E-06	8.469E-06	0.58197531	0.581975	
293	0.001681593	0.85	8.3200E-06	8.407E-06	1.04571964	1.04572	
293	0.001742494	0.9	8.2000E-06	8.36053E-06	1.95766181	1.957662	
293	0.001803587	0.95	8.1000E-06	8.32939E-06	2.83192666	2.831927	
293	0.001864879	1	8.0000E-06	8.3135E-06	3.91876296	3.918763	
							2.921137528
373	0.000524479	0	1.3310E-05	1.53274E-05	15.157369	15.15737	
373	0.000570445	0.05	1.3100E-05	1.48059E-05	13.0218299	13.02183	
373	0.00061644	0.1	1.2900E-05	1.43225E-05	11.0267493	11.02675	
373	0.000662467	0.15	1.2640E-05	1.38767E-05	9.7843874	9.784387	
373	0.000708528	0.2	1.2480E-05	1.34675E-05	7.91273895	7.912739	
373	0.000754625	0.25	1.2290E-05	1.30931E-05	6.53465241	6.534652	
373	0.000800761	0.3	1.2100E-05	1.27517E-05	5.38632968	5.38633	
373	0.00084694	0.35	1.1920E-05	1.24416E-05	4.37581413	4.375814	

Temp. (K)	Density ^m (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
373	0.000893162	0.4	1.1730E-05	1.21609E-05	3.67344858	3.673449	
373	0.000939432	0.45	1.1560E-05	1.1908E-05	3.01021725	3.010217	
373	0.000985752	0.5	1.1390E-05	1.16813E-05	2.5577478	2.557748	
373	0.001032124	0.55	1.1230E-05	1.14796E-05	2.22222472	2.222225	
373	0.001078551	0.6	1.1070E-05	1.13014E-05	2.09070019	2.0907	
373	0.001125036	0.65	1.0920E-05	1.11459E-05	2.06876851	2.068769	
373	0.001171582	0.7	1.0770E-05	1.1012E-05	2.24737796	2.247378	
373	0.001218191	0.75	1.0630E-05	1.08991E-05	2.53121434	2.531214	
373	0.001264866	0.8	1.0510E-05	1.08064E-05	2.81978603	2.819786	
373	0.001311611	0.85	1.0380E-05	1.07334E-05	3.4049404	3.40494	
373	0.001358427	0.9	1.0270E-05	1.06799E-05	3.99166822	3.991668	
373	0.001405318	0.95	1.0170E-05	1.06457E-05	4.6773854	4.677385	
373	0.001452286	1	1.0080E-05	1.06306E-05	5.46236792	5.462368	
4.912525322							
473	0.000413351	0	1.6030E-05	1.91134E-05	19.2351506	19.23515	
473	0.000449529	0.05	1.5810E-05	1.84824E-05	16.9031576	16.90316	
473	0.000485718	0.1	1.5580E-05	1.78972E-05	14.8729726	14.87297	
473	0.000521918	0.15	1.5360E-05	1.73575E-05	13.0043846	13.00438	
473	0.000558132	0.2	1.5130E-05	1.68618E-05	11.4463362	11.44634	
473	0.000594359	0.25	1.4920E-05	1.64084E-05	9.97600506	9.976005	
473	0.000630601	0.3	1.4710E-05	1.59952E-05	8.73661493	8.736615	
473	0.000666858	0.35	1.4510E-05	1.56199E-05	7.64923502	7.649235	
473	0.000703133	0.4	1.4310E-05	1.52806E-05	6.78256684	6.782567	
473	0.000739426	0.45	1.4120E-05	1.49752E-05	6.05694703	6.056947	
473	0.000775738	0.5	1.3940E-05	1.47021E-05	5.46676347	5.466763	
473	0.00081207	0.55	1.3760E-05	1.44594E-05	5.08308731	5.083087	
473	0.000848423	0.6	1.3600E-05	1.42459E-05	4.74919614	4.749196	
473	0.000884799	0.65	1.3440E-05	1.40602E-05	4.61440697	4.614407	
473	0.000921198	0.7	1.3280E-05	1.39012E-05	4.67777359	4.677774	
473	0.000957622	0.75	1.3140E-05	1.37681E-05	4.77994931	4.779949	
473	0.000994071	0.8	1.3010E-05	1.36601E-05	4.9967914	4.996791	
473	0.001030547	0.85	1.2880E-05	1.35766E-05	5.40876727	5.408767	

Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
473	0.00106705	0.9	1.2760E-05	1.35174E-05	5.9357907	5.935791	
473	0.001103583	0.95	1.2640E-05	1.34821E-05	6.66257395	6.662574	
473	0.001140146	1	1.2530E-05	1.34708E-05	7.50873349	7.508733	7.779122102
523	0.000373782	0	1.7250E-05	2.09495E-05	21.4465476	21.44655	
523	0.000406486	0.05	1.7020E-05	2.02665E-05	19.0744969	19.0745	
523	0.000439196	0.1	1.6790E-05	1.96329E-05	16.932239	16.93224	
523	0.000471914	0.15	1.6550E-05	1.90485E-05	15.0968384	15.09684	
523	0.000504639	0.2	1.6310E-05	1.85119E-05	13.500231	13.50023	
523	0.000537374	0.25	1.6080E-05	1.8021E-05	12.07113	12.07113	
523	0.000570118	0.3	1.5840E-05	1.75738E-05	10.9454289	10.94543	
523	0.000602873	0.35	1.5610E-05	1.71678E-05	9.97924765	9.979248	
523	0.000635639	0.4	1.5400E-05	1.68008E-05	9.09627123	9.096271	
523	0.000668416	0.45	1.5180E-05	1.64709E-05	8.50363197	8.503632	
523	0.000701206	0.5	1.4980E-05	1.61759E-05	7.98332672	7.983327	
523	0.000734009	0.55	1.4800E-05	1.59142E-05	7.52858316	7.528583	
523	0.000766826	0.6	1.4630E-05	1.56843E-05	7.20630732	7.206307	
523	0.000799657	0.65	1.4480E-05	1.54847E-05	6.93857774	6.938578	
523	0.000832504	0.7	1.4340E-05	1.53143E-05	6.79459136	6.794591	
523	0.000865367	0.75	1.4200E-05	1.51722E-05	6.84674045	6.84674	
523	0.000898247	0.8	1.4080E-05	1.50576E-05	6.94329308	6.943293	
523	0.000931145	0.85	1.3950E-05	1.49699E-05	7.31111665	7.311117	
523	0.00096406	0.9	1.3840E-05	1.49087E-05	7.72182986	7.72183	
523	0.000996995	0.95	1.3730E-05	1.48738E-05	8.33076527	8.330765	
523	0.00102995	1	1.3620E-05	1.48652E-05	9.1426328	9.142633	9.937086659
Average Error for Temp.							

METHANE (1) - PROPANE (2)
(from TPRC)

		(Propane)				
310.9	0.01	0.209	1.0890E-05	1.12759E-05	3.54399795	3.543998
310.9	0.01	0.3861	1.0120E-05	1.02643E-05	1.42577839	1.425778

Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
310.9	0.01	0.6122	9.5000E-06	9.4093E-06	-0.9547088	0.954709	
310.9	0.01	0.7793	9.1000E-06	9.03496E-06	-0.7147077	0.714708	
310.9	0.02	0.209	1.1160E-05	1.13616E-05	1.80625188	1.806252	
310.9	0.02	0.3861	1.0410E-05	1.03373E-05	-0.6986056	0.698606	
310.9	0.02	0.6122	9.6800E-06	9.46704E-06	-2.2000365	2.200037	
310.9	0.02	0.7793	9.3500E-06	9.08186E-06	-2.8678306	2.867831	
310.9	0.03	0.209	1.1400E-05	1.14856E-05	0.75053537	0.750535	
310.9	0.03	0.3861	1.0760E-05	1.04495E-05	-2.8857741	2.885774	
310.9	0.03	0.6122	9.9300E-06	9.56453E-06	-3.6805039	3.680504	
310.9	0.03	0.7793	9.5800E-06	9.16809E-06	-4.2996855	4.299685	
310.9	0.04	0.209	1.1720E-05	1.16491E-05	-0.6050377	0.605038	
310.9	0.04	0.3861	1.1080E-05	1.06019E-05	-4.3153604	4.31536	
310.9	0.05	0.209	1.2040E-05	1.18536E-05	-1.5483752	1.548375	
310.9	0.05	0.3861	1.1410E-05	1.07956E-05	-5.3845307	5.384531	
310.9	0.075	0.209	1.3130E-05	1.25548E-05	-4.3811147	4.381115	
310.9	0.1	0.209	1.4440E-05	1.35513E-05	-6.1543504	6.15435	
310.9	0.125	0.209	1.6090E-05	1.48787E-05	-7.5284478	7.528448	
310.9	0.15	0.209	1.7990E-05	1.65794E-05	-7.8409816	7.840982	
310.9	0.175	0.209	2.0100E-05	1.87043E-05	-6.9436665	6.943666	
310.9	0.2	0.209	2.2610E-05	2.13139E-05	-5.7323761	5.732376	
310.9	0.225	0.209	2.5450E-05	2.44801E-05	-3.8108611	3.810861	
310.9	0.25	0.209	2.8700E-05	2.82887E-05	-1.4332181	1.433218	
310.9	0.3	0.209	3.7060E-05	3.82609E-05	3.24032684	3.240327	
3.389882545							
344.3	0.01	0.209	1.1920E-05	1.246E-05	4.53039639	4.530396	
344.3	0.01	0.3861	1.1190E-05	1.13595E-05	1.51506586	1.515066	
344.3	0.01	0.6122	1.0470E-05	1.04309E-05	-0.3737008	0.373701	
344.3	0.01	0.7793	1.0000E-05	1.00263E-05	0.26313229	0.263132	
344.3	0.02	0.209	1.2200E-05	1.25586E-05	2.93917064	2.939171	
344.3	0.02	0.3861	1.1410E-05	1.14454E-05	0.31066917	0.310669	
344.3	0.02	0.6122	1.0660E-05	1.05014E-05	-1.4873746	1.487375	

Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
344.3	0.02	0.7793	1.0220E-05	1.00859E-05	-1.3123598	1.31236	
344.3	0.03	0.209	1.2470E-05	1.26961E-05	1.81300607	1.813006	
344.3	0.03	0.3861	1.1720E-05	1.15707E-05	-1.2736902	1.27369	
344.3	0.03	0.6122	1.0950E-05	1.06113E-05	-3.092866	3.092866	
344.3	0.03	0.7793	1.0500E-05	1.0184E-05	-3.0099545	3.009954	
344.3	0.04	0.209	1.2800E-05	1.28738E-05	0.57670764	0.576708	
344.3	0.04	0.3861	1.2020E-05	1.17364E-05	-2.3595833	2.359583	
344.3	0.04	0.6122	1.1210E-05	1.07611E-05	-4.0048603	4.00486	
344.3	0.04	0.7793	1.0800E-05	1.03206E-05	-4.4386581	4.438658	
344.3	0.05	0.209	1.3180E-05	1.30933E-05	-0.6579848	0.657985	
344.3	0.05	0.3861	1.2390E-05	1.19437E-05	-3.6019106	3.601911	
344.3	0.05	0.6122	1.1570E-05	1.09516E-05	-5.3447735	5.344773	
344.3	0.05	0.7793	1.1180E-05	1.04966E-05	-6.1128949	6.112895	
344.3	0.075	0.209	1.4220E-05	1.38357E-05	-2.7026499	2.70265	
344.3	0.075	0.3861	1.3400E-05	1.26549E-05	-5.5602577	5.560258	
344.3	0.075	0.6122	1.2610E-05	1.16156E-05	-7.8861902	7.88619	
344.3	0.1	0.209	1.5580E-05	1.48796E-05	-4.4953549	4.495355	
344.3	0.1	0.3861	1.4610E-05	1.36653E-05	-6.4660495	6.46605	
344.3	0.1	0.6122	1.4000E-05	1.25688E-05	-10.223116	10.22312	
344.3	0.125	0.209	1.7130E-05	1.62614E-05	-5.0707119	5.070712	
344.3	0.125	0.3861	1.6110E-05	1.50102E-05	-6.8268816	6.826882	
344.3	0.125	0.6122	1.5590E-05	1.38438E-05	-11.201066	11.20107	
344.3	0.15	0.209	1.8980E-05	1.80243E-05	-5.0352642	5.035264	
344.3	0.15	0.3861	1.7890E-05	1.67321E-05	-6.4725895	6.47259	
344.3	0.15	0.6122	1.7400E-05	1.54799E-05	-11.035143	11.03514	
344.3	0.175	0.209	2.1110E-05	2.02199E-05	-4.216448	4.216448	
344.3	0.175	0.3861	2.0000E-05	1.88815E-05	-5.5923267	5.592327	
344.3	0.175	0.6122	1.9450E-05	1.75239E-05	-9.9026881	9.902688	
344.3	0.2	0.209	2.3600E-05	2.29094E-05	-2.9264039	2.926404	
344.3	0.2	0.3861	2.2450E-05	2.15187E-05	-4.148248	4.148248	
344.3	0.2	0.6122	2.1820E-05	2.0031E-05	-8.1989656	8.198966	
344.3	0.225	0.209	2.6420E-05	2.61653E-05	-0.9639027	0.963903	

Temp. (K)	Density ^{xx} (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
344.3	0.225	0.3861	2.5240E-05	2.47148E-05	-2.0807638	2.080764	
344.3	0.225	0.6122	2.4600E-05	2.30658E-05	-6.2367601	6.23676	
344.3	0.25	0.209	2.9670E-05	3.00742E-05	1.36219616	1.362196	
344.3	0.25	0.3861	2.8380E-05	2.85542E-05	0.61394714	0.613947	
344.3	0.3	0.209	3.7900E-05	4.02815E-05	6.28352091	6.283521	
344.3	0.3	0.3861	3.6200E-05	3.85828E-05	6.58223147	6.582231	
344.3	0.35	0.3861	4.7200E-05	5.26578E-05	11.5632274	11.56323	4.405775297
377.6	0.01	0.209	1.2900E-05	1.36238E-05	5.61084532	5.610845	
377.6	0.01	0.3861	1.2200E-05	1.24376E-05	1.94762922	1.947629	
377.6	0.01	0.6122	1.1420E-05	1.14384E-05	0.16077948	0.160779	
377.6	0.01	0.7793	1.1000E-05	1.10054E-05	0.04910841	0.049108	
377.6	0.02	0.209	1.3200E-05	1.37342E-05	4.04702513	4.047025	
377.6	0.02	0.3861	1.2500E-05	1.25353E-05	0.2824788	0.282479	
377.6	0.02	0.6122	1.1700E-05	1.15206E-05	-1.5335132	1.533513	
377.6	0.02	0.7793	1.1200E-05	1.10764E-05	-1.1033603	1.10336	
377.6	0.03	0.209	1.3500E-05	1.38844E-05	2.84735295	2.847353	
377.6	0.03	0.3861	1.2800E-05	1.26728E-05	-0.9937295	0.993729	
377.6	0.03	0.6122	1.1980E-05	1.1642E-05	-2.8210795	2.821079	
377.6	0.03	0.7793	1.1420E-05	1.11855E-05	-2.0530113	2.053011	
377.6	0.04	0.209	1.3800E-05	1.40757E-05	1.99803729	1.998037	
377.6	0.04	0.3861	1.3050E-05	1.28512E-05	-1.5234413	1.523441	
377.6	0.04	0.6122	1.2200E-05	1.18033E-05	-3.2512305	3.251231	
377.6	0.04	0.7793	1.1700E-05	1.1333E-05	-3.1371387	3.137139	
377.6	0.05	0.209	1.4200E-05	1.43098E-05	0.77314613	0.773146	
377.6	0.05	0.3861	1.3400E-05	1.30719E-05	-2.4488274	2.448827	
377.6	0.05	0.6122	1.2560E-05	1.20056E-05	-4.414214	4.414214	
377.6	0.05	0.7793	1.2000E-05	1.15194E-05	-4.0050556	4.005056	
377.6	0.075	0.209	1.5300E-05	1.50936E-05	-1.3492256	1.349226	
377.6	0.075	0.3861	1.4400E-05	1.38193E-05	-4.0325744	4.032574	
377.6	0.075	0.6122	1.3500E-05	1.26992E-05	-5.9315291	5.931529	

Temp. (K)	Density ** (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%D	%AD	%AAD
377.6	0.075	0.7793	1.3000E-05	1.21637E-05	-6.4327987	6.432799	
377.6	0.1	0.209	1.6600E-05	1.61868E-05	-2.4890979	2.489098	
377.6	0.1	0.3861	1.5700E-05	1.48708E-05	-5.2818352	5.281835	
377.6	0.1	0.6122	1.4800E-05	1.36831E-05	-7.5466739	7.546674	
377.6	0.1	0.7793	1.4300E-05	1.30813E-05	-8.5227264	8.522726	
377.6	0.125	0.209	1.8200E-05	1.7627E-05	-3.1483527	3.148353	
377.6	0.125	0.3861	1.7300E-05	1.62621E-05	-5.9992952	5.999295	
377.6	0.125	0.6122	1.6380E-05	1.49895E-05	-8.4890722	8.489072	
377.6	0.125	0.7793	1.5900E-05	1.43004E-05	-10.060299	10.0603	
377.6	0.15	0.209	2.0000E-05	1.94587E-05	-2.7064079	2.706408	
377.6	0.15	0.3861	1.9050E-05	1.80364E-05	-5.3205242	5.320524	
377.6	0.15	0.6122	1.8200E-05	1.66574E-05	-8.4758027	8.475803	
377.6	0.15	0.7793	1.7800E-05	1.58556E-05	-10.923564	10.92356	
377.6	0.175	0.209	2.2200E-05	2.17348E-05	-2.0954378	2.095438	
377.6	0.175	0.3861	2.1100E-05	2.02448E-05	-4.0530354	4.053035	
377.6	0.175	0.6122	2.0340E-05	1.8733E-05	-7.9006774	7.900677	
377.6	0.175	0.7793	1.9900E-05	1.77874E-05	-10.616289	10.61629	
377.6	0.2	0.209	2.4600E-05	2.45179E-05	-0.3337753	0.333775	
377.6	0.2	0.3861	2.3400E-05	2.29478E-05	-1.9326577	1.932658	
377.6	0.2	0.6122	2.2800E-05	2.12706E-05	-6.7078059	6.707806	
377.6	0.2	0.7793	2.2400E-05	2.0143E-05	-10.076085	10.07609	
377.6	0.225	0.209	2.7400E-05	2.78822E-05	1.75974229	1.759742	
377.6	0.225	0.3861	2.6100E-05	2.62169E-05	0.44801641	0.448016	
377.6	0.225	0.6122	2.5620E-05	2.4334E-05	-5.019361	5.019361	
377.6	0.225	0.7793	2.5200E-05	2.29773E-05	-8.820136	8.820136	
377.6	0.25	0.209	3.0600E-05	3.19157E-05	4.29979444	4.299794	
377.6	0.25	0.3861	2.9200E-05	3.01372E-05	3.20957491	3.209575	
377.6	0.25	0.6122	2.8940E-05	2.79981E-05	-3.2546604	3.25466	
377.6	0.25	0.7793	2.8200E-05	2.63542E-05	-6.5455029	6.545503	
377.6	0.3	0.209	3.9000E-05	4.24298E-05	8.79439426	8.794394	
377.6	0.3	0.3861	3.7000E-05	4.03527E-05	9.06125167	9.061252	
377.6	0.3	0.6122	3.6600E-05	3.74953E-05	2.44608763	2.446088	

Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
377.6	0.3	0.7793	3.5840E-05	3.50429E-05	-2.2241461	2.224146	
377.6	0.35	0.3861	4.7700E-05	5.4652E-05	14.5744793	14.57448	
377.6	0.35	0.6122	4.7000E-05	5.06705E-05	7.80951432	7.809514	
377.6	0.35	0.7793	4.5400E-05	4.69572E-05	3.43003848	3.430038	
377.6	0.4	0.6122	6.0900E-05	6.87957E-05	12.9650266	12.96503	
377.6	0.4	0.7793	5.9100E-05	6.31181E-05	6.79885278	6.798853	
377.6	0.45	0.7793	7.9000E-05	8.4936E-05	7.5139588	7.513959	4.748404598
410.9	0.01	0.209	1.3920E-05	1.47715E-05	6.11722619	6.117226	
410.9	0.01	0.3861	1.3200E-05	1.35022E-05	2.28904659	2.289047	
410.9	0.01	0.6122	1.2400E-05	1.24348E-05	0.28093369	0.280934	
410.9	0.01	0.7793	1.1980E-05	1.1975E-05	-0.0418644	0.041864	
410.9	0.02	0.209	1.4200E-05	1.4893E-05	4.88010532	4.880105	
410.9	0.02	0.3861	1.3400E-05	1.36108E-05	1.57296858	1.572969	
410.9	0.02	0.6122	1.2600E-05	1.25278E-05	-0.5731288	0.573129	
410.9	0.02	0.7793	1.2180E-05	1.20565E-05	-1.0136909	1.013691	
410.9	0.03	0.209	1.4400E-05	1.50552E-05	4.55002097	4.550021	
410.9	0.03	0.3861	1.3700E-05	1.37598E-05	0.43675753	0.436758	
410.9	0.03	0.6122	1.2900E-05	1.26602E-05	-1.8591875	1.859188	
410.9	0.03	0.7793	1.2400E-05	1.21761E-05	-1.8059325	1.805933	
410.9	0.04	0.209	1.4700E-05	1.52597E-05	3.80723769	3.807238	
410.9	0.04	0.3861	1.4000E-05	1.39505E-05	-0.3534592	0.353459	
410.9	0.04	0.6122	1.3180E-05	1.28327E-05	-2.6351775	2.635177	
410.9	0.04	0.7793	1.2600E-05	1.23339E-05	-2.1122075	2.112207	
410.9	0.05	0.209	1.5100E-05	1.5508E-05	2.70206727	2.702067	
410.9	0.05	0.3861	1.4400E-05	1.41843E-05	-1.4980977	1.498098	
410.9	0.05	0.6122	1.3420E-05	1.30465E-05	-2.7835007	2.783501	
410.9	0.05	0.7793	1.2900E-05	1.25307E-05	-2.8626053	2.862605	
410.9	0.075	0.209	1.6180E-05	1.63332E-05	0.9466952	0.946695	
410.9	0.075	0.3861	1.5400E-05	1.49684E-05	-2.8026271	2.802627	
410.9	0.075	0.6122	1.4420E-05	1.37708E-05	-4.5022899	4.50229	

Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
410.9	0.075	0.7793	1.3900E-05	1.32015E-05	-5.02545	5.02545	
410.9	0.1	0.209	1.7500E-05	1.7477E-05	-0.131671	0.131671	
410.9	0.1	0.3861	1.6700E-05	1.60629E-05	-3.8148729	3.814873	
410.9	0.1	0.6122	1.5800E-05	1.47882E-05	-6.4038844	6.403884	
410.9	0.1	0.7793	1.5200E-05	1.4146E-05	-6.9344978	6.934498	
410.9	0.125	0.209	1.9200E-05	1.89783E-05	-1.1548117	1.154812	
410.9	0.125	0.3861	1.8300E-05	1.75047E-05	-4.3457767	4.345777	
410.9	0.125	0.6122	1.7600E-05	1.61314E-05	-8.344442	8.344442	
410.9	0.125	0.7793	1.6900E-05	1.53926E-05	-8.9197436	8.919744	
410.9	0.15	0.209	2.1000E-05	2.08833E-05	-0.5558935	0.555893	
410.9	0.15	0.3861	2.0100E-05	1.93378E-05	-3.7920564	3.792056	
410.9	0.15	0.6122	1.9420E-05	1.78395E-05	-8.1385602	8.13856	
410.9	0.15	0.7793	1.8800E-05	1.69753E-05	-9.7056296	9.70563	
410.9	0.175	0.209	2.3200E-05	2.32465E-05	0.20032234	0.200322	
410.9	0.175	0.3861	2.2200E-05	2.16142E-05	-2.6385171	2.638517	
410.9	0.175	0.6122	2.1500E-05	1.99588E-05	-7.1684065	7.168407	
410.9	0.175	0.7793	2.0800E-05	1.89343E-05	-8.9694844	8.969484	
410.9	0.2	0.209	2.5600E-05	2.61324E-05	2.07980445	2.079804	
410.9	0.2	0.3861	2.4600E-05	2.43957E-05	-0.8304993	0.830499	
410.9	0.2	0.6122	2.3800E-05	2.25437E-05	-5.2787139	5.278714	
410.9	0.2	0.7793	2.3180E-05	2.13163E-05	-8.0402007	8.040201	
410.9	0.225	0.209	2.8400E-05	2.96175E-05	4.28693379	4.286934	
410.9	0.225	0.3861	2.7200E-05	2.7755E-05	2.040395	2.040395	
410.9	0.225	0.6122	2.6400E-05	2.56579E-05	-2.8109042	2.810904	
410.9	0.225	0.7793	2.5700E-05	2.41754E-05	-5.9322998	5.9323	
410.9	0.25	0.209	3.1700E-05	3.37922E-05	6.59990835	6.599908	
410.9	0.25	0.3861	3.0200E-05	3.17783E-05	5.226249	5.226249	
410.9	0.25	0.6122	2.9400E-05	2.93764E-05	-0.0801836	0.080184	
410.9	0.25	0.7793	2.8600E-05	2.75747E-05	-3.5850752	3.585075	
410.9	0.3	0.3861	3.8000E-05	4.22451E-05	11.1713276	11.17133	
410.9	0.3	0.6122	3.7200E-05	3.89935E-05	4.82125277	4.821253	
410.9	0.3	0.7793	3.6300E-05	3.62981E-05	-0.0053024	0.005302	

Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
293	0.00123095	0.95	9.1600E-06	9.47833E-06	3.47519033	3.47519	
293	0.001260864	1	9.0900E-06	9.6821E-06	6.5137128	6.513713	3.377661628
373	0.000524479	0	1.3310E-05	1.53274E-05	15.157369	15.15737	
373	0.000547465	0.05	1.3180E-05	1.46849E-05	11.4181727	11.41817	
373	0.000570459	0.1	1.3070E-05	1.41487E-05	8.25320749	8.253207	
373	0.000593461	0.15	1.2960E-05	1.3696E-05	5.67898553	5.678986	
373	0.000616472	0.2	1.2860E-05	1.33098E-05	3.49750547	3.497505	
373	0.000639491	0.25	1.2750E-05	1.29773E-05	1.78298461	1.782985	
373	0.00066252	0.3	1.2650E-05	1.26893E-05	0.31072465	0.310725	
373	0.000685559	0.35	1.2560E-05	1.2439E-05	-0.9630094	0.963009	
373	0.000708608	0.4	1.2460E-05	1.22221E-05	-1.9096569	1.909657	
373	0.000731667	0.45	1.2360E-05	1.20356E-05	-2.6244695	2.624469	
373	0.000754737	0.5	1.2260E-05	1.18784E-05	-3.1121954	3.112195	
373	0.000777819	0.55	1.2180E-05	1.17505E-05	-3.5266614	3.526661	
373	0.000800911	0.6	1.2100E-05	1.16525E-05	-3.6980875	3.698088	
373	0.000824016	0.65	1.2000E-05	1.15864E-05	-3.4465383	3.446538	
373	0.000847134	0.7	1.1920E-05	1.15546E-05	-3.0654433	3.065443	
373	0.000870264	0.75	1.1840E-05	1.15603E-05	-2.3621655	2.362166	
373	0.000893407	0.8	1.1750E-05	1.16076E-05	-1.2118727	1.211873	
373	0.000916563	0.85	1.1660E-05	1.17014E-05	0.35502413	0.355024	
373	0.000939734	0.9	1.1580E-05	1.18477E-05	2.31215681	2.312157	
373	0.000962919	0.95	1.1500E-05	1.20541E-05	4.81854091	4.818541	
373	0.000986118	1	1.1420E-05	1.23299E-05	7.96727762	7.967278	3.386705382
473	0.000413351	0	1.6030E-05	1.91134E-05	19.2351506	19.23515	
473	0.000431442	0.05	1.5920E-05	1.82974E-05	14.9332166	14.93322	
473	0.000449535	0.1	1.5810E-05	1.76176E-05	11.4330641	11.43306	
473	0.000467632	0.15	1.5700E-05	1.70452E-05	8.56843065	8.568431	
473	0.000485732	0.2	1.5600E-05	1.65589E-05	6.14677022	6.14677	
473	0.000503835	0.25	1.5480E-05	1.61425E-05	4.27955748	4.279557	
473	0.000521942	0.3	1.5380E-05	1.57842E-05	2.62781098	2.627811	

Temp. (K)	Density ^m (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
473	0.000540052	0.35	1.5270E-05	1.54755E-05	1.34559489	1.345595	
473	0.000558167	0.4	1.5170E-05	1.52107E-05	0.26802115	0.268021	
473	0.000576285	0.45	1.5080E-05	1.49862E-05	-0.6222838	0.622284	
473	0.000594408	0.5	1.4980E-05	1.48002E-05	-1.2001281	1.200128	
473	0.000612535	0.55	1.4880E-05	1.46526E-05	-1.5284142	1.528414	
473	0.000630666	0.6	1.4800E-05	1.45442E-05	-1.7285079	1.728508	
473	0.000648802	0.65	1.4700E-05	1.44771E-05	-1.5164461	1.516446	
473	0.000666943	0.7	1.4610E-05	1.44543E-05	-1.0658155	1.065816	
473	0.000685088	0.75	1.4520E-05	1.44798E-05	-0.2771939	0.277194	
473	0.000703239	0.8	1.4430E-05	1.45585E-05	0.8903234	0.890323	
473	0.000721395	0.85	1.4340E-05	1.46966E-05	2.48691942	2.486919	
473	0.000739557	0.9	1.4260E-05	1.49018E-05	4.50084452	4.500845	
473	0.000757724	0.95	1.4170E-05	1.51835E-05	7.15249398	7.152494	
473	0.000775896	1	1.4090E-05	1.55535E-05	10.386856	10.38686	
3.819570371							
523	0.000373782	0	1.7250E-05	2.09495E-05	21.4465476	21.44655	
523	0.000390135	0.05	1.7130E-05	2.00486E-05	17.0379913	17.03799	
523	0.00040649	0.1	1.7020E-05	1.92986E-05	13.387967	13.38797	
523	0.000422847	0.15	1.6900E-05	1.86679E-05	10.4610991	10.4611	
523	0.000439205	0.2	1.6800E-05	1.81328E-05	7.93334415	7.933344	
523	0.000455567	0.25	1.6680E-05	1.76756E-05	5.96866951	5.96867	
523	0.00047193	0.3	1.6570E-05	1.72832E-05	4.30418275	4.304183	
523	0.000488296	0.35	1.6460E-05	1.69463E-05	2.9546484	2.954648	
523	0.000504664	0.4	1.6360E-05	1.66586E-05	1.82511347	1.825113	
523	0.000521035	0.45	1.6260E-05	1.6416E-05	0.95941494	0.959415	
523	0.000537408	0.5	1.6160E-05	1.62166E-05	0.35017896	0.350179	
523	0.000553785	0.55	1.6060E-05	1.606E-05	-8.888E-07	8.89E-07	
523	0.000570164	0.6	1.5960E-05	1.59472E-05	-0.0799213	0.079921	
523	0.000586547	0.65	1.5880E-05	1.58805E-05	0.00323012	0.00323	
523	0.000602932	0.7	1.5790E-05	1.58631E-05	0.46278056	0.462781	
523	0.000619321	0.75	1.5700E-05	1.58993E-05	1.26915458	1.269155	
523	0.000635713	0.8	1.5720E-05	1.59945E-05	1.74643755	1.746438	

Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
523	0.000652108	0.85	1.5520E-05	1.61557E-05	4.09609852	4.096099	
523	0.000668507	0.9	1.5440E-05	1.63912E-05	6.1605122	6.160512	
523	0.00068491	0.95	1.5350E-05	1.67114E-05	8.86895314	8.868953	
523	0.000701317	1	1.5260E-05	1.71294E-05	12.2503091	12.25031	
<i>Average Error for Temp.</i>							4.624720967
<i>Total Error for All Temps.</i>							<i>kij</i> 1.311677415
							<i>lij</i> 0.5
							-0.07215817

PROPANE (1) - ETHANE (2)
(from TPRC)

P= 1 atm

		(Propane)	Total %AAD=				
			Comp %AAD=				
293	0.001260864	0	9.0900E-06	9.6821E-06	6.5137128	6.513713	2.211352132
293	0.001290723	0.05	9.0300E-06	9.4098E-06	4.20592742	4.205927	1.798333875
293	0.001320614	0.1	8.9700E-06	9.18492E-06	2.39601662	2.396017	
293	0.001350536	0.15	8.9200E-06	8.99773E-06	0.87138123	0.871381	
293	0.001380492	0.2	8.8600E-06	8.84041E-06	-0.2210924	0.221092	
293	0.00141048	0.25	8.8000E-06	8.70674E-06	-1.0597736	1.059774	
293	0.001440504	0.3	8.7500E-06	8.59178E-06	-1.8081941	1.808194	
293	0.001470562	0.35	8.7000E-06	8.49174E-06	-2.3937633	2.393763	
293	0.001500656	0.4	8.6400E-06	8.40383E-06	-2.7334066	2.733407	
293	0.001530787	0.45	8.5800E-06	8.32619E-06	-2.9581279	2.958128	
293	0.001580955	0.5	8.5300E-06	8.2578E-06	-3.1911236	3.191124	
293	0.001591162	0.55	8.4800E-06	8.19839E-06	-3.3208944	3.320894	
293	0.001621408	0.6	8.4200E-06	8.14839E-06	-3.2257665	3.225767	
293	0.001651693	0.65	8.3700E-06	8.10883E-06	-3.1202574	3.120257	
293	0.001682019	0.7	8.3200E-06	8.08128E-06	-2.8691811	2.869181	
293	0.001712387	0.75	8.2600E-06	8.06778E-06	-2.3271339	2.327134	
293	0.001742797	0.8	8.2200E-06	8.0708E-06	-1.8151375	1.815138	
293	0.001773251	0.85	8.1600E-06	8.09324E-06	-0.8181156	0.818116	
293	0.001803748	0.9	8.1100E-06	8.13848E-06	0.35115869	0.351159	
293	0.001834291	0.95	8.0600E-06	8.21039E-06	1.86589888	1.865899	

Temp. (K)	Density ^m (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
293	0.001864879	1	8.0100E-06	8.3135E-06	3.78902668	3.789027	2.186965824
373	0.000986118	0	1.1420E-05	1.23299E-05	7.96727762	7.967278	
373	0.001009293	0.05	1.1320E-05	1.19718E-05	5.7576165	5.757617	
373	0.001032481	0.1	1.1240E-05	1.16753E-05	3.87312693	3.873127	
373	0.001055681	0.15	1.1170E-05	1.14283E-05	2.31218617	2.312186	
373	0.001078893	0.2	1.1100E-05	1.12207E-05	1.08765374	1.087654	
373	0.001102119	0.25	1.1030E-05	1.10449E-05	0.13483656	0.134837	
373	0.001125359	0.3	1.0960E-05	1.08945E-05	-0.5975961	0.597596	
373	0.001148612	0.35	1.0890E-05	1.07648E-05	-1.1492835	1.149284	
373	0.001171879	0.4	1.0820E-05	1.06524E-05	-1.5492728	1.549273	
373	0.00119516	0.45	1.0780E-05	1.05547E-05	-2.0900408	2.090041	
373	0.001218456	0.5	1.0680E-05	1.04705E-05	-1.9619596	1.96196	
373	0.001241767	0.55	1.0620E-05	1.03993E-05	-2.0785826	2.078583	
373	0.001265093	0.6	1.0250E-05	1.03415E-05	0.89253096	0.892531	
373	0.001288434	0.65	1.0480E-05	1.02983E-05	-1.7336718	1.733672	
373	0.001311792	0.7	1.0420E-05	1.02716E-05	-1.4246332	1.424633	
373	0.001335165	0.75	1.0360E-05	1.02636E-05	-0.9302856	0.930286	
373	0.001358555	0.8	1.0300E-05	1.02775E-05	-0.2185927	0.218593	
373	0.001381962	0.85	1.0240E-05	1.03167E-05	0.74880263	0.748803	
373	0.001405386	0.9	1.0180E-05	1.03852E-05	2.01613522	2.016135	
373	0.001428827	0.95	1.0140E-05	1.0488E-05	3.43218268	3.432183	
373	0.001452286	1	1.0080E-05	1.06306E-05	5.46236792	5.462368	1.788883686
473	0.000775896	0	1.4090E-05	1.55535E-05	10.386856	10.38686	
473	0.000794058	0.05	1.4000E-05	1.50861E-05	7.75763868	7.757639	
473	0.000812224	0.1	1.3900E-05	1.46985E-05	5.74481009	5.74481	
473	0.000830395	0.15	1.3820E-05	1.43753E-05	4.01832106	4.018321	
473	0.000848571	0.2	1.3730E-05	1.41041E-05	2.7247331	2.724733	
473	0.000866752	0.25	1.3650E-05	1.3875E-05	1.64831554	1.648316	
473	0.000884938	0.3	1.3560E-05	1.36802E-05	0.88656981	0.88657	
473	0.000903129	0.35	1.3490E-05	1.35138E-05	0.17620403	0.176204	

Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
473	0.000921326	0.4	1.3410E-05	1.33712E-05	-0.2893127	0.289313	
473	0.000939528	0.45	1.3330E-05	1.32495E-05	-0.6040797	0.60408	
473	0.000957735	0.5	1.3260E-05	1.31468E-05	-0.8535803	0.85358	
473	0.000975949	0.55	1.3180E-05	1.30626E-05	-0.8908028	0.890803	
473	0.000994168	0.6	1.3110E-05	1.29972E-05	-0.8603686	0.860369	
473	0.001012393	0.65	1.3040E-05	1.2952E-05	-0.6750802	0.67508	
473	0.001030624	0.7	1.2960E-05	1.2929E-05	-0.2390845	0.239085	
473	0.001048862	0.75	1.2890E-05	1.29312E-05	0.31973602	0.319736	
473	0.001067105	0.8	1.2820E-05	1.29621E-05	1.1087483	1.108748	
473	0.001085355	0.85	1.2740E-05	1.30261E-05	2.24548427	2.245484	
473	0.001103612	0.9	1.2670E-05	1.3128E-05	3.6152288	3.615229	
473	0.001121875	0.95	1.2600E-05	1.3274E-05	5.34903659	5.349037	
473	0.001140146	1	1.2530E-05	1.34708E-05	7.50873349	7.508733	
2.105638693							
523	0.000701317	0	1.5260E-05	1.71294E-05	12.2503091	12.25031	
523	0.000717715	0.05	1.5180E-05	1.66071E-05	9.40120848	9.401208	
523	0.000734117	0.1	1.5100E-05	1.61739E-05	7.11176034	7.11176	
523	0.000750521	0.15	1.5020E-05	1.58125E-05	5.27662294	5.276623	
523	0.000766929	0.2	1.4940E-05	1.55095E-05	3.81177429	3.811774	
523	0.00078334	0.25	1.4860E-05	1.52538E-05	2.65012407	2.650124	
523	0.000799754	0.3	1.4780E-05	1.5037E-05	1.73861417	1.738614	
523	0.000816172	0.35	1.4700E-05	1.48523E-05	1.03630609	1.036306	
523	0.000832593	0.4	1.4620E-05	1.4695E-05	0.5130914	0.513091	
523	0.000849018	0.45	1.4540E-05	1.45616E-05	0.14876058	0.148761	
523	0.000865447	0.5	1.4450E-05	1.44502E-05	0.00140412	0.001404	
523	0.000881879	0.55	1.4360E-05	1.436E-05	1.7828E-05	1.78E-05	
523	0.000898315	0.6	1.4260E-05	1.42914E-05	0.22033424	0.220334	
523	0.000914755	0.65	1.4170E-05	1.42458E-05	0.53525634	0.535256	
523	0.000931199	0.7	1.4080E-05	1.42256E-05	1.03386572	1.033866	
523	0.000947647	0.75	1.4020E-05	1.42337E-05	1.52418639	1.524186	
523	0.000964099	0.8	1.3940E-05	1.42741E-05	2.39664533	2.396645	
523	0.000980555	0.85	1.3860E-05	1.43514E-05	3.54568513	3.545685	

Temp. (K)	Density ** (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
523	0.000997016	0.9	1.3800E-05	1.44712E-05	4.86386931	4.863869	
523	0.001013481	0.95	1.3720E-05	1.46399E-05	6.70495947	6.704959	
523	0.00102995	1	1.3630E-05	1.48652E-05	9.0625575	9.062557	
Average Error for Temp.							2.763920328
						<i>klj</i>	<i>lij</i>
Total Error for All Temps.					168.0628	1.24785496	0.5
					101.74	1.479475259	-0.07951085
n-HEPTANE (1) - NITROGEN (2)							
(from TPRC)							
(n-Heptane)							
0.398 atm	310.9	1	6.2400E-06	6.1039E-06	-2.1811577	2.181158	
0.781 atm	310.9	0.4848	1.0400E-05	7.90421E-06	-23.99799	23.99799	
1.000 atm	310.9	0	1.8360E-05	2.11192E-05	15.0282453	15.02825	
0.398 atm	344.3	1	6.9400E-06	6.78288E-06	-2.2639154	2.263915	
2.574 atm	344.3	0.1471	1.5460E-05	1.546E-05	3.5859E-07	3.59E-07	
1.000 atm	344.3	0	1.9840E-05	2.31894E-05	16.8821826	16.88218	
Average Error for Temp.							6.382032786
						<i>klj</i>	<i>lij</i>
Total Error for All Temps.					3.59E-07	1.405854675	0.94920253

Temp. (K)	Density ** (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
** Calculated from PREOS							
CARBON MONOXIDE (1) - CARBON DIOXIDE (2)							
(from Kestin and Ro, 1983)							
P= 1 atm							
(mol/cm ³)		(CO)					Total %AAD= 1.951304
4.1E-05	1.652E-03	0.2346	1.5610E-05	1.52036E-05	-2.6036451	2.603645	
3.78E-05	1.523E-03	0.2346	1.6840E-05	1.6474E-05	-2.1736795	2.173679	
3.27E-05	1.317E-03	0.2346	1.9220E-05	1.89838E-05	-1.2287717	1.228772	
2.88E-05	1.161E-03	0.2346	2.1430E-05	2.1452E-05	0.10270739	0.102707	
2.58E-05	1.038E-03	0.2346	2.3550E-05	2.38792E-05	1.39808423	1.398084	
							1.501378
4.09E-05	1.353E-03	0.6859	1.6940E-05	1.68102E-05	-0.7660776	0.766078	
3.78E-05	1.247E-03	0.6859	1.8170E-05	1.81673E-05	-0.0148119	0.014812	
3.27E-05	1.080E-03	0.6859	2.0470E-05	2.08354E-05	1.78519398	1.785194	
2.88E-05	9.517E-04	0.6859	2.2600E-05	2.34455E-05	3.74126335	3.741263	
2.58E-05	8.509E-04	0.6859	2.4600E-05	2.60019E-05	5.69880084	5.698801	
			Average Error for Temp.				2.40123
							kJ
			Total Error for All Temps.				1.030465
							1.2130576
							11j
CARBON MONOXIDE (1) - METHANE (2)							
(from Kestin and Ro, 1983)							
P= 1 atm							
(mol/cm ³)		(CO)					Total %AAD= 2.02081
4.09E-05	8.176E-04	0.3282	1.3390E-05	1.28832E-05	-3.7846346	3.784635	
3.78E-05	7.540E-04	0.3282	1.4330E-05	1.38797E-05	-3.1422167	3.142217	
3.27E-05	6.526E-04	0.3282	1.6080E-05	1.5831E-05	-1.5485013	1.548501	
2.88E-05	5.753E-04	0.3282	1.7720E-05	1.77319E-05	0.06733128	0.067331	
2.58E-05	5.144E-04	0.3282	1.9240E-05	1.9588E-05	1.80867271	1.808673	
							2.070271
4.09E-05	9.899E-04	0.6811	1.5750E-05	1.53427E-05	-2.5858187	2.585819	
3.77E-05	9.130E-04	0.6811	1.6810E-05	1.6509E-05	-1.7905362	1.790536	

Temp. (K)	Density ** (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
3.27E-05	373.15	0.6811	1.8790E-05	1.87901E-05	0.00049339	0.000493	
2.88E-05	423.15	0.6811	2.0650E-05	2.10097E-05	1.7418781	1.741878	
2.58E-05	473.15	0.6811	2.2340E-05	2.31751E-05	3.73801507	3.738015	1.971348
							kij
					Total Error for All Temps,	20.2081	1.274766
							lij
							0.5

CARBON MONOXIDE (1) - CARBON TETRAFLUORIDE (2)
(from Kestin and Ro, 1983)

(mol/cm3)		P=	1 atm	(CO)	Total %AAD=			1.801569
4.1E-05	298.15	2.827E-03	0.3172	1.7720E-05	1.73587E-05	-2.0387812	2.038781	
3.78E-05	323.15	2.607E-03	0.3172	1.8990E-05	1.87237E-05	-1.4023907	1.402391	
3.27E-05	373.15	2.255E-03	0.3172	2.1400E-05	2.14E-05	3.8275E-05	3.83E-05	
2.88E-05	423.15	1.987E-03	0.3172	2.3630E-05	2.40108E-05	1.61146697	1.611467	
2.58E-05	473.15	1.777E-03	0.3172	2.5850E-05	2.65625E-05	3.55746125	3.557461	
								1.722028
4.09E-05	298.15	2.136E-03	0.5973	1.7990E-05	1.74375E-05	-3.0712751	3.071275	
3.78E-05	323.15	1.970E-03	0.5973	1.9240E-05	1.87753E-05	-2.4154569	2.415457	
3.27E-05	373.15	1.705E-03	0.5973	2.1600E-05	2.13934E-05	-0.9566463	0.956646	
2.88E-05	423.15	1.503E-03	0.5973	2.3800E-05	2.39424E-05	0.59847181	0.598472	
2.58E-05	473.15	1.344E-03	0.5973	2.5820E-05	2.64303E-05	2.36370641	2.363706	
Average Error for Temp.								1.881111
								kJ
Total Error for All Temps.								18.01569
								14.14549
								1.518923
								-0.02246012
								0.5

(mol/cm³)

(c)

Total %AAD= 1.801569

1.722028

Average Error for Temp.

Total Error for All Temps.	18.01569	1.334239	0.5
	14.14549	1.518923	-0.02246012

Density** (mol/cm3)	Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
** Calculated from PREOS								
CARBON DIOXIDE (1) - HYDROGEN CHLORIDE (2)								
(from TPRC)								
(Carbon Dioxide)								
4.212E-05	291.2	1.536E-03	0.00	1.444E-05	1.43E-05	-0.98111	0.981109	Total %AAD= 0.351218
4.212E-05	291.2	1.551E-03	0.05	1.452E-05	1.44E-05	-0.74481	0.74481	
4.211E-05	291.2	1.567E-03	0.10	1.459E-05	1.45E-05	-0.50224	0.502244	
4.211E-05	291.2	1.583E-03	0.15	1.466E-05	1.46E-05	-0.32364	0.323638	
4.211E-05	291.2	1.599E-03	0.20	1.472E-05	1.47E-05	-0.1427	0.142703	
4.211E-05	291.2	1.615E-03	0.25	1.478E-05	1.48E-05	-0.02901	0.029006	
4.211E-05	291.2	1.631E-03	0.30	1.483E-05	1.48E-05	0.083712	0.083712	
4.211E-05	291.2	1.647E-03	0.35	1.488E-05	1.49E-05	0.12659	0.12659	
4.211E-05	291.2	1.663E-03	0.40	1.492E-05	1.49E-05	0.165918	0.165918	
4.211E-05	291.2	1.678E-03	0.45	1.496E-05	1.5E-05	0.133592	0.133592	
4.211E-05	291.2	1.694E-03	0.50	1.498E-05	1.5E-05	0.16279	0.16279	
4.211E-05	291.2	1.710E-03	0.55	1.500E-05	1.5E-05	0.119063	0.119063	
4.211E-05	291.2	1.726E-03	0.60	1.502E-05	1.5E-05	0.002361	0.002361	
4.211E-05	291.2	1.742E-03	0.65	1.502E-05	1.5E-05	-0.05415	0.05415	
4.211E-05	291.2	1.758E-03	0.70	1.503E-05	1.5E-05	-0.24991	0.249912	
4.21E-05	291.2	1.774E-03	0.75	1.502E-05	1.5E-05	-0.3851	0.385098	
4.21E-05	291.2	1.789E-03	0.80	1.501E-05	1.49E-05	-0.59185	0.591855	
4.21E-05	291.2	1.805E-03	0.85	1.498E-05	1.49E-05	-0.73677	0.736771	
4.21E-05	291.2	1.821E-03	0.90	1.495E-05	1.48E-05	-0.95124	0.951243	
4.21E-05	291.2	1.837E-03	0.95	1.491E-05	1.47E-05	-1.16768	1.167675	
4.21E-05	291.2	1.853E-03	1.00	1.483E-05	1.47E-05	-1.18499	1.184989	
Average Error for Temp.								0.351218

k_{ij} *l_{ij}*
 Total Error for All *T_{oi}* 6.673133 0.992233 0.896136

Density** (mol/cm3)	Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
CARBON TETRACHLORIDE (1) - DICHLOROMETHANE (2)								
(from TPRC)								
(Carbon Tetrachloride)								
4.279E-06	293.15	3.635E-03	0.00	1.025E-05	1.03E-05	0.788122	0.788122	
4.283E-06	293.15	3.786E-03	0.05	1.024E-05	1.02E-05	-0.11639	0.116389	
4.287E-06	293.15	3.937E-03	0.10	1.023E-05	1.02E-05	-0.74143	0.741433	
4.292E-06	293.15	4.089E-03	0.15	1.022E-05	1.01E-05	-1.154	1.154	
4.296E-06	293.15	4.241E-03	0.20	1.021E-05	1.01E-05	-1.41248	1.412479	
4.3E-06	293.15	4.393E-03	0.25	1.020E-05	1E-05	-1.5677	1.567703	
4.305E-06	293.15	4.546E-03	0.30	1.019E-05	1E-05	-1.66331	1.663309	
4.309E-06	293.15	4.699E-03	0.35	1.017E-05	1E-05	-1.63902	1.639021	
4.314E-06	293.15	4.852E-03	0.40	1.015E-05	9.99E-06	-1.61993	1.619934	
4.318E-06	293.15	5.006E-03	0.45	1.013E-05	9.97E-06	-1.62677	1.626767	
4.323E-06	293.15	5.161E-03	0.50	1.011E-05	9.94E-06	-1.67192	1.67192	
4.328E-06	293.15	5.316E-03	0.55	1.009E-05	9.91E-06	-1.75935	1.75935	
4.333E-06	293.15	5.471E-03	0.60	1.006E-05	9.88E-06	-1.78721	1.787206	
4.338E-06	293.15	5.627E-03	0.65	1.004E-05	9.85E-06	-1.93835	1.938349	
4.343E-06	293.15	5.783E-03	0.70	1.001E-05	9.81E-06	-1.99815	1.998146	
4.348E-06	293.15	5.940E-03	0.75	1.000E-05	9.78E-06	-2.23417	2.23417	
4.354E-06	293.15	6.097E-03	0.80	9.950E-06	9.75E-06	-2.02679	2.026789	
4.359E-06	293.15	6.255E-03	0.85	9.910E-06	9.73E-06	-1.82728	1.827285	
4.364E-06	293.15	6.413E-03	0.90	9.870E-06	9.72E-06	-1.49408	1.494077	
4.37E-06	293.15	6.572E-03	0.95	9.840E-06	9.73E-06	-1.07721	1.077207	
4.376E-06	293.15	6.731E-03	1.00	9.820E-06	9.77E-06	-0.5203	0.520296	1.077241
3.511E-05	353.26	2.982E-03	0.00	1.202E-05	1.25E-05	4.253817	4.253817	1.545028
3.513E-05	353.26	3.105E-03	0.05	1.203E-05	1.24E-05	3.103587	3.103587	
3.515E-05	353.26	3.227E-03	0.10	1.204E-05	1.23E-05	2.240952	2.240952	
3.517E-05	353.26	3.350E-03	0.15	1.205E-05	1.22E-05	1.597776	1.597776	
3.519E-05	353.26	3.474E-03	0.20	1.206E-05	1.22E-05	1.115081	1.115081	
3.521E-05	353.26	3.597E-03	0.25	1.206E-05	1.22E-05	0.825412	0.825412	
3.523E-05	353.26	3.721E-03	0.30	1.207E-05	1.21E-05	0.517883	0.517883	

Density ^{***} (mol/cm ³)	Temp. (K)	Density ^{***} (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
3.526E-05	353.26	3.844E-03	0.35	1.207E-05	1.21E-05	0.323382	0.323382	
3.528E-05	353.26	3.968E-03	0.40	1.207E-05	1.21E-05	0.129989	0.129989	
3.53E-05	353.26	4.093E-03	0.45	1.206E-05	1.21E-05	8.51E-06	8.51E-06	
3.533E-05	353.26	4.217E-03	0.50	1.205E-05	1.2E-05	-0.16219	0.162186	
3.535E-05	353.26	4.342E-03	0.55	1.204E-05	1.2E-05	-0.36119	0.361189	
3.537E-05	353.26	4.466E-03	0.60	1.202E-05	1.2E-05	-0.51119	0.511189	
3.54E-05	353.26	4.591E-03	0.65	1.200E-05	1.19E-05	-0.68477	0.684773	
3.542E-05	353.26	4.717E-03	0.70	1.196E-05	1.19E-05	-0.69954	0.699536	
3.545E-05	353.26	4.842E-03	0.75	1.192E-05	1.18E-05	-0.6985	0.698502	
3.547E-05	353.26	4.968E-03	0.80	1.188E-05	1.18E-05	-0.65455	0.654547	
3.55E-05	353.26	5.094E-03	0.85	1.182E-05	1.18E-05	-0.36804	0.368041	
3.553E-05	353.26	5.220E-03	0.90	1.176E-05	1.18E-05	0.030309	0.030309	
3.555E-05	353.26	5.347E-03	0.95	1.170E-05	1.18E-05	0.580095	0.580095	
3.558E-05	353.26	5.473E-03	1.00	1.160E-05	1.18E-05	1.674682	1.674682	0.768655
2.981E-05	413.43	2.532E-03	0.00	1.427E-05	1.47E-05	3.228761	3.228761	
2.982E-05	413.43	2.636E-03	0.05	1.425E-05	1.46E-05	2.276838	2.276838	
2.984E-05	413.43	2.740E-03	0.10	1.422E-05	1.45E-05	1.677186	1.677186	
2.985E-05	413.43	2.843E-03	0.15	1.419E-05	1.44E-05	1.293691	1.293691	
2.986E-05	413.43	2.947E-03	0.20	1.417E-05	1.43E-05	0.999542	0.999542	
2.987E-05	413.43	3.051E-03	0.25	1.414E-05	1.43E-05	0.889102	0.889102	
2.988E-05	413.43	3.156E-03	0.30	1.411E-05	1.42E-05	0.849667	0.849667	
2.99E-05	413.43	3.260E-03	0.35	1.408E-05	1.42E-05	0.846673	0.846673	
2.991E-05	413.43	3.364E-03	0.40	1.405E-05	1.42E-05	0.8526	0.8526	
2.992E-05	413.43	3.469E-03	0.45	1.402E-05	1.41E-05	0.847275	0.847275	
2.993E-05	413.43	3.573E-03	0.50	1.399E-05	1.41E-05	0.818091	0.818091	
2.995E-05	413.43	3.678E-03	0.55	1.396E-05	1.41E-05	0.760027	0.760027	
2.996E-05	413.43	3.783E-03	0.60	1.393E-05	1.4E-05	0.675405	0.675405	
2.997E-05	413.43	3.888E-03	0.65	1.389E-05	1.4E-05	0.645784	0.645784	
2.999E-05	413.43	3.993E-03	0.70	1.386E-05	1.39E-05	0.541692	0.541692	
3E-05	413.43	4.098E-03	0.75	1.382E-05	1.39E-05	0.528678	0.528678	
3.002E-05	413.43	4.204E-03	0.80	1.379E-05	1.39E-05	0.48643	0.48643	

Density** (mol/cm3)	Temp. (K)	Density** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
3.003E-05	413.43	4.309E-03	0.85	1.375E-05	1.38E-05	0.589246	0.589246	
3.004E-05	413.43	4.415E-03	0.90	1.371E-05	1.38E-05	0.796323	0.796323	
3.006E-05	413.43	4.520E-03	0.95	1.368E-05	1.38E-05	1.068492	1.068492	
3.007E-05	413.43	4.626E-03	1.00	1.363E-05	1.39E-05	1.665243	1.665243	
Average Error for Temp.								
0.918039								
ETHYLENE (1) - AMMONIA (2)								
(from TPRC)								
Total Error for All Tei								
					kij		lij	
					61.40271		1.182982	
					54.10116		1.302384	
							0.200299	
(Ethylene)								
4.193E-05	293.2	7.141E-04	0.00	9.820E-06	9.95E-06	1.275976	1.275976	
4.193E-05	293.2	7.372E-04	0.05	9.910E-06	1E-05	0.889126	0.889126	
4.192E-05	293.2	7.602E-04	0.10	9.990E-06	1E-05	0.520769	0.520769	
4.192E-05	293.2	7.832E-04	0.15	1.006E-05	1.01E-05	0.174523	0.174523	
4.191E-05	293.2	8.063E-04	0.20	1.013E-05	1.01E-05	-0.24414	0.244142	
4.191E-05	293.2	8.293E-04	0.25	1.018E-05	1.01E-05	-0.53283	0.532833	
4.191E-05	293.2	8.523E-04	0.30	1.022E-05	1.01E-05	-0.7861	0.786103	
4.19E-05	293.2	8.753E-04	0.35	1.025E-05	1.01E-05	-0.99856	0.998559	
4.19E-05	293.2	8.983E-04	0.40	1.028E-05	1.02E-05	-1.26046	1.260459	
4.19E-05	293.2	9.213E-04	0.45	1.029E-05	1.01E-05	-1.37288	1.372885	
4.189E-05	293.2	9.443E-04	0.50	1.030E-05	1.01E-05	-1.52102	1.521022	
4.189E-05	293.2	9.673E-04	0.55	1.030E-05	1.01E-05	-1.60152	1.601524	
4.188E-05	293.2	9.903E-04	0.60	1.030E-05	1.01E-05	-1.702	1.701997	
4.188E-05	293.2	1.013E-03	0.65	1.029E-05	1.01E-05	-1.71851	1.718511	
4.188E-05	293.2	1.036E-03	0.70	1.027E-05	1.01E-05	-1.64192	1.641924	
4.187E-05	293.2	1.059E-03	0.75	1.023E-05	1.01E-05	-1.36571	1.365708	
4.187E-05	293.2	1.082E-03	0.80	1.022E-05	1.01E-05	-1.36077	1.360775	
4.186E-05	293.2	1.105E-03	0.85	1.019E-05	1.01E-05	-1.13458	1.134576	
4.186E-05	293.2	1.128E-03	0.90	1.016E-05	1.01E-05	-0.86777	0.867775	
4.186E-05	293.2	1.151E-03	0.95	1.012E-05	1.01E-05	-0.44916	0.449158	
						Total %AAD=		1.492825
						Comp %AAD=		1.471107

Density** (mol/cm3)	Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
4.185E-05	293.2	1.174E-03	1.00	1.008E-05	1.01E-05	0.03891	0.03891	1.060125
3.28E-05	373.2	5.586E-04	0.00	1.279E-05	1.27E-05	-0.4882	0.488199	
3.28E-05	373.2	5.766E-04	0.05	1.287E-05	1.28E-05	-0.58655	0.58655	
3.279E-05	373.2	5.947E-04	0.10	1.293E-05	1.28E-05	-0.62002	0.620019	
3.279E-05	373.2	6.127E-04	0.15	1.297E-05	1.29E-05	-0.58464	0.58464	
3.279E-05	373.2	6.308E-04	0.20	1.308E-05	1.29E-05	-1.16029	1.160289	
3.279E-05	373.2	6.488E-04	0.25	1.303E-05	1.3E-05	-0.59274	0.592736	
3.279E-05	373.2	6.668E-04	0.30	1.304E-05	1.3E-05	-0.54783	0.547831	
3.279E-05	373.2	6.849E-04	0.35	1.304E-05	1.3E-05	-0.48727	0.487271	
3.278E-05	373.2	7.029E-04	0.40	1.305E-05	1.3E-05	-0.55683	0.556825	
3.278E-05	373.2	7.209E-04	0.45	1.304E-05	1.3E-05	-0.52069	0.520693	
3.278E-05	373.2	7.389E-04	0.50	1.302E-05	1.3E-05	-0.44765	0.447652	
3.278E-05	373.2	7.570E-04	0.55	1.301E-05	1.29E-05	-0.48295	0.48295	
3.278E-05	373.2	7.750E-04	0.60	1.298E-05	1.29E-05	-0.38914	0.389136	
3.278E-05	373.2	7.930E-04	0.65	1.295E-05	1.29E-05	-0.31077	0.310774	
3.277E-05	373.2	8.110E-04	0.70	1.291E-05	1.29E-05	-0.16203	0.16203	
3.277E-05	373.2	8.291E-04	0.75	1.287E-05	1.29E-05	-0.01053	0.010533	
3.277E-05	373.2	8.471E-04	0.80	1.282E-05	1.28E-05	0.231495	0.231495	
3.277E-05	373.2	8.651E-04	0.85	1.276E-05	1.28E-05	0.575958	0.575958	
3.277E-05	373.2	8.831E-04	0.90	1.270E-05	1.28E-05	0.956622	0.956622	
3.276E-05	373.2	9.011E-04	0.95	1.263E-05	1.28E-05	1.466279	1.466279	
3.276E-05	373.2	9.191E-04	1.00	1.256E-05	1.28E-05	2.040234	2.040234	0.562646
2.581E-05	473.2	4.395E-04	0.00	1.646E-05	1.62E-05	-1.85562	1.85562	
2.581E-05	473.2	4.537E-04	0.05	1.647E-05	1.62E-05	-1.40662	1.406621	
2.581E-05	473.2	4.679E-04	0.10	1.647E-05	1.63E-05	-0.99022	0.990217	
2.58E-05	473.2	4.821E-04	0.15	1.647E-05	1.64E-05	-0.66106	0.661061	
2.58E-05	473.2	4.963E-04	0.20	1.645E-05	1.64E-05	-0.29276	0.292762	
2.58E-05	473.2	5.106E-04	0.25	1.643E-05	1.64E-05	-1.4E-05	1.36E-05	
2.58E-05	473.2	5.248E-04	0.30	1.640E-05	1.64E-05	0.284045	0.284045	
2.58E-05	473.2	5.390E-04	0.35	1.636E-05	1.65E-05	0.566248	0.566248	

Density** (mol/cm3)	Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
2.58E-05	473.2	5.532E-04	0.40	1.631E-05	1.64E-05	0.853776	0.853776	
2.58E-05	473.2	5.674E-04	0.45	1.626E-05	1.64E-05	1.091983	1.091983	
2.58E-05	473.2	5.816E-04	0.50	1.620E-05	1.64E-05	1.35021	1.35021	
2.58E-05	473.2	5.958E-04	0.55	1.615E-05	1.64E-05	1.510876	1.510876	
2.58E-05	473.2	6.100E-04	0.60	1.609E-05	1.64E-05	1.70691	1.70691	
2.58E-05	473.2	6.242E-04	0.65	1.602E-05	1.63E-05	1.947285	1.947285	
2.58E-05	473.2	6.384E-04	0.70	1.595E-05	1.63E-05	2.177514	2.177514	
2.579E-05	473.2	6.526E-04	0.75	1.588E-05	1.63E-05	2.406443	2.406443	
2.579E-05	473.2	6.668E-04	0.80	1.579E-05	1.62E-05	2.773528	2.773528	
2.579E-05	473.2	6.809E-04	0.85	1.570E-05	1.62E-05	3.161048	3.161048	
2.579E-05	473.2	6.951E-04	0.90	1.561E-05	1.62E-05	3.580138	3.580138	
2.579E-05	473.2	7.093E-04	0.95	1.550E-05	1.61E-05	4.177274	4.177274	
2.579E-05	473.2	7.235E-04	1.00	1.541E-05	1.61E-05	4.698986	4.698986	
								1.628313
2.333E-05	523.2	3.973E-04	0.00	1.831E-05	1.78E-05	-2.55768	2.557683	
2.333E-05	523.2	4.101E-04	0.05	1.812E-05	1.79E-05	-1.02898	1.028981	
2.333E-05	523.2	4.230E-04	0.10	1.810E-05	1.8E-05	-0.50596	0.505964	
2.332E-05	523.2	4.358E-04	0.15	1.808E-05	1.81E-05	-0.07082	0.070816	
2.332E-05	523.2	4.486E-04	0.20	1.804E-05	1.81E-05	0.392669	0.392669	
2.332E-05	523.2	4.615E-04	0.25	1.799E-05	1.81E-05	0.83585	0.83585	
2.332E-05	523.2	4.743E-04	0.30	1.794E-05	1.82E-05	1.208903	1.208903	
2.332E-05	523.2	4.872E-04	0.35	1.787E-05	1.82E-05	1.631241	1.631241	
2.332E-05	523.2	5.000E-04	0.40	1.780E-05	1.82E-05	1.996853	1.996853	
2.332E-05	523.2	5.129E-04	0.45	1.772E-05	1.81E-05	2.36982	2.36982	
2.332E-05	523.2	5.257E-04	0.50	1.764E-05	1.81E-05	2.699946	2.699946	
2.332E-05	523.2	5.385E-04	0.55	1.756E-05	1.81E-05	2.994263	2.994263	
2.332E-05	523.2	5.514E-04	0.60	1.748E-05	1.8E-05	3.260205	3.260205	
2.332E-05	523.2	5.642E-04	0.65	1.739E-05	1.8E-05	3.565145	3.565145	
2.332E-05	523.2	5.771E-04	0.70	1.730E-05	1.8E-05	3.858771	3.858771	
2.332E-05	523.2	5.899E-04	0.75	1.720E-05	1.79E-05	4.210473	4.210473	
2.332E-05	523.2	6.027E-04	0.80	1.710E-05	1.79E-05	4.570208	4.570208	
2.332E-05	523.2	6.156E-04	0.85	1.699E-05	1.78E-05	5.009965	5.009965	

Density ^{mm} (mol/cm3)	Temp. (K)	Density ^{mm} (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
2.332E-05	523.2	6.284E-04	0.90	1.688E-05	1.78E-05	5.480364	5.480364	
2.332E-05	523.2	6.412E-04	0.95	1.677E-05	1.78E-05	5.993684	5.993684	
2.331E-05	523.2	6.541E-04	1.00	1.665E-05	1.78E-05	6.627562	6.627562	
<i>Average Error for Temp.</i>								2.720217

kij *lij*

Total Error for All Tej 113.4547 0.947612 1.160026

AMMONIA (1) - METHANE (2)
(from TPRC)

Total %AAD= 2.679203

(Ammonia)

4.247E-05	287.7	6.813E-04	0.00	1.091E-05	1.2E-05	9.640261	9.640261	
4.248E-05	287.7	6.835E-04	0.05	1.096E-05	1.17E-05	6.511594	6.511594	
4.249E-05	287.7	6.868E-04	0.10	1.099E-05	1.14E-05	4.179273	4.179273	
4.25E-05	287.7	6.881E-04	0.15	1.102E-05	1.13E-05	2.284922	2.284922	
4.251E-05	287.7	6.904E-04	0.20	1.103E-05	1.11E-05	0.898402	0.898402	
4.252E-05	287.7	6.927E-04	0.25	1.104E-05	1.1E-05	-0.25181	0.251811	
4.254E-05	287.7	6.950E-04	0.30	1.104E-05	1.09E-05	-1.13942	1.139419	
4.255E-05	287.7	6.973E-04	0.35	1.102E-05	1.08E-05	-1.72709	1.727094	
4.256E-05	287.7	6.997E-04	0.40	1.099E-05	1.08E-05	-2.14532	2.145316	
4.258E-05	287.7	7.020E-04	0.45	1.095E-05	1.07E-05	-2.42626	2.426259	
4.259E-05	287.7	7.043E-04	0.50	1.090E-05	1.06E-05	-2.59582	2.595817	
4.261E-05	287.7	7.067E-04	0.55	1.084E-05	1.06E-05	-2.67482	2.674817	
4.262E-05	287.7	7.090E-04	0.60	1.077E-05	1.05E-05	-2.67985	2.679852	
4.264E-05	287.7	7.114E-04	0.65	1.069E-05	1.04E-05	-2.62387	2.623867	
4.265E-05	287.7	7.137E-04	0.70	1.055E-05	1.03E-05	-2.05456	2.054558	
4.267E-05	287.7	7.161E-04	0.75	1.049E-05	1.03E-05	-2.27161	2.271606	
4.268E-05	287.7	7.185E-04	0.80	1.037E-05	1.02E-05	-1.9835	1.983498	
4.27E-05	287.7	7.209E-04	0.85	1.024E-05	1.01E-05	-1.65305	1.653049	
4.272E-05	287.7	7.233E-04	0.90	1.010E-05	9.97E-06	-1.27841	1.278412	
4.273E-05	287.7	7.257E-04	0.95	9.950E-06	9.86E-06	-0.85507	0.855073	
4.275E-05	287.7	7.281E-04	1.00	9.790E-06	9.75E-06	-0.37579	0.375787	

Density** (mol/cm3)	Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
4.096E-05	298.2	6.571E-04	0.00	1.100E-05	1.24E-05	12.57654	12.57654	2.222876
4.097E-05	298.2	6.593E-04	0.05	1.105E-05	1.21E-05	9.41232	9.41232	
4.098E-05	298.2	6.615E-04	0.10	1.109E-05	1.19E-05	6.958279	6.958279	
4.099E-05	298.2	6.637E-04	0.15	1.113E-05	1.17E-05	4.950962	4.950962	
4.1E-05	298.2	6.659E-04	0.20	1.116E-05	1.15E-05	3.367746	3.367746	
4.101E-05	298.2	6.681E-04	0.25	1.113E-05	1.14E-05	2.577569	2.577569	
4.102E-05	298.2	6.703E-04	0.30	1.119E-05	1.13E-05	1.135913	1.135913	
4.103E-05	298.2	6.725E-04	0.35	1.119E-05	1.12E-05	0.365947	0.365947	
4.104E-05	298.2	6.747E-04	0.40	1.119E-05	1.12E-05	-0.322228	0.322278	
4.106E-05	298.2	6.769E-04	0.45	1.117E-05	1.11E-05	-0.7839	0.783897	
4.107E-05	298.2	6.792E-04	0.50	1.114E-05	1.1E-05	-1.1357	1.135701	
4.108E-05	298.2	6.814E-04	0.55	1.111E-05	1.09E-05	-1.48839	1.488391	
4.11E-05	298.2	6.836E-04	0.60	1.105E-05	1.09E-05	-1.59333	1.593331	
4.111E-05	298.2	6.859E-04	0.65	1.099E-05	1.08E-05	-1.73066	1.730656	
4.112E-05	298.2	6.882E-04	0.70	1.090E-05	1.07E-05	-1.64208	1.642083	
4.114E-05	298.2	6.904E-04	0.75	1.081E-05	1.06E-05	-1.60337	1.603366	
4.115E-05	298.2	6.927E-04	0.80	1.070E-05	1.05E-05	-1.43749	1.437487	
4.117E-05	298.2	6.950E-04	0.85	1.058E-05	1.04E-05	-1.23607	1.236073	
4.118E-05	298.2	6.973E-04	0.90	1.044E-05	1.03E-05	-0.9032	0.903204	
4.12E-05	298.2	6.996E-04	0.95	1.030E-05	1.02E-05	-0.62334	0.62334	
4.121E-05	298.2	7.019E-04	1.00	1.016E-05	1.01E-05	-0.39494	0.394938	
3.962E-05	308.2	6.356E-04	0.00	1.138E-05	1.28E-05	12.32895	12.32895	2.277292
3.963E-05	308.2	6.377E-04	0.05	1.138E-05	1.25E-05	9.708857	9.708857	
3.964E-05	308.2	6.398E-04	0.10	1.138E-05	1.23E-05	7.670004	7.670004	
3.965E-05	308.2	6.419E-04	0.15	1.139E-05	1.21E-05	5.964987	5.964987	
3.966E-05	308.2	6.440E-04	0.20	1.139E-05	1.19E-05	4.670675	4.670675	
3.967E-05	308.2	6.462E-04	0.25	1.138E-05	1.18E-05	3.701315	3.701315	
3.968E-05	308.2	6.483E-04	0.30	1.138E-05	1.17E-05	2.810757	2.810757	
3.969E-05	308.2	6.504E-04	0.35	1.138E-05	1.16E-05	2.041049	2.041049	
3.97E-05	308.2	6.525E-04	0.40	1.137E-05	1.15E-05	1.441229	1.441229	

Density ^{ref} (mol/cm3)	Temp. (K)	Density ^{ref} (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
3.971E-05	308.2	6.547E-04	0.45	1.137E-05	1.15E-05	0.799849	0.799849	
3.972E-05	308.2	6.568E-04	0.50	1.136E-05	1.14E-05	0.26814	0.26814	
3.973E-05	308.2	6.590E-04	0.55	1.135E-05	1.13E-05	-0.26486	0.264862	
3.974E-05	308.2	6.611E-04	0.60	1.133E-05	1.12E-05	-0.72939	0.729388	
3.975E-05	308.2	6.633E-04	0.65	1.130E-05	1.12E-05	-1.14054	1.140535	
3.977E-05	308.2	6.656E-04	0.70	1.025E-05	1.11E-05	8.194846	8.194846	
3.978E-05	308.2	6.676E-04	0.75	1.119E-05	1.1E-05	-1.67111	1.671114	
3.979E-05	308.2	6.698E-04	0.80	1.110E-05	1.09E-05	-1.71532	1.715316	
3.98E-05	308.2	6.720E-04	0.85	1.100E-05	1.08E-05	-1.73242	1.732423	
3.982E-05	308.2	6.742E-04	0.90	1.086E-05	1.07E-05	-1.4509	1.4509	
3.983E-05	308.2	6.764E-04	0.95	1.069E-05	1.06E-05	-0.94699	0.946986	
3.984E-05	308.2	6.786E-04	1.00	1.050E-05	1.05E-05	-0.29683	0.296829	
								2.995959
3.455E-05	353.2	5.542E-04	0.00	1.253E-05	1.46E-05	16.18573	16.18573	
3.455E-05	353.2	5.560E-04	0.05	1.261E-05	1.42E-05	12.93067	12.93067	
3.456E-05	353.2	5.578E-04	0.10	1.268E-05	1.4E-05	10.36474	10.36474	
3.456E-05	353.2	5.596E-04	0.15	1.274E-05	1.38E-05	8.32075	8.32075	
3.457E-05	353.2	5.614E-04	0.20	1.279E-05	1.36E-05	6.679702	6.679702	
3.457E-05	353.2	5.632E-04	0.25	1.282E-05	1.35E-05	5.435816	5.435816	
3.458E-05	353.2	5.650E-04	0.30	1.285E-05	1.34E-05	4.35668	4.35668	
3.459E-05	353.2	5.668E-04	0.35	1.287E-05	1.33E-05	3.473408	3.473408	
3.459E-05	353.2	5.686E-04	0.40	1.288E-05	1.32E-05	2.74438	2.74438	
3.46E-05	353.2	5.706E-04	0.45	1.288E-05	1.32E-05	2.136071	2.136071	
3.461E-05	353.2	5.723E-04	0.50	1.287E-05	1.31E-05	1.621276	1.621276	
3.461E-05	353.2	5.741E-04	0.55	1.285E-05	1.3E-05	1.177878	1.177878	
3.462E-05	353.2	5.759E-04	0.60	1.282E-05	1.29E-05	0.787986	0.787986	
3.463E-05	353.2	5.778E-04	0.65	1.277E-05	1.28E-05	0.515979	0.515979	
3.463E-05	353.2	5.796E-04	0.70	1.271E-05	1.27E-05	0.272342	0.272342	
3.464E-05	353.2	5.814E-04	0.75	1.263E-05	1.26E-05	0.128286	0.128286	
3.465E-05	353.2	5.833E-04	0.80	1.254E-05	1.25E-05	5.29E-06	5.29E-06	
3.466E-05	353.2	5.851E-04	0.85	1.243E-05	1.24E-05	-0.03486	0.034857	
3.467E-05	353.2	5.870E-04	0.90	1.230E-05	1.23E-05	0.025614	0.025614	

Density ^{***} (mol/cm3)	Temp. (K)	Density ^{**} (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
3.467E-05	353.2	5.888E-04	0.95	1.215E-05	1.22E-05	0.186566	0.186566	
3.468E-05	353.2	5.907E-04	1.00	1.198E-05	1.2E-05	0.456477	0.456477	
<i>Average Error for Temp.</i>								
3.220684								
AMMONIA (1) - ARGON (2)								
(from Dechema)								
			P=	0.1	MPa			
					(Ammonia)			
4.163E-05	293	1.663E-03	0	2.228E-05	2.43E-05	8.94392	8.94392	
4.166E-05	293	1.569E-03	0.1	2.135E-05	2.25E-05	5.286718	5.286718	
4.169E-05	293	1.474E-03	0.2	2.039E-05	2.11E-05	3.30165	3.30165	
4.172E-05	293	1.380E-03	0.3	1.936E-05	1.98E-05	2.201907	2.201907	
4.175E-05	293	1.285E-03	0.4	1.826E-05	1.85E-05	1.457077	1.457077	
4.178E-05	293	1.190E-03	0.5	1.709E-05	1.72E-05	0.76741	0.76741	
4.181E-05	293	1.095E-03	0.6	1.584E-05	1.58E-05	0.050662	0.050662	
4.185E-05	293	1.000E-03	0.7	1.451E-05	1.44E-05	-0.69543	0.695429	
4.188E-05	293	9.053E-04	0.8	1.308E-05	1.29E-05	-1.19153	1.191532	
4.192E-05	293	8.100E-04	0.9	1.151E-05	1.14E-05	-0.75667	0.75667	
4.196E-05	293	7.146E-04	1	9.870E-06	9.94E-06	0.692166	0.692166	
1.745451								
4.025E-05	303	1.608E-03	0	2.294E-05	2.51E-05	9.202118	9.202118	
4.028E-05	303	1.517E-03	0.1	2.225E-05	2.32E-05	4.356648	4.356648	
4.03E-05	303	1.425E-03	0.2	2.145E-05	2.18E-05	1.495047	1.495047	
4.033E-05	303	1.334E-03	0.3	2.046E-05	2.05E-05	0.000273	0.000273	
4.036E-05	303	1.242E-03	0.4	1.932E-05	1.92E-05	-0.81192	0.811917	
4.038E-05	303	1.151E-03	0.5	1.806E-05	1.78E-05	-1.34258	1.342575	
4.041E-05	303	1.059E-03	0.6	1.669E-05	1.64E-05	-1.73984	1.73984	
4.044E-05	303	9.668E-04	0.7	1.522E-05	1.49E-05	-2.02097	2.020968	
4.048E-05	303	8.749E-04	0.8	1.365E-05	1.34E-05	-2.00187	2.001875	

k_{ij} l_{ij}
Total Error for All T_{o,i} 203.6194 0.894263 1.5
 136.4905 0.698908 2.743948

Total %AAD= 1.714756

Density ^m (mol/cm ³)	Temp. (K)	Density ^m (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
4.051E-05	303	7.827E-04	0.9	1.199E-05	1.18E-05	-1.38741	1.387415	
4.054E-05	303	6.905E-04	1	1.027E-05	1.03E-05	0.169506	0.169506	
Average Error for Temp.								
								1.684062
				Total Error for All Te,	kij	lij		
					0.823497	1.5		
					15.71933	0.68683	2.339856	

Density** (mol/cm3)	Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
** Calculated from PR EOS								
NITROGEN (1) - AMMONIA (2)								
(from TPRC)								
			(Nitrogen)	Total %AAD= 6.801925				
4.19E-05	293.2	7.141E-04	0.00	9.820E-06	9.95E-06	1.275976	1.275976	
4.19E-05	293.2	7.367E-04	0.05	1.032E-05	1.03E-05	-0.00977	0.009774	
4.19E-05	293.2	7.592E-04	0.10	1.080E-05	1.07E-05	-0.98742	0.987421	
4.18E-05	293.2	7.817E-04	0.15	1.130E-05	1.11E-05	-2.05019	2.050193	
4.18E-05	293.2	8.042E-04	0.20	1.178E-05	1.14E-05	-2.85191	2.851911	
4.18E-05	293.2	8.267E-04	0.25	1.225E-05	1.18E-05	-3.50272	3.502719	
4.18E-05	293.2	8.492E-04	0.30	1.270E-05	1.22E-05	-3.93962	3.939619	
4.18E-05	293.2	8.717E-04	0.35	1.312E-05	1.26E-05	-4.10519	4.105187	
4.17E-05	293.2	8.942E-04	0.40	1.354E-05	1.3E-05	-4.22704	4.227038	
4.17E-05	293.2	9.167E-04	0.45	1.392E-05	1.34E-05	-4.01915	4.019145	
4.17E-05	293.2	9.392E-04	0.50	1.428E-05	1.38E-05	-3.62207	3.622069	
4.17E-05	293.2	9.617E-04	0.55	1.462E-05	1.42E-05	-3.0239	3.023904	
4.17E-05	293.2	9.842E-04	0.60	1.495E-05	1.46E-05	-2.27091	2.270912	
4.17E-05	293.2	1.007E-03	0.65	1.528E-05	1.51E-05	-1.39795	1.397946	
4.16E-05	293.2	1.029E-03	0.70	1.560E-05	1.56E-05	-0.30043	0.30043	
4.16E-05	293.2	1.052E-03	0.75	1.592E-05	1.61E-05	1.008523	1.008523	
4.16E-05	293.2	1.074E-03	0.80	1.624E-05	1.67E-05	2.596818	2.596818	
4.16E-05	293.2	1.097E-03	0.85	1.656E-05	1.73E-05	4.555383	4.555383	
4.16E-05	293.2	1.120E-03	0.90	1.685E-05	1.81E-05	7.200981	7.200981	
4.16E-05	293.2	1.142E-03	0.95	1.717E-05	1.89E-05	10.33792	10.33792	
4.16E-05	293.2	1.165E-03	1.00	1.745E-05	2E-05	14.7012	14.7012	
3.263573								
4.14E-05	297.2	7.043E-04	0.00	1.030E-05	1.01E-05	-2.08773	2.087727	
4.13E-05	297.2	7.265E-04	0.05	1.064E-05	1.05E-05	-1.6562	1.656198	
4.13E-05	297.2	7.487E-04	0.10	1.100E-05	1.08E-05	-1.42498	1.42498	
4.13E-05	297.2	7.710E-04	0.15	1.135E-05	1.12E-05	-1.11632	1.116319	
4.13E-05	297.2	7.932E-04	0.20	1.170E-05	1.16E-05	-0.82003	0.820029	
4.12E-05	297.2	8.154E-04	0.25	1.207E-05	1.2E-05	-0.69649	0.696486	

Density ^{ref} (mol/cm3)	Temp. (K)	Density ^{exp} (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
4.12E-05	297.2	8.376E-04	0.30	1.244E-05	1.24E-05	-0.56548	0.565478	
4.12E-05	297.2	8.598E-04	0.35	1.285E-05	1.28E-05	-0.72902	0.729018	
4.12E-05	297.2	8.820E-04	0.40	1.324E-05	1.31E-05	-0.69871	0.698711	
4.12E-05	297.2	9.042E-04	0.45	1.364E-05	1.35E-05	-0.69456	0.694555	
4.11E-05	297.2	9.264E-04	0.50	1.401E-05	1.4E-05	-0.41116	0.411161	
4.11E-05	297.2	9.487E-04	0.55	1.438E-05	1.44E-05	-0.05242	0.052421	
4.11E-05	297.2	9.709E-04	0.60	1.474E-05	1.48E-05	0.475208	0.475208	
4.11E-05	297.2	9.931E-04	0.65	1.511E-05	1.53E-05	1.065758	1.065758	
4.11E-05	297.2	1.015E-03	0.70	1.548E-05	1.58E-05	1.828377	1.828377	
4.11E-05	297.2	1.038E-03	0.75	1.584E-05	1.63E-05	2.87849	2.87849	
4.11E-05	297.2	1.060E-03	0.80	1.618E-05	1.69E-05	4.344602	4.344602	
4.1E-05	297.2	1.082E-03	0.85	1.652E-05	1.75E-05	6.185982	6.185982	
4.1E-05	297.2	1.105E-03	0.90	1.686E-05	1.83E-05	8.528599	8.528599	
4.1E-05	297.2	1.127E-03	0.95	1.718E-05	1.92E-05	11.68549	11.68549	
4.1E-05	297.2	1.149E-03	1.00	1.750E-05	2.03E-05	15.81346	15.81346	
								2.413571
3.75E-05	327.2	6.384E-04	0.00	1.137E-05	1.11E-05	-2.1022	2.102195	
3.75E-05	327.2	6.587E-04	0.05	1.188E-05	1.15E-05	-2.79467	2.794669	
3.74E-05	327.2	6.789E-04	0.10	1.236E-05	1.2E-05	-3.19206	3.192062	
3.74E-05	327.2	6.992E-04	0.15	1.286E-05	1.24E-05	-3.70727	3.707266	
3.74E-05	327.2	7.194E-04	0.20	1.332E-05	1.28E-05	-3.89307	3.893069	
3.74E-05	327.2	7.396E-04	0.25	1.378E-05	1.32E-05	-4.0607	4.060704	
3.74E-05	327.2	7.599E-04	0.30	1.424E-05	1.36E-05	-4.20687	4.206874	
3.74E-05	327.2	7.801E-04	0.35	1.468E-05	1.41E-05	-4.1956	4.195597	
3.74E-05	327.2	8.003E-04	0.40	1.510E-05	1.45E-05	-4.02995	4.029946	
3.73E-05	327.2	8.205E-04	0.45	1.550E-05	1.49E-05	-3.70773	3.707728	
3.73E-05	327.2	8.408E-04	0.50	1.590E-05	1.54E-05	-3.34311	3.343114	
3.73E-05	327.2	8.610E-04	0.55	1.626E-05	1.58E-05	-2.6774	2.6774	
3.73E-05	327.2	8.813E-04	0.60	1.662E-05	1.63E-05	-1.93286	1.932863	
3.73E-05	327.2	9.015E-04	0.65	1.696E-05	1.68E-05	-0.96131	0.961305	
3.73E-05	327.2	9.218E-04	0.70	1.730E-05	1.73E-05	0.157746	0.157746	
3.73E-05	327.2	9.420E-04	0.75	1.762E-05	1.79E-05	1.590342	1.590342	

Density ^{ref} (mol/cm3)	Temp. (K)	Density ^{ref} (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
3.73E-05	327.2	9.623E-04	0.80	1.794E-05	1.85E-05	3.286875	3.286875	
3.73E-05	327.2	9.826E-04	0.85	1.824E-05	1.92E-05	5.452625	5.452625	
3.73E-05	327.2	1.003E-03	0.90	1.854E-05	2E-05	8.098494	8.098494	
3.73E-05	327.2	1.023E-03	0.95	1.884E-05	2.1E-05	11.40778	11.40778	
3.73E-05	327.2	1.044E-03	1.00	1.913E-05	2.21E-05	15.72347	15.72347	3.82613
Ref#222								
3.28E-05	373.2	5.586E-04	0.00	1.308E-05	1.27E-05	-2.6945	2.6945	
3.28E-05	373.2	5.764E-04	0.05	1.362E-05	1.32E-05	-3.06703	3.067034	
3.28E-05	373.2	5.942E-04	0.10	1.413E-05	1.37E-05	-3.20588	3.205878	
3.28E-05	373.2	6.120E-04	0.15	1.464E-05	1.42E-05	-3.33646	3.336457	
3.28E-05	373.2	6.298E-04	0.20	1.512E-05	1.46E-05	-3.26791	3.267912	
3.27E-05	373.2	6.476E-04	0.25	1.557E-05	1.51E-05	-3.01613	3.016129	
3.27E-05	373.2	6.654E-04	0.30	1.602E-05	1.56E-05	-2.77318	2.773175	
3.27E-05	373.2	6.831E-04	0.35	1.646E-05	1.61E-05	-2.41287	2.412866	
3.27E-05	373.2	7.009E-04	0.40	1.686E-05	1.65E-05	-1.93298	1.932975	
3.27E-05	373.2	7.187E-04	0.45	1.726E-05	1.7E-05	-1.38417	1.384172	
3.27E-05	373.2	7.365E-04	0.50	1.764E-05	1.75E-05	-0.69656	0.696565	
3.27E-05	373.2	7.543E-04	0.55	1.804E-05	1.8E-05	-0.07645	0.076453	
3.27E-05	373.2	7.721E-04	0.60	1.842E-05	1.86E-05	0.724838	0.724838	
3.27E-05	373.2	7.899E-04	0.65	1.878E-05	1.91E-05	1.734424	1.734424	
3.27E-05	373.2	8.077E-04	0.70	1.912E-05	1.97E-05	2.988932	2.988932	
3.27E-05	373.2	8.255E-04	0.75	1.945E-05	2.03E-05	4.483831	4.483831	
3.27E-05	373.2	8.433E-04	0.80	1.977E-05	2.1E-05	6.28548	6.28548	
3.27E-05	373.2	8.612E-04	0.85	2.015E-05	2.18E-05	8.107118	8.107118	
3.27E-05	373.2	8.790E-04	0.90	2.040E-05	2.27E-05	11.09683	11.09683	
3.27E-05	373.2	8.969E-04	0.95	2.070E-05	2.37E-05	14.47041	14.47041	
3.27E-05	373.2	9.147E-04	1.00	2.101E-05	2.49E-05	18.7237	18.7237	3.950604
Ref#347								
3.28E-05	373.2	5.586E-04	0.00	1.279E-05	1.27E-05	-0.4882	0.488199	
3.28E-05	373.2	5.764E-04	0.05	1.338E-05	1.32E-05	-1.32833	1.328327	
3.28E-05	373.2	5.942E-04	0.10	1.387E-05	1.37E-05	-1.39142	1.391425	
3.28E-05	373.2	6.120E-04	0.15	1.437E-05	1.42E-05	-1.52023	1.520231	

Density ^{mm} (mol/cm3)	Temp. (K)	Density ^{mm} (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
3.28E-05	373.2	6.298E-04	0.20	1.488E-05	1.46E-05	-1.70772	1.707717	
3.27E-05	373.2	6.476E-04	0.25	1.538E-05	1.51E-05	-1.81802	1.818019	
3.27E-05	373.2	6.654E-04	0.30	1.586E-05	1.56E-05	-1.79232	1.792325	
3.27E-05	373.2	6.831E-04	0.35	1.632E-05	1.61E-05	-1.63552	1.635517	
3.27E-05	373.2	7.009E-04	0.40	1.677E-05	1.65E-05	-1.40668	1.406676	
3.27E-05	373.2	7.187E-04	0.45	1.722E-05	1.7E-05	-1.1551	1.155099	
3.27E-05	373.2	7.365E-04	0.50	1.764E-05	1.75E-05	-0.69656	0.696565	
3.27E-05	373.2	7.543E-04	0.55	1.804E-05	1.8E-05	-0.07645	0.076453	
3.27E-05	373.2	7.721E-04	0.60	1.842E-05	1.86E-05	0.724838	0.724838	
3.27E-05	373.2	7.899E-04	0.65	1.878E-05	1.91E-05	1.734424	1.734424	
3.27E-05	373.2	8.077E-04	0.70	1.912E-05	1.97E-05	2.988932	2.988932	
3.27E-05	373.2	8.255E-04	0.75	1.944E-05	2.03E-05	4.537578	4.537578	
3.27E-05	373.2	8.433E-04	0.80	1.976E-05	2.1E-05	6.339268	6.339268	
3.27E-05	373.2	8.612E-04	0.85	2.008E-05	2.18E-05	8.483986	8.483986	
3.27E-05	373.2	8.790E-04	0.90	2.038E-05	2.27E-05	11.20586	11.20586	
3.27E-05	373.2	8.969E-04	0.95	2.067E-05	2.37E-05	14.63655	14.63655	
3.27E-05	373.2	9.147E-04	1.00	2.085E-05	2.49E-05	19.63477	19.63477	
								3.430515
2.89E-05	423.2	4.919E-04	0.00	1.493E-05	1.44E-05	-3.219	3.219001	
2.89E-05	423.2	5.076E-04	0.05	1.549E-05	1.5E-05	-3.25608	3.256077	
2.89E-05	423.2	5.233E-04	0.10	1.587E-05	1.55E-05	-2.19724	2.197242	
2.89E-05	423.2	5.391E-04	0.15	1.634E-05	1.61E-05	-1.73779	1.737788	
2.89E-05	423.2	5.548E-04	0.20	1.681E-05	1.66E-05	-1.30989	1.309889	
2.88E-05	423.2	5.705E-04	0.25	1.727E-05	1.71E-05	-0.85203	0.852035	
2.88E-05	423.2	5.862E-04	0.30	1.773E-05	1.77E-05	-0.41817	0.418169	
2.88E-05	423.2	6.020E-04	0.35	1.819E-05	1.82E-05	-0.0001	0.000105	
2.88E-05	423.2	6.177E-04	0.40	1.864E-05	1.87E-05	0.466486	0.466486	
2.88E-05	423.2	6.334E-04	0.45	1.909E-05	1.93E-05	0.938687	0.938687	
2.88E-05	423.2	6.491E-04	0.50	1.962E-05	1.98E-05	1.536678	1.536678	
2.88E-05	423.2	6.648E-04	0.55	1.995E-05	2.04E-05	2.173011	2.173011	
2.88E-05	423.2	6.806E-04	0.60	2.036E-05	2.1E-05	2.973511	2.973511	
2.88E-05	423.2	6.963E-04	0.65	2.076E-05	2.16E-05	3.915235	3.915235	

Density** (mol/cm3)	Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
2.88E-05	423.2	7.120E-04	0.70	2.114E-05	2.22E-05	5.08519	5.08519	
2.88E-05	423.2	7.278E-04	0.75	2.151E-05	2.29E-05	6.481749	6.481749	
2.88E-05	423.2	7.435E-04	0.80	2.184E-05	2.37E-05	8.318229	8.318229	
2.88E-05	423.2	7.593E-04	0.85	2.217E-05	2.45E-05	10.48539	10.48539	
2.88E-05	423.2	7.750E-04	0.90	2.248E-05	2.54E-05	13.20806	13.20806	
2.88E-05	423.2	7.908E-04	0.95	2.276E-05	2.66E-05	16.72326	16.72326	
2.88E-05	423.2	8.065E-04	1.00	2.305E-05	2.79E-05	21.11436	21.11436	4.319831
2.58E-05	473.2	4.395E-04	0.00	1.646E-05	1.62E-05	-1.85562	1.85562	
2.58E-05	473.2	4.536E-04	0.05	1.704E-05	1.68E-05	-1.69535	1.695354	
2.58E-05	473.2	4.677E-04	0.10	1.762E-05	1.73E-05	-1.55285	1.552852	
2.58E-05	473.2	4.818E-04	0.15	1.820E-05	1.79E-05	-1.429	1.429004	
2.58E-05	473.2	4.958E-04	0.20	1.876E-05	1.85E-05	-1.21777	1.217772	
2.58E-05	473.2	5.099E-04	0.25	1.932E-05	1.91E-05	-1.02763	1.027634	
2.58E-05	473.2	5.240E-04	0.30	1.986E-05	1.97E-05	-0.75374	0.753745	
2.58E-05	473.2	5.381E-04	0.35	2.034E-05	2.03E-05	-0.20037	0.200372	
2.58E-05	473.2	5.522E-04	0.40	2.076E-05	2.09E-05	0.626492	0.626492	
2.58E-05	473.2	5.662E-04	0.45	2.117E-05	2.15E-05	1.489283	1.489283	
2.58E-05	473.2	5.803E-04	0.50	2.155E-05	2.21E-05	2.498073	2.498073	
2.58E-05	473.2	5.944E-04	0.55	2.190E-05	2.27E-05	3.670074	3.670074	
2.58E-05	473.2	6.085E-04	0.60	2.224E-05	2.33E-05	4.934412	4.934412	
2.58E-05	473.2	6.226E-04	0.65	2.260E-05	2.4E-05	6.181355	6.181355	
2.58E-05	473.2	6.367E-04	0.70	2.289E-05	2.47E-05	7.874254	7.874254	
2.58E-05	473.2	6.507E-04	0.75	2.318E-05	2.54E-05	9.735854	9.735854	
2.58E-05	473.2	6.648E-04	0.80	2.348E-05	2.62E-05	11.78657	11.78657	
2.58E-05	473.2	6.789E-04	0.85	2.376E-05	2.71E-05	14.26086	14.26086	
2.57E-05	473.2	6.930E-04	0.90	2.406E-05	2.82E-05	17.09491	17.09491	
2.57E-05	473.2	7.071E-04	0.95	2.435E-05	2.94E-05	20.61945	20.61945	
2.57E-05	473.2	7.212E-04	1.00	2.462E-05	3.08E-05	25.17685	25.17685	5.718333
2.33E-05	523.2	3.973E-04	0.00	1.813E-05	1.78E-05	-1.59025	1.590247	
2.33E-05	523.2	4.100E-04	0.05	1.870E-05	1.85E-05	-1.08337	1.083369	

Density ^{mm} (mol/cm3)	Temp. (K)	Density ^{mm} (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{red} (Pa s)	%D	%AD	%AAD
2,33E-05	523,2	4,228E-04	0,10	1,925E-05	1,92E-05	-0,51392	0,513917	
2,33E-05	523,2	4,355E-04	0,15	1,979E-05	1,98E-05	0,061013	0,061013	
2,33E-05	523,2	4,483E-04	0,20	2,030E-05	2,05E-05	0,739659	0,739659	
2,33E-05	523,2	4,610E-04	0,25	2,078E-05	2,11E-05	1,517927	1,517927	
2,33E-05	523,2	4,738E-04	0,30	2,125E-05	2,17E-05	2,298811	2,298811	
2,33E-05	523,2	4,865E-04	0,35	2,168E-05	2,24E-05	3,231225	3,231225	
2,33E-05	523,2	4,992E-04	0,40	2,210E-05	2,3E-05	4,178071	4,178071	
2,33E-05	523,2	5,120E-04	0,45	2,260E-05	2,37E-05	4,732748	4,732748	
2,33E-05	523,2	5,247E-04	0,50	2,290E-05	2,43E-05	6,213393	6,213393	
2,33E-05	523,2	5,375E-04	0,55	2,327E-05	2,5E-05	7,38258	7,38258	
2,33E-05	523,2	5,502E-04	0,60	2,362E-05	2,57E-05	8,683424	8,683424	
2,33E-05	523,2	5,630E-04	0,65	2,399E-05	2,64E-05	9,963675	9,963675	
2,33E-05	523,2	5,757E-04	0,70	2,432E-05	2,71E-05	11,53905	11,53905	
2,33E-05	523,2	5,885E-04	0,75	2,466E-05	2,79E-05	13,23187	13,23187	
2,33E-05	523,2	6,012E-04	0,80	2,498E-05	2,88E-05	15,24796	15,24796	
2,33E-05	523,2	6,140E-04	0,85	2,532E-05	2,97E-05	17,49456	17,49456	
2,33E-05	523,2	6,268E-04	0,90	2,564E-05	3,08E-05	20,28451	20,28451	
2,33E-05	523,2	6,395E-04	0,95	2,595E-05	3,21E-05	23,76031	23,76031	
2,33E-05	523,2	6,523E-04	1,00	2,627E-05	3,37E-05	28,11759	28,11759	8,008319
2,13E-05	573,2	3,625E-04	0,00	1,680E-05	1,95E-05	16,13224	16,13224	
2,13E-05	573,2	3,741E-04	0,05	1,726E-05	2,02E-05	17,17289	17,17289	
2,13E-05	573,2	3,858E-04	0,10	1,772E-05	2,09E-05	18,14305	18,14305	
2,13E-05	573,2	3,974E-04	0,15	1,816E-05	2,16E-05	19,17518	19,17518	
2,13E-05	573,2	4,090E-04	0,20	1,860E-05	2,23E-05	20,13688	20,13688	
2,13E-05	573,2	4,207E-04	0,25	1,904E-05	2,3E-05	21,03328	21,03328	
2,13E-05	573,2	4,323E-04	0,30	1,947E-05	2,37E-05	21,93425	21,93425	
2,13E-05	573,2	4,440E-04	0,35	1,990E-05	2,44E-05	22,78496	22,78496	
2,13E-05	573,2	4,556E-04	0,40	2,032E-05	2,51E-05	23,65864	23,65864	
2,13E-05	573,2	4,672E-04	0,45	2,076E-05	2,58E-05	24,38833	24,38833	
2,13E-05	573,2	4,789E-04	0,50	2,116E-05	2,65E-05	25,35309	25,35309	
2,13E-05	573,2	4,905E-04	0,55	2,158E-05	2,72E-05	26,2166	26,2166	

Density ^{me} (mol/cm3)	Temp. (K)	Density ^{me} (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
2.13E-05	573.2	5.022E-04	0.60	2.200E-05	2.8E-05	27.12769	27.12769	
2.13E-05	573.2	5.138E-04	0.65	2.248E-05	2.87E-05	27.78005	27.78005	
2.13E-05	573.2	5.255E-04	0.70	2.280E-05	2.95E-05	29.47081	29.47081	
2.13E-05	573.2	5.371E-04	0.75	2.321E-05	3.04E-05	30.83169	30.83169	
2.13E-05	573.2	5.488E-04	0.80	2.362E-05	3.13E-05	32.4504	32.4504	
2.13E-05	573.2	5.604E-04	0.85	2.402E-05	3.23E-05	34.48229	34.48229	
2.13E-05	573.2	5.721E-04	0.90	2.440E-05	3.35E-05	37.12233	37.12233	
2.13E-05	573.2	5.837E-04	0.95	2.483E-05	3.48E-05	40.18017	40.18017	
2.13E-05	573.2	5.954E-04	1.00	2.523E-05	3.64E-05	44.41973	44.41973	
Average Error for Temp. 26.28645								

Note: I have problems with 523.2 K and 573.2 K - does not follow trend - Get original source and check data!!!

Total Error for All Temp								
							kJ	l/lj
							0.911884	1.5
							807.8012	0.679882
							3.219329	
							Total %AAD=	3.52361

OXYGEN (1) - AMMONIA (2) (from TPRC)

(Oxygen)								
4.19E-05	293.2	7.141E-04	0.00	9.820E-06	9.95E-06	1.275976	1.275976	
4.19E-05	293.2	7.451E-04	0.05	1.048E-05	1.05E-05	-0.17713	0.177133	
4.19E-05	293.2	7.761E-04	0.10	1.112E-05	1.1E-05	-1.23586	1.235864	
4.19E-05	293.2	8.070E-04	0.15	1.175E-05	1.15E-05	-2.06508	2.065076	
4.18E-05	293.2	8.379E-04	0.20	1.238E-05	1.2E-05	-2.79053	2.79053	
4.18E-05	293.2	8.688E-04	0.25	1.300E-05	1.26E-05	-3.36125	3.36125	
4.18E-05	293.2	8.997E-04	0.30	1.361E-05	1.31E-05	-3.80559	3.805585	
4.18E-05	293.2	9.306E-04	0.35	1.420E-05	1.36E-05	-4.07645	4.076446	
4.18E-05	293.2	9.614E-04	0.40	1.478E-05	1.42E-05	-4.26051	4.260509	
4.18E-05	293.2	9.923E-04	0.45	1.532E-05	1.47E-05	-4.1769	4.176896	
4.17E-05	293.2	1.023E-03	0.50	1.584E-05	1.52E-05	-3.96556	3.965564	
4.17E-05	293.2	1.054E-03	0.55	1.634E-05	1.57E-05	-3.62455	3.624549	
4.17E-05	293.2	1.085E-03	0.60	1.681E-05	1.63E-05	-3.08709	3.087087	
4.17E-05	293.2	1.116E-03	0.65	1.726E-05	1.68E-05	-2.39611	2.396107	
4.17E-05	293.2	1.146E-03	0.70	1.770E-05	1.74E-05	-1.58062	1.580624	

Density** (mol/cm3)	Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
4.17E-05	293.2	1.177E-03	0.75	1.815E-05	1.8E-05	-0.71041	0.71041	
4.16E-05	293.2	1.208E-03	0.80	1.859E-05	1.87E-05	0.379396	0.379396	
4.16E-05	293.2	1.239E-03	0.85	1.901E-05	1.94E-05	1.811678	1.811678	
4.16E-05	293.2	1.270E-03	0.90	1.942E-05	2.01E-05	3.627502	3.627502	
4.16E-05	293.2	1.301E-03	0.95	1.982E-05	2.1E-05	5.9621	5.9621	
4.16E-05	293.2	1.331E-03	1.00	2.023E-05	2.2E-05	8.90724	8.90724	2.794437
3.28E-05	373.2	5.586E-04	0.00	1.279E-05	1.27E-05	-0.4882	0.488199	
3.28E-05	373.2	5.830E-04	0.05	1.352E-05	1.34E-05	-0.98955	0.989549	
3.28E-05	373.2	6.073E-04	0.10	1.424E-05	1.41E-05	-1.33048	1.330478	
3.28E-05	373.2	6.317E-04	0.15	1.495E-05	1.47E-05	-1.54733	1.547329	
3.28E-05	373.2	6.560E-04	0.20	1.564E-05	1.54E-05	-1.60576	1.605761	
3.28E-05	373.2	6.804E-04	0.25	1.632E-05	1.61E-05	-1.59598	1.59598	
3.27E-05	373.2	7.047E-04	0.30	1.700E-05	1.67E-05	-1.59148	1.59148	
3.27E-05	373.2	7.291E-04	0.35	1.764E-05	1.74E-05	-1.37329	1.37329	
3.27E-05	373.2	7.534E-04	0.40	1.828E-05	1.81E-05	-1.18085	1.180851	
3.27E-05	373.2	7.777E-04	0.45	1.889E-05	1.87E-05	-0.85235	0.852345	
3.27E-05	373.2	8.021E-04	0.50	1.948E-05	1.94E-05	-0.44389	0.443891	
3.27E-05	373.2	8.264E-04	0.55	2.006E-05	2.01E-05	0.000105	0.000105	
3.27E-05	373.2	8.507E-04	0.60	2.062E-05	2.07E-05	0.543245	0.543245	
3.27E-05	373.2	8.750E-04	0.65	2.126E-05	2.14E-05	0.727506	0.727506	
3.27E-05	373.2	8.993E-04	0.70	2.170E-05	2.21E-05	1.913094	1.913094	
3.27E-05	373.2	9.236E-04	0.75	2.220E-05	2.28E-05	2.897392	2.897392	
3.27E-05	373.2	9.480E-04	0.80	2.268E-05	2.36E-05	4.110137	4.110137	
3.27E-05	373.2	9.723E-04	0.85	2.315E-05	2.44E-05	5.572908	5.572908	
3.27E-05	373.2	9.966E-04	0.90	2.368E-05	2.54E-05	7.515675	7.515675	
3.27E-05	373.2	1.021E-03	0.95	2.400E-05	2.64E-05	9.934269	9.934269	
3.27E-05	373.2	1.045E-03	1.00	2.440E-05	2.76E-05	13.07154	13.07154	2.406594
2.58E-05	473.2	4.395E-04	0.00	1.646E-05	1.62E-05	-1.85562	1.85562	
2.58E-05	473.2	4.588E-04	0.05	1.726E-05	1.7E-05	-1.57869	1.578691	
2.58E-05	473.2	4.780E-04	0.10	1.805E-05	1.78E-05	-1.23851	1.238506	

Density ^{ref} (mol/cm ³)	Temp. (K)	Density ^{ref} (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
4.19E-05	293.15	7.639E-04	0.052	1.092E-05	1.07E-05	-1.77653	1.77653	
4.19E-05	293.15	7.581E-04	0.046	1.070E-05	1.06E-05	-0.60011	0.60011	
4.19E-05	293.15	7.140E-04	0	9.922E-06	9.94E-06	0.217262	0.217262	1.343397
4.02E-05	303.15	1.607E-03	1	2.293E-05	2.51E-05	9.300508	9.300508	
4.03E-05	303.15	1.383E-03	0.755	2.097E-05	2.13E-05	1.360985	1.360985	
4.04E-05	303.15	1.179E-03	0.532	1.846E-05	1.83E-05	-0.60773	0.607734	
4.04E-05	303.15	1.001E-03	0.338	1.572E-05	1.56E-05	-1.05515	1.055148	
4.05E-05	303.15	7.823E-04	0.1	1.211E-05	1.18E-05	-2.15955	2.159546	
4.05E-05	303.15	7.602E-04	0.076	1.147E-05	1.15E-05	-0.00787	0.007867	
4.05E-05	303.15	7.326E-04	0.046	1.111E-05	1.1E-05	-0.91092	0.910923	
4.05E-05	303.15	6.899E-04	0	1.030E-05	1.03E-05	-0.10051	0.100512	
Average Error for Temp.								
1.017034								
<div> <div>CARBON DIOXIDE (1) - METHYL CHLORIDE (2)</div> <div>(from Bhattacharyya and Ghosh, 1970)</div> <div> <div>P= 1 atm</div> <div>(CO2)</div> </div> </div>								
(mol/cm ³)								
3.97E-05	308.15	1.749E-03	1.000	1.545E-05	1.55E-05	0.424251	0.424251	
3.98E-05	308.15	1.802E-03	0.805	1.450E-05	1.47E-05	1.442126	1.442126	
3.99E-05	308.15	1.854E-03	0.614	1.364E-05	1.39E-05	1.955799	1.955799	
3.99E-05	308.15	1.912E-03	0.400	1.272E-05	1.3E-05	1.979763	1.979763	
4E-05	308.15	1.968E-03	0.199	1.192E-05	1.21E-05	1.735424	1.735424	
4.01E-05	308.15	2.024E-03	0.000	1.122E-05	1.14E-05	1.756097	1.756097	
1.778278								
4.41E-05	278.15	1.942E-03	1.000	1.395E-05	1.4E-05	0.2777	0.2777	
4.42E-05	278.15	2.001E-03	0.805	1.316E-05	1.33E-05	0.822295	0.822295	
4.43E-05	278.15	2.059E-03	0.614	1.245E-05	1.25E-05	0.753197	0.753197	
4.44E-05	278.15	2.125E-03	0.400	1.169E-05	1.17E-05	0.021224	0.021224	

k_{ij} u_{ij}
 0.819332 1.5
 0.722346 2.089408

Total %AAD= 0.855233

Total Error for All T_{oi}

16.9195 12.9021

Density ^{ref} (mol/cm ³)	Temp. (K)	Density ^{exp} (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
4.45E-05	278.15	2.188E-03	0.199	1.092E-05	1.09E-05	-5E-05	4.96E-05	
4.46E-05	278.15	2.252E-03	0.000	1.018E-05	1.03E-05	0.893797	0.893797	0.399192
4.86E-05	253.15	2.138E-03	1.000	1.269E-05	1.27E-05	0.145593	0.145593	
4.87E-05	253.15	2.204E-03	0.805	1.204E-05	1.21E-05	0.155349	0.155349	
4.88E-05	253.15	2.270E-03	0.614	1.140E-05	1.14E-05	-0.00271	0.002713	
4.89E-05	253.15	2.344E-03	0.400	1.067E-05	1.06E-05	-0.46877	0.46877	
4.91E-05	253.15	2.415E-03	0.199	9.930E-06	9.91E-06	-0.19644	0.196435	
4.92E-05	253.15	2.486E-03	0.000	9.300E-06	9.32E-06	0.162584	0.162584	0.205817
5.17E-05	238.15	2.277E-03	1.000	1.192E-05	1.19E-05	0.146155	0.146155	
5.19E-05	238.15	2.348E-03	0.805	1.139E-05	1.13E-05	-0.53012	0.530123	
5.2E-05	238.15	2.419E-03	0.614	1.080E-05	1.07E-05	-0.8328	0.832797	
5.22E-05	238.15	2.499E-03	0.400	1.011E-05	9.97E-06	-1.34361	1.343614	
5.24E-05	238.15	2.576E-03	0.199	9.440E-06	9.3E-06	-1.44404	1.444044	
5.26E-05	238.15	2.653E-03	0.000	8.780E-06	8.74E-06	-0.43462	0.434621	1.037644
Average Error for Temp.								
Total Error for All Temp.					k_{ij}	l_{ij}		
					1.08632	0.66061		

Density** (mol/cm3)	Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
** Calculated from PREOS								
METHYLAMINE (1) - AMMONIA (2)								
(from TPRC)								
4.51E-05	273	7.684E-04	(Methylamine)	9.200E-06	9.24E-06	0.430303	0.430303	Total %AAD= 1.021557
4.51E-05	273	8.004E-04		9.180E-06	9.23E-06	0.551002	0.551002	Comp %AAD= 0.945402
4.52E-05	273	8.323E-04		9.160E-06	9.22E-06	0.626387	0.626387	
4.52E-05	273	8.643E-04		9.140E-06	9.2E-06	0.653126	0.653126	
4.52E-05	273	8.964E-04		9.120E-06	9.18E-06	0.62814	0.62814	
4.52E-05	273	9.284E-04		9.100E-06	9.15E-06	0.548732	0.548732	
4.52E-05	273	9.605E-04		9.080E-06	9.12E-06	0.412694	0.412694	
4.52E-05	273	9.927E-04		9.060E-06	9.08E-06	0.218398	0.218398	
4.53E-05	273	1.025E-03		9.040E-06	9.04E-06	-0.03514	0.035138	
4.53E-05	273	1.057E-03		9.010E-06	8.99E-06	-0.2376	0.2376	
4.53E-05	273	1.089E-03		9.000E-06	8.94E-06	-0.72036	0.720359	
4.53E-05	273	1.122E-03		8.970E-06	8.88E-06	-1.04025	1.040252	
4.53E-05	273	1.154E-03		8.950E-06	8.81E-06	-1.52671	1.526706	
4.54E-05	273	1.186E-03		8.920E-06	8.75E-06	-1.95695	1.956947	
4.54E-05	273	1.219E-03		8.900E-06	8.67E-06	-2.54779	2.547792	
4.54E-05	273	1.251E-03		8.900E-06	8.6E-06	-3.4029	3.402901	
4.54E-05	273	1.283E-03		8.870E-06	8.52E-06	-3.97373	3.973729	
4.55E-05	273	1.316E-03		8.830E-06	8.43E-06	-4.47509	4.475093	
4.55E-05	273	1.349E-03		8.800E-06	8.35E-06	-5.11862	5.118616	
4.55E-05	273	1.381E-03		8.760E-06	8.26E-06	-5.68324	5.68324	
4.55E-05	273	1.414E-03		8.710E-06	8.17E-06	-6.16419	6.164186	
1.808255								
4.12E-05	298	7.023E-04	0.00	1.009E-05	1.01E-05	0.226882	0.226882	
4.13E-05	298	7.315E-04	0.05	1.004E-05	1.01E-05	0.622699	0.622699	
4.13E-05	298	7.606E-04	0.10	1.001E-05	1.01E-05	0.77505	0.77505	
4.13E-05	298	7.898E-04	0.15	9.980E-06	1.01E-05	0.879718	0.879718	
4.13E-05	298	8.190E-04	0.20	9.960E-06	1E-05	0.832312	0.832312	
4.13E-05	298	8.482E-04	0.25	9.930E-06	1E-05	0.832503	0.832503	

Density ^{ref} (mol/cm3)	Temp. (K)	Density ^{ref} (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
4.13E-05	298	8.775E-04	0.30	9.900E-06	9.98E-06	0.777071	0.777071	
4.13E-05	298	9.068E-04	0.35	9.880E-06	9.94E-06	0.562437	0.562437	
4.13E-05	298	9.361E-04	0.40	9.860E-06	9.89E-06	0.289349	0.289349	
4.14E-05	298	9.654E-04	0.45	9.840E-06	9.84E-06	-0.04242	0.042423	
4.14E-05	298	9.947E-04	0.50	9.810E-06	9.78E-06	-0.33092	0.330918	
4.14E-05	298	1.024E-03	0.55	9.780E-06	9.71E-06	-0.67676	0.676756	
4.14E-05	298	1.054E-03	0.60	9.750E-06	9.64E-06	-1.07826	1.078258	
4.14E-05	298	1.083E-03	0.65	9.720E-06	9.57E-06	-1.53308	1.533082	
4.14E-05	298	1.112E-03	0.70	9.690E-06	9.49E-06	-2.03827	2.03827	
4.14E-05	298	1.142E-03	0.75	9.650E-06	9.41E-06	-2.48936	2.489361	
4.15E-05	298	1.171E-03	0.80	9.610E-06	9.32E-06	-2.98369	2.983686	
4.15E-05	298	1.201E-03	0.85	9.580E-06	9.23E-06	-3.61766	3.617658	
4.15E-05	298	1.230E-03	0.90	9.540E-06	9.14E-06	-4.18502	4.185022	
4.15E-05	298	1.260E-03	0.95	9.490E-06	9.05E-06	-4.68136	4.681365	
4.15E-05	298	1.290E-03	1.00	9.430E-06	8.95E-06	-5.10162	5.101621	1.538313
3.8E-05	323	6.469E-04	0.00	1.099E-05	1.1E-05	-0.04801	0.048012	
3.8E-05	323	6.737E-04	0.05	1.094E-05	1.1E-05	0.299317	0.299317	
3.8E-05	323	7.005E-04	0.10	1.091E-05	1.1E-05	0.420425	0.420425	
3.8E-05	323	7.273E-04	0.15	1.087E-05	1.09E-05	0.586905	0.586905	
3.8E-05	323	7.542E-04	0.20	1.083E-05	1.09E-05	0.704159	0.704159	
3.8E-05	323	7.810E-04	0.25	1.079E-05	1.09E-05	0.769514	0.769514	
3.8E-05	323	8.079E-04	0.30	1.075E-05	1.08E-05	0.780724	0.780724	
3.8E-05	323	8.348E-04	0.35	1.072E-05	1.08E-05	0.642091	0.642091	
3.81E-05	323	8.617E-04	0.40	1.068E-05	1.07E-05	0.540158	0.540158	
3.81E-05	323	8.886E-04	0.45	1.064E-05	1.07E-05	0.380763	0.380763	
3.81E-05	323	9.156E-04	0.50	1.060E-05	1.06E-05	0.164072	0.164072	
3.81E-05	323	9.425E-04	0.55	1.056E-05	1.05E-05	-0.10907	0.109068	
3.81E-05	323	9.695E-04	0.60	1.052E-05	1.05E-05	-0.43714	0.43714	
3.81E-05	323	9.965E-04	0.65	1.048E-05	1.04E-05	-0.81798	0.817979	
3.81E-05	323	1.024E-03	0.70	1.044E-05	1.03E-05	-1.24881	1.248814	
3.81E-05	323	1.051E-03	0.75	1.040E-05	1.02E-05	-1.72632	1.726324	
3.81E-05	323	1.078E-03	0.80	1.035E-05	1.01E-05	-2.15225	2.152248	

Density ^{xx} (mol/cm3)	Temp. (K)	Density ^{xx} (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
3.82E-05	323	1.105E-03	0.85	1.031E-05	1E-05	-2.71143	2.711429	
3.82E-05	323	1.132E-03	0.90	1.026E-05	9.93E-06	-3.21046	3.210462	
3.82E-05	323	1.159E-03	0.95	1.022E-05	9.83E-06	-3.83324	3.833236	
3.82E-05	323	1.186E-03	1.00	1.015E-05	9.72E-06	-4.19794	4.197938	1.133412
3.52E-05	348	5.996E-04	0.00	1.189E-05	1.19E-05	-0.30112	0.301118	
3.52E-05	348	6.244E-04	0.05	1.184E-05	1.18E-05	0.003417	0.003417	
3.52E-05	348	6.493E-04	0.10	1.179E-05	1.18E-05	0.266356	0.266356	
3.52E-05	348	6.741E-04	0.15	1.174E-05	1.18E-05	0.484576	0.484576	
3.52E-05	348	6.989E-04	0.20	1.169E-05	1.18E-05	0.655132	0.655132	
3.52E-05	348	7.238E-04	0.25	1.164E-05	1.17E-05	0.775376	0.775376	
3.53E-05	348	7.487E-04	0.30	1.159E-05	1.17E-05	0.843067	0.843067	
3.53E-05	348	7.736E-04	0.35	1.154E-05	1.16E-05	0.856454	0.856454	
3.53E-05	348	7.985E-04	0.40	1.149E-05	1.16E-05	0.814348	0.814348	
3.53E-05	348	8.234E-04	0.45	1.144E-05	1.15E-05	0.716172	0.716172	
3.53E-05	348	8.483E-04	0.50	1.140E-05	1.15E-05	0.473782	0.473782	
3.53E-05	348	8.732E-04	0.55	1.135E-05	1.14E-05	0.264125	0.264125	
3.53E-05	348	8.982E-04	0.60	1.130E-05	1.13E-05	0.000618	0.000618	
3.53E-05	348	9.232E-04	0.65	1.125E-05	1.12E-05	-0.31473	0.314731	
3.53E-05	348	9.481E-04	0.70	1.120E-05	1.11E-05	-0.67932	0.679318	
3.53E-05	348	9.731E-04	0.75	1.115E-05	1.1E-05	-1.09	1.089996	
3.53E-05	348	9.981E-04	0.80	1.110E-05	1.09E-05	-1.54313	1.543134	
3.53E-05	348	1.023E-03	0.85	1.105E-05	1.08E-05	-2.03469	2.034687	
3.53E-05	348	1.048E-03	0.90	1.100E-05	1.07E-05	-2.56026	2.560262	
3.54E-05	348	1.073E-03	0.95	1.094E-05	1.06E-05	-3.02664	3.026638	
3.54E-05	348	1.098E-03	1.00	1.088E-05	1.05E-05	-3.5176	3.517601	0.915905
3.28E-05	373	5.589E-04	0.00	1.279E-05	1.27E-05	-0.54229	0.542287	
3.28E-05	373	5.820E-04	0.05	1.274E-05	1.27E-05	-0.27591	0.27591	
3.28E-05	373	6.051E-04	0.10	1.268E-05	1.27E-05	0.028092	0.028092	
3.28E-05	373	6.282E-04	0.15	1.263E-05	1.27E-05	0.209569	0.209569	
3.28E-05	373	6.514E-04	0.20	1.257E-05	1.26E-05	0.423896	0.423896	
3.28E-05	373	6.745E-04	0.25	1.250E-05	1.26E-05	0.670115	0.670115	

Density** (mol/cm3)	Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
3.28E-05	373	6.976E-04	0.30	1.246E-05	1.25E-05	0.623763	0.623763	
3.29E-05	373	7.208E-04	0.35	1.239E-05	1.25E-05	0.766965	0.766965	
3.29E-05	373	7.440E-04	0.40	1.233E-05	1.24E-05	0.775562	0.775562	
3.29E-05	373	7.672E-04	0.45	1.227E-05	1.24E-05	0.729742	0.729742	
3.29E-05	373	7.903E-04	0.50	1.221E-05	1.23E-05	0.629495	0.629495	
3.29E-05	373	8.135E-04	0.55	1.216E-05	1.22E-05	0.392819	0.392819	
3.29E-05	373	8.368E-04	0.60	1.210E-05	1.21E-05	0.185989	0.185989	
3.29E-05	373	8.600E-04	0.65	1.204E-05	1.2E-05	-0.07147	0.071468	
3.29E-05	373	8.832E-04	0.70	1.198E-05	1.19E-05	-0.3771	0.3771	
3.29E-05	373	9.065E-04	0.75	1.191E-05	1.18E-05	-0.64457	0.644567	
3.29E-05	373	9.297E-04	0.80	1.186E-05	1.17E-05	-1.12046	1.120461	
3.29E-05	373	9.530E-04	0.85	1.180E-05	1.16E-05	-1.55085	1.550848	
3.29E-05	373	9.763E-04	0.90	1.174E-05	1.15E-05	-2.01486	2.014858	
3.29E-05	373	9.996E-04	0.95	1.168E-05	1.14E-05	-2.508	2.507997	
3.29E-05	373	1.023E-03	1.00	1.161E-05	1.13E-05	-2.94204	2.942036	
								0.736801
2.89E-05	423	4.921E-04	0.00	1.460E-05	1.44E-05	-1.07844	1.07844	
2.89E-05	423	5.124E-04	0.05	1.453E-05	1.44E-05	-0.74135	0.741353	
2.89E-05	423	5.328E-04	0.10	1.446E-05	1.44E-05	-0.44251	0.44251	
2.89E-05	423	5.531E-04	0.15	1.438E-05	1.44E-05	-0.11532	0.115324	
2.89E-05	423	5.734E-04	0.20	1.430E-05	1.43E-05	0.169178	0.169178	
2.89E-05	423	5.938E-04	0.25	1.422E-05	1.43E-05	0.408478	0.408478	
2.89E-05	423	6.141E-04	0.30	1.415E-05	1.42E-05	0.529299	0.529299	
2.89E-05	423	6.345E-04	0.35	1.408E-05	1.42E-05	0.600074	0.600074	
2.89E-05	423	6.548E-04	0.40	1.400E-05	1.41E-05	0.691512	0.691512	
2.89E-05	423	6.752E-04	0.45	1.393E-05	1.4E-05	0.659596	0.659596	
2.89E-05	423	6.956E-04	0.50	1.385E-05	1.39E-05	0.648415	0.648415	
2.89E-05	423	7.159E-04	0.55	1.377E-05	1.39E-05	0.586569	0.586569	
2.89E-05	423	7.363E-04	0.60	1.370E-05	1.38E-05	0.401791	0.401791	
2.89E-05	423	7.567E-04	0.65	1.362E-05	1.37E-05	0.242102	0.242102	
2.89E-05	423	7.771E-04	0.70	1.354E-05	1.35E-05	0.036717	0.036717	
2.89E-05	423	7.975E-04	0.75	1.345E-05	1.34E-05	-0.13745	0.137449	
2.89E-05	423	8.179E-04	0.80	1.338E-05	1.33E-05	-0.49978	0.499785	

Density ^{ref} (mol/cm3)	Temp. (K)	Density ^{ref} (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
2.9E-05	423	8.384E-04	0.85	1.330E-05	1.32E-05	-0.82412	0.824124	
2.9E-05	423	8.588E-04	0.90	1.323E-05	1.31E-05	-1.25542	1.25542	
2.9E-05	423	8.792E-04	0.95	1.316E-05	1.29E-05	-1.71498	1.714982	
2.9E-05	423	8.997E-04	1.00	1.309E-05	1.28E-05	-2.19834	2.198336	0.563404
2.58E-05	473	4.397E-04	0.00	1.647E-05	1.61E-05	-1.95641	1.956408	
2.58E-05	473	4.578E-04	0.05	1.639E-05	1.61E-05	-1.63196	1.631961	
2.58E-05	473	4.760E-04	0.10	1.630E-05	1.61E-05	-1.28326	1.283262	
2.58E-05	473	4.941E-04	0.15	1.622E-05	1.61E-05	-1.03354	1.033537	
2.58E-05	473	5.123E-04	0.20	1.612E-05	1.6E-05	-0.7022	0.702199	
2.58E-05	473	5.304E-04	0.25	1.602E-05	1.6E-05	-0.41264	0.412638	
2.58E-05	473	5.486E-04	0.30	1.594E-05	1.59E-05	-0.29222	0.292219	
2.58E-05	473	5.668E-04	0.35	1.584E-05	1.58E-05	-0.09318	0.093177	
2.58E-05	473	5.849E-04	0.40	1.574E-05	1.57E-05	0.059063	0.059063	
2.58E-05	473	6.031E-04	0.45	1.564E-05	1.57E-05	0.163758	0.163758	
2.58E-05	473	6.213E-04	0.50	1.550E-05	1.56E-05	0.479343	0.479343	
2.58E-05	473	6.394E-04	0.55	1.546E-05	1.55E-05	0.100621	0.100621	
2.58E-05	473	6.576E-04	0.60	1.536E-05	1.54E-05	0.062959	0.062959	
2.58E-05	473	6.758E-04	0.65	1.528E-05	1.53E-05	-0.15047	0.15047	
2.58E-05	473	6.940E-04	0.70	1.519E-05	1.51E-05	-0.34227	0.342266	
2.58E-05	473	7.122E-04	0.75	1.510E-05	1.5E-05	-0.57495	0.574953	
2.59E-05	473	7.304E-04	0.80	1.502E-05	1.49E-05	-0.91153	0.911525	
2.59E-05	473	7.486E-04	0.85	1.494E-05	1.47E-05	-1.28286	1.282864	
2.59E-05	473	7.668E-04	0.90	1.485E-05	1.46E-05	-1.61898	1.618976	
2.59E-05	473	7.850E-04	0.95	1.476E-05	1.45E-05	-1.9818	1.9818	
2.59E-05	473	8.032E-04	1.00	1.466E-05	1.43E-05	-2.30055	2.300547	0.693557
2.33E-05	523	3.974E-04	0.00	1.825E-05	1.78E-05	-2.2741	2.274101	
2.33E-05	523	4.138E-04	0.05	1.815E-05	1.78E-05	-1.90458	1.904577	
2.33E-05	523	4.302E-04	0.10	1.805E-05	1.78E-05	-1.56867	1.568665	
2.33E-05	523	4.466E-04	0.15	1.794E-05	1.77E-05	-1.21385	1.213852	
2.33E-05	523	4.630E-04	0.20	1.783E-05	1.77E-05	-0.89663	0.896631	
2.33E-05	523	4.794E-04	0.25	1.772E-05	1.76E-05	-0.61929	0.619285	

Density TM (mol/cm3)	Temp. (K)	Density TM (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
2,33E-05	523	4.958E-04	0.30	1.760E-05	1.75E-05	-0.32721	0.327209	
2,33E-05	523	5.122E-04	0.35	1.750E-05	1.75E-05	-0.19183	0.19183	
2,33E-05	523	5.286E-04	0.40	1.738E-05	1.74E-05	0.012973	0.012973	
2,33E-05	523	5.450E-04	0.45	1.727E-05	1.73E-05	0.115296	0.115296	
2,33E-05	523	5.614E-04	0.50	1.715E-05	1.72E-05	0.230428	0.230428	
2,33E-05	523	5.778E-04	0.55	1.706E-05	1.71E-05	0.124771	0.124771	
2,34E-05	523	5.942E-04	0.60	1.695E-05	1.7E-05	0.091535	0.091535	
2,34E-05	523	6.106E-04	0.65	1.684E-05	1.68E-05	0.015396	0.015396	
2,34E-05	523	6.270E-04	0.70	1.674E-05	1.67E-05	-0.16138	0.161384	
2,34E-05	523	6.435E-04	0.75	1.663E-05	1.66E-05	-0.31735	0.317349	
2,34E-05	523	6.599E-04	0.80	1.653E-05	1.64E-05	-0.56921	0.569207	
2,34E-05	523	6.763E-04	0.85	1.643E-05	1.63E-05	-0.85402	0.854018	
2,34E-05	523	6.928E-04	0.90	1.633E-05	1.61E-05	-1.16821	1.168209	
2,34E-05	523	7.092E-04	0.95	1.622E-05	1.6E-05	-1.44722	1.447222	
2,34E-05	523	7.256E-04	1.00	1.611E-05	1.58E-05	-1.74737	1.74737	0.622623
2,13E-05	573	3.626E-04	0.00	2.003E-05	1.95E-05	-2.62816	2.628163	
2,13E-05	573	3.775E-04	0.05	1.986E-05	1.95E-05	-1.97784	1.977843	
2,13E-05	573	3.925E-04	0.10	1.970E-05	1.94E-05	-1.40255	1.402547	
2,13E-05	573	4.074E-04	0.15	1.955E-05	1.94E-05	-0.90686	0.906863	
2,13E-05	573	4.224E-04	0.20	1.940E-05	1.93E-05	-0.44385	0.443854	
2,13E-05	573	4.373E-04	0.25	1.926E-05	1.92E-05	-0.06772	0.06772	
2,13E-05	573	4.523E-04	0.30	1.912E-05	1.92E-05	0.270256	0.270256	
2,13E-05	573	4.672E-04	0.35	1.900E-05	1.91E-05	0.462558	0.462558	
2,13E-05	573	4.822E-04	0.40	1.887E-05	1.9E-05	0.66523	0.66523	
2,13E-05	573	4.971E-04	0.45	1.875E-05	1.89E-05	0.771348	0.771348	
2,13E-05	573	5.121E-04	0.50	1.863E-05	1.88E-05	0.833631	0.833631	
2,13E-05	573	5.271E-04	0.55	1.852E-05	1.87E-05	0.797964	0.797964	
2,13E-05	573	5.420E-04	0.60	1.840E-05	1.85E-05	0.77378	0.77378	
2,13E-05	573	5.570E-04	0.65	1.829E-05	1.84E-05	0.653301	0.653301	
2,13E-05	573	5.720E-04	0.70	1.818E-05	1.83E-05	0.492912	0.492912	
2,13E-05	573	5.869E-04	0.75	1.808E-05	1.81E-05	0.239521	0.239521	
2,13E-05	573	6.019E-04	0.80	1.797E-05	1.8E-05	0.006656	0.006656	

Density ^{ref} (mol/cm3)	Temp. (K)	Density ^{ref} (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
2.13E-05	573	6.169E-04	0.85	1.786E-05	1.78E-05	-0.25778	0.257776	
2.13E-05	573	6.318E-04	0.90	1.776E-05	1.77E-05	-0.60632	0.606317	
2.13E-05	573	6.468E-04	0.95	1.766E-05	1.75E-05	-0.97954	0.979538	
2.13E-05	573	6.618E-04	1.00	1.756E-05	1.73E-05	-1.37351	1.373513	0.663664
1.96E-05	623	3.334E-04	0.00	2.181E-05	2.12E-05	-3.01	3.009996	
1.96E-05	623	3.471E-04	0.05	2.166E-05	2.11E-05	-2.53386	2.533859	
1.96E-05	623	3.609E-04	0.10	2.150E-05	2.11E-05	-2.03993	2.039928	
1.96E-05	623	3.746E-04	0.15	2.134E-05	2.1E-05	-1.57501	1.575014	
1.96E-05	623	3.883E-04	0.20	2.119E-05	2.09E-05	-1.18809	1.188087	
1.96E-05	623	4.021E-04	0.25	2.104E-05	2.09E-05	-0.83571	0.835707	
1.96E-05	623	4.158E-04	0.30	2.090E-05	2.08E-05	-0.56737	0.567369	
1.96E-05	623	4.296E-04	0.35	2.076E-05	2.07E-05	-0.33795	0.337953	
1.96E-05	623	4.433E-04	0.40	2.062E-05	2.06E-05	-0.1486	0.148599	
1.96E-05	623	4.571E-04	0.45	2.048E-05	2.05E-05	3.59E-07	3.59E-07	
1.96E-05	623	4.708E-04	0.50	2.045E-05	2.04E-05	-0.43085	0.430847	
1.96E-05	623	4.846E-04	0.55	2.022E-05	2.02E-05	0.075486	0.075486	
1.96E-05	623	4.983E-04	0.60	2.008E-05	2.01E-05	0.101813	0.101813	
1.96E-05	623	5.121E-04	0.65	1.996E-05	2E-05	-0.01073	0.010734	
1.96E-05	623	5.258E-04	0.70	1.982E-05	1.98E-05	-0.06047	0.060475	
1.96E-05	623	5.396E-04	0.75	1.969E-05	1.97E-05	-0.19553	0.195528	
1.96E-05	623	5.533E-04	0.80	1.955E-05	1.95E-05	-0.31216	0.31216	
1.96E-05	623	5.671E-04	0.85	1.942E-05	1.93E-05	-0.50907	0.509074	
1.96E-05	623	5.808E-04	0.90	1.928E-05	1.91E-05	-0.68077	0.680772	
1.96E-05	623	5.946E-04	0.95	1.915E-05	1.9E-05	-0.92647	0.926466	
1.96E-05	623	6.083E-04	1.00	1.901E-05	1.88E-05	-1.13918	1.139184	0.659467
1.81E-05	673	3.086E-04	0.00	2.360E-05	2.28E-05	-3.45324	3.453237	
1.81E-05	673	3.213E-04	0.05	2.345E-05	2.27E-05	-3.04262	3.04262	
1.81E-05	673	3.340E-04	0.10	2.330E-05	2.27E-05	-2.65947	2.65947	
1.81E-05	673	3.467E-04	0.15	2.315E-05	2.26E-05	-2.306	2.305996	
1.81E-05	673	3.594E-04	0.20	2.300E-05	2.25E-05	-1.98437	1.984366	
1.81E-05	673	3.721E-04	0.25	2.128E-05	2.25E-05	5.55605	5.55605	

Density ^{ref} (mol/cm ³)	Temp. (K)	Density ^{ref} (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
4,01E-05	308.2	1.945E-03	0.45	1.032E-05	1.04E-05	0.693294	0.693294	
4,01E-05	308.2	1.937E-03	0.50	1.039E-05	1.03E-05	-0.84265	0.842647	
4,01E-05	308.2	1.928E-03	0.55	1.047E-05	1.02E-05	-2.47539	2.475388	
4,01E-05	308.2	1.919E-03	0.60	1.054E-05	1.01E-05	-4.01545	4.015449	
4,01E-05	308.2	1.911E-03	0.65	1.061E-05	1E-05	-5.55064	5.550645	
4,01E-05	308.2	1.902E-03	0.70	1.069E-05	9.93E-06	-7.1546	7.154598	
4,01E-05	308.2	1.893E-03	0.75	1.077E-05	9.83E-06	-8.71821	8.718212	
4,01E-05	308.2	1.885E-03	0.80	1.085E-05	9.74E-06	-10.2198	10.21983	
4,01E-05	308.2	1.876E-03	0.85	1.094E-05	9.66E-06	-11.7158	11.71584	
4,01E-05	308.2	1.867E-03	0.90	1.104E-05	9.59E-06	-13.1742	13.17418	
4,02E-05	308.2	1.859E-03	0.95	1.115E-05	9.53E-06	-14.562	14.56197	
4,02E-05	308.2	1.850E-03	1.00	1.126E-05	9.48E-06	-15.7713	15.77129	
3,48E-05	353.2	1.758E-03	0.00	1.098E-05	1.31E-05	19.60156	19.60156	7.727024
3,48E-05	353.2	1.751E-03	0.05	1.106E-05	1.29E-05	16.82901	16.82901	
3,48E-05	353.2	1.743E-03	0.10	1.114E-05	1.27E-05	14.3814	14.3814	
3,48E-05	353.2	1.735E-03	0.15	1.121E-05	1.26E-05	12.29311	12.29311	
3,48E-05	353.2	1.728E-03	0.20	1.130E-05	1.25E-05	10.20674	10.20674	
3,48E-05	353.2	1.720E-03	0.25	1.138E-05	1.23E-05	8.372947	8.372947	
3,48E-05	353.2	1.713E-03	0.30	1.146E-05	1.22E-05	6.649204	6.649204	
3,48E-05	353.2	1.705E-03	0.35	1.154E-05	1.21E-05	5.000083	5.000083	
3,48E-05	353.2	1.697E-03	0.40	1.163E-05	1.2E-05	3.308356	3.308356	
3,48E-05	353.2	1.690E-03	0.45	1.172E-05	1.19E-05	1.645914	1.645914	
3,48E-05	353.2	1.682E-03	0.50	1.181E-05	1.18E-05	-0.00109	0.001086	
3,48E-05	353.2	1.675E-03	0.55	1.186E-05	1.17E-05	-1.30745	1.307449	
3,48E-05	353.2	1.667E-03	0.60	1.200E-05	1.16E-05	-3.34858	3.348585	
3,49E-05	353.2	1.659E-03	0.65	1.210E-05	1.15E-05	-5.03787	5.037871	
3,49E-05	353.2	1.652E-03	0.70	1.219E-05	1.14E-05	-6.61831	6.618311	
3,49E-05	353.2	1.644E-03	0.75	1.229E-05	1.13E-05	-8.22815	8.228151	
3,49E-05	353.2	1.637E-03	0.80	1.238E-05	1.12E-05	-9.69561	9.695606	
3,49E-05	353.2	1.629E-03	0.85	1.248E-05	1.11E-05	-11.1452	11.14519	
3,49E-05	353.2	1.621E-03	0.90	1.258E-05	1.1E-05	-12.4773	12.47726	
3,49E-05	353.2	1.614E-03	0.95	1.268E-05	1.09E-05	-13.6655	13.66553	

Density** (mol/cm3)	Temp. (K)	Density ** (g/cm3)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
3.49E-05	353.2	1.606E-03	1.00	1.278E-05	1.09E-05	-14.6826	14.68258	
Average Error for Temp.								
k_{ij}								
l_{ij}								
Total Error for All Tei								
0.5								
265.4712								
1.704379								
-0.44361								

Density ^{***} (mol/cm3)	Temp. (K)	Density ^{**} (g/cm3)	Mole Frac.	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
** Calculated from PR EOS								
WATER (1) - METHANOL (2)								
(from NASA - Brokaw / ref. Silgado, R.B., et al. 1950)								
(Water)								
3,31E-05	373,15	1,061E-03	0,00	1,223E-05	1,21E-05	-0,71945	0,719447	
3,31E-05	373,15	1,062E-03	0,02	1,228E-05	1,2E-05	-2,39266	2,392663	
3,31E-05	373,15	9,909E-04	0,15	1,249E-05	1,12E-05	-10,6888	10,68879	
3,31E-05	373,15	9,162E-04	0,31	1,268E-05	1,05E-05	-17,1389	17,13887	
3,31E-05	373,15	8,390E-04	0,48	1,267E-05	1,02E-05	-19,3476	19,34759	
3,3E-05	373,15	7,642E-04	0,64	1,265E-05	1,03E-05	-18,5159	18,51595	
3,3E-05	373,15	6,636E-04	0,85	1,261E-05	1,11E-05	-11,7468	11,74684	
3,29E-05	373,15	5,935E-04	1,00	1,255E-05	1,24E-05	-1,09183	1,091833	
Average Error for Temp.								13,30512
					k_{ij}	u_{ij}		

Total Error for All T_{ei} 79,8307 1,160536 1,101318
2,480098 1,058829 0,66152

Density ^{***} (mol/cm ³)	Temp. (K)	Density ^{**} (g/cm ³)	Mole Frac.	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
WATER (1) - ETHANOL (2)								
(from NASA - Brokaw / ref. Silgardo, R.B., et al. 1950)								
(Water)								
3.33E-06	373.15	1.533E-03	0.00	1.080E-05	6.64E-06	-38.5407	38.5407	
3.33E-06	373.15	1.503E-03	0.03	1.114E-05	6.59E-06	-40.8113	40.81127	
3.32E-06	373.15	1.466E-03	0.08	1.139E-05	6.54E-06	-42.6443	42.54432	
3.32E-06	373.15	1.376E-03	0.17	1.163E-05	6.51E-06	-44.0479	44.04789	
3.32E-06	373.15	1.247E-03	0.30	1.183E-05	6.57E-06	-44.4303	44.43027	
3.31E-06	373.15	1.098E-03	0.46	1.197E-05	6.87E-06	-42.6295	42.62953	
3.31E-06	373.15	9.394E-04	0.63	1.226E-05	7.54E-06	-38.5221	38.52211	
3.3E-06	373.15	8.328E-04	0.74	1.238E-05	8.32E-06	-32.7808	32.78076	
3.3E-06	373.15	7.554E-04	0.83	1.262E-05	9.17E-06	-26.7697	26.76975	
3.3E-06	373.15	6.772E-04	0.91	1.268E-05	1.04E-05	-17.3278	17.3278	
3.29E-06	373.15	5.936E-04	1.00	1.255E-05	1.24E-05	-1.09183	1.091833	
Average Error for Temp.								36.65152
Total Error for All Tei								
						k _{ij}	l _{ij}	
						1.33	0.769486	
						116.2583	1.073819	-0.07661
						130.8656	0.899793	0.5

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
BUTANE (1) - BENZENE (2)									
00789 Staveley, L. A. K.; Taylor, P. F.; J. Chem. Soc., 200-209(1956)									
P= 0.101 MPa									
Butane									
				(g/m s)					%AAD= 0.403526
293.15	0.87627841	0.0051	0.6386	0.0006386	0.000643325	0.73983436	0.739834		
293.15	0.874495307	0.0104	0.6368	0.0006368	0.000640859	0.63739576	0.637396		
293.15	0.872916086	0.0151	0.6358	0.0006358	0.000638773	0.46757801	0.467578		
293.15	0.871204607	0.0202	0.635	0.0006350	0.000636614	0.25425042	0.25425		
293.15	0.869696329	0.0247	0.6348	0.0006348	0.0006348	-5.179E-05	5.18E-05		
293.15	0.868089408	0.0295	0.635	0.0006350	0.000632955	-0.3220431	0.322043		
Average Error for Temp.									
0.403526									
BUTANE - BENZENE									
h/j									
Total Error for All Temps.									
2.421153									
h/j									
1.239026									
h/j									
0.5									

METHANE (1) - DECANE (2)
02604 Lee, A. L.; Gonzalez, M. H.; Eakin, B. E.; J. Chem. Eng. Data, 11(3), 261-267(1966)
(No: Density is experimental from DIPMIX)

Methane									
(MPa)									
				(g/m s)					
4.13	310.93	0.7108	0.1	0.6445	6.4450E-04	0.000640384	-0.6385949	0.638595	
5.51	310.93	0.7125	0.1	0.659	6.5900E-04	0.000646838	-1.8455054	1.845505	
6.89	310.93	0.7137	0.1	0.68	6.8000E-04	0.000651437	-4.2003767	4.200377	
8.61	310.93	0.7157	0.1	0.691	6.9100E-04	0.000659184	-4.6042945	4.604294	
10.34	310.93	0.7176	0.1	0.7075	7.0750E-04	0.000666639	-5.775352	5.775352	
12.06	310.93	0.7191	0.1	0.724	7.2400E-04	0.000672592	-7.100597	7.100597	
13.79	310.93	0.7206	0.1	0.742	7.4200E-04	0.000678604	-8.5439841	8.543984	
15.51	310.93	0.7216	0.1	0.755	7.5500E-04	0.000682645	-9.5834269	9.583427	
17.23	310.93	0.7241	0.1	0.77	7.7000E-04	0.000692868	-10.017171	10.01717	
18.96	310.93	0.7262	0.1	0.785	7.8500E-04	0.000701588	-10.625712	10.62571	
20.68	310.93	0.7267	0.1	0.8	8.0000E-04	0.000703683	-12.03967	12.03967	
24.13	310.93	0.7285	0.1	0.831	8.3100E-04	0.000711281	-14.406564	14.40656	
27.57	310.93	0.7308	0.1	0.861	8.6100E-04	0.000721126	-16.24548	16.24548	
31.02	310.93	0.7331	0.1	0.8875	8.8750E-04	0.000731126	-17.619607	17.61961	
34.47	310.93	0.7365	0.1	0.9125	9.1250E-04	0.000746198	-18.22492	18.22492	
41.36	310.93	0.7396	0.1	0.97	9.7000E-04	0.000760248	-21.623911	21.62391	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
48.26	310.93	0.7431	0.1	1.0235	1.0235E-03	0.000776475	-24.135273	24.13527	
55.15	310.93	0.7463	0.1	1.0745	1.0745E-03	0.000791659	-26.323004	26.323	
62.05	310.93	0.7492	0.1	1.125	1.1250E-03	0.000805714	-28.380858	28.38086	
66.94	310.93	0.7525	0.1	1.174	1.1740E-03	0.000822058	-29.978054	29.97805	
5.51	310.93	0.6982	0.2	0.5835	5.8350E-04	0.000599593	2.75794121	2.757941	
6.89	310.93	0.6998	0.2	0.595	5.9500E-04	0.000605874	1.82753286	1.827533	
8.61	310.93	0.7019	0.2	0.6075	6.0750E-04	0.000614232	1.10809423	1.108094	
10.34	310.93	0.7037	0.2	0.6215	6.2150E-04	0.0006215	8.0766E-07	8.08E-07	
12.06	310.93	0.7055	0.2	0.635	6.3500E-04	0.000628866	-0.9659175	0.965918	
13.79	310.93	0.7074	0.2	0.645	6.4500E-04	0.00063675	-1.2790273	1.279027	
15.51	310.93	0.709	0.2	0.66	6.6000E-04	0.000643477	-2.5035042	2.503504	
17.23	310.93	0.7109	0.2	0.6715	6.7150E-04	0.00065157	-2.987922	2.987922	
18.96	310.93	0.7125	0.2	0.684	6.8400E-04	0.000658476	-3.7315202	3.73152	
20.68	310.93	0.7141	0.2	0.695	6.9500E-04	0.000665466	-4.2494485	4.249448	
24.13	310.93	0.7163	0.2	0.72	7.2000E-04	0.000675217	-6.2198877	6.219888	
27.57	310.93	0.7185	0.2	0.745	7.4500E-04	0.000685132	-8.036029	8.036029	
31.02	310.93	0.721	0.2	0.7665	7.6650E-04	0.000696602	-9.1191047	9.119105	
34.47	310.93	0.7238	0.2	0.789	7.8900E-04	0.000709712	-10.049145	10.04914	
41.36	310.93	0.7275	0.2	0.832	8.3200E-04	0.000727475	-12.563093	12.56309	
48.26	310.93	0.7303	0.2	0.872	8.7200E-04	0.000741259	-14.993254	14.99325	
55.15	310.93	0.7343	0.2	0.914	9.1400E-04	0.000761477	-16.687372	16.68737	
62.05	310.93	0.7377	0.2	0.9525	9.5250E-04	0.000779167	-18.197692	18.19769	
66.94	310.93	0.7404	0.2	0.991	9.9100E-04	0.000793555	-19.923821	19.92382	
10.34	310.93	0.6838	0.3	0.54449	5.4449E-04	0.000543466	-0.1880032	0.188003	
13.79	310.93	0.6874	0.3	0.56071	5.6071E-04	0.000557241	-0.6187027	0.618703	
17.23	310.93	0.6911	0.3	0.57891	5.7891E-04	0.000571814	-1.2257314	1.225731	
20.68	310.93	0.6943	0.3	0.58928	5.8928E-04	0.00058477	-0.765407	0.765407	
24.13	310.93	0.6975	0.3	0.61101	6.1101E-04	0.000598062	-2.1191409	2.119141	
27.57	310.93	0.7001	0.3	0.63155	6.3155E-04	0.000609117	-3.5520657	3.552066	
31.02	310.93	0.7031	0.3	0.65972	6.5972E-04	0.000622165	-5.6925394	5.692539	
34.47	310.93	0.7052	0.3	0.67301	6.7301E-04	0.00063149	-6.1692981	6.169298	
12.06	310.93	0.6614	0.4	0.4625	4.6250E-04	0.000449815	-2.7427279	2.742728	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
13.79	310.93	0.6617	0.4	0.472	4.7200E-04	0.000450774	-4.4969435	4.496944	
15.51	310.93	0.6647	0.4	0.481	4.8100E-04	0.000460498	-4.2624157	4.262416	
17.23	310.93	0.6668	0.4	0.49	4.9000E-04	0.000467445	-4.6030827	4.603083	
18.96	310.93	0.6689	0.4	0.498	4.9800E-04	0.000474511	-4.7167471	4.716747	
20.68	310.93	0.6704	0.4	0.505	5.0500E-04	0.000479631	-5.0234734	5.023473	
24.13	310.93	0.676	0.4	0.524	5.2400E-04	0.00049931	-4.7118563	4.711856	
27.57	310.93	0.6794	0.4	0.54	5.4000E-04	0.000511704	-5.2400714	5.240071	
31.02	310.93	0.6829	0.4	0.5665	5.5650E-04	0.000524828	-5.6912198	5.69122	
34.47	310.93	0.6854	0.4	0.5735	5.7350E-04	0.000534438	-6.8111919	6.811192	
41.36	310.93	0.6899	0.4	0.505	5.0500E-04	0.000552245	9.35537305	9.355373	
48.26	310.93	0.6948	0.4	0.637	6.3700E-04	0.000572409	-10.139832	10.13983	
55.15	310.93	0.6988	0.4	0.668	6.6800E-04	0.000589496	-11.752085	11.75208	
62.05	310.93	0.7031	0.4	0.698	6.9800E-04	0.00060852	-12.819519	12.81952	
68.94	310.93	0.7065	0.4	0.73	7.3000E-04	0.000624061	-14.512125	14.51212	
24.13	310.93	0.6453	0.5	0.43517	4.3517E-04	0.000375083	-13.807625	13.80762	
27.57	310.93	0.6483	0.5	0.45302	4.5302E-04	0.000383163	-15.420332	15.42033	
31.02	310.93	0.652	0.5	0.47017	4.7017E-04	0.000393396	-16.328978	16.32898	
34.47	310.93	0.656	0.5	0.48304	4.8304E-04	0.000404804	-16.196608	16.19661	
41.36	310.93	0.6616	0.5	0.51347	5.1347E-04	0.000421402	-17.930479	17.93048	
24.13	310.93	0.608	0.6	0.341	3.4100E-04	0.000262314	-23.074962	23.07496	
27.57	310.93	0.6122	0.6	0.353	3.5300E-04	0.000269955	-23.525486	23.52549	
31.02	310.93	0.6161	0.6	0.3675	3.6750E-04	0.000277267	-24.553131	24.55313	
34.47	310.93	0.62	0.6	0.381	3.8100E-04	0.000284796	-25.250387	25.25039	
41.36	310.93	0.6277	0.6	0.4095	4.0950E-04	0.000300326	-26.66043	26.66043	
48.26	310.93	0.634	0.6	0.432	4.3200E-04	0.000313723	-27.378894	27.37889	
55.15	310.93	0.6401	0.6	0.4595	4.5950E-04	0.000327324	-28.765074	28.76507	
62.05	310.93	0.6452	0.6	0.485	4.8500E-04	0.000339196	-30.062654	30.06265	
68.94	310.93	0.6503	0.6	0.51	5.1000E-04	0.000351546	-31.06947	31.06947	
34.47	310.93	0.5712	0.7	0.26834	2.6834E-04	0.000183712	-31.537788	31.53779	
41.36	310.93	0.5808	0.7	0.27933	2.7933E-04	0.000195576	-29.983772	29.98377	
48.26	310.93	0.5887	0.7	0.32359	3.2359E-04	0.000205953	-36.353774	36.35377	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{Pred} (Pa s)	%D	%AD	%AAD
34.47	310.93	0.498	0.8	0.1625	1.6250E-04	0.000105966	-34.790417	34.79042	
41.36	310.93	0.5109	0.8	0.1965	1.9650E-04	0.000114685	-41.636047	41.63605	
48.26	310.93	0.522	0.8	0.225	2.2500E-04	0.000122785	-45.428844	45.42884	
55.15	310.93	0.5312	0.8	0.25	2.5000E-04	0.000129951	-48.019798	48.0198	
62.05	310.93	0.5381	0.8	0.272	2.7200E-04	0.000135611	-50.14301	50.14301	
68.94	310.93	0.5466	0.8	0.2925	2.9250E-04	0.000142942	-51.131001	51.131	
41.36	310.93	0.401	0.9	0.0885	8.8500E-05	5.93517E-05	-32.935947	32.93595	
48.26	310.93	0.4182	0.9	0.1119	1.1190E-04	6.55812E-05	-41.393001	41.393	
55.15	310.93	0.4312	0.9	0.131	1.3100E-04	7.07449E-05	-45.996256	45.99626	
62.05	310.93	0.4402	0.9	0.1485	1.4850E-04	7.45888E-05	-49.785297	49.7853	
68.94	310.93	0.4484	0.9	0.165	1.6500E-04	7.82419E-05	-52.580663	52.58066	
4.13	344.26	0.6832	0.1	0.435	4.3500E-04	0.000457386	5.14621051	5.146211	
5.51	344.26	0.6877	0.1	0.447	4.4700E-04	0.000469674	5.0723765	5.072376	
6.89	344.26	0.6877	0.1	0.46	4.6000E-04	0.000469674	2.10293977	2.10294	
8.61	344.26	0.6923	0.1	0.47	4.7000E-04	0.000482607	2.68242182	2.682422	
10.34	344.26	0.6927	0.1	0.4825	4.8250E-04	0.00048375	0.25914001	0.25914	
12.06	344.26	0.6944	0.1	0.495	4.9500E-04	0.000488641	-1.2846096	1.28461	
13.79	344.26	0.6967	0.1	0.506	5.0600E-04	0.000495345	-2.1057715	2.105771	
15.51	344.26	0.699	0.1	0.5175	5.1750E-04	0.00050215	-2.9662446	2.966245	
17.23	344.26	0.7014	0.1	0.528	5.2800E-04	0.00050936	-3.5302201	3.53022	
18.96	344.26	0.7038	0.1	0.54	5.4000E-04	0.000516686	-4.3174668	4.317467	
20.68	344.26	0.7062	0.1	0.55	5.5000E-04	0.000524128	-4.7040666	4.704067	
24.13	344.26	0.7086	0.1	0.5715	5.7150E-04	0.000531689	-6.9661282	6.966128	
27.57	344.26	0.7115	0.1	0.591	5.9100E-04	0.000540987	-8.4624707	8.462471	
31.02	344.26	0.7142	0.1	0.611	6.1100E-04	0.000549807	-10.015272	10.01527	
34.47	344.26	0.7169	0.1	0.631	6.3100E-04	0.000558787	-11.444173	11.44417	
41.36	344.26	0.7206	0.1	0.67	6.7000E-04	0.000571362	-14.722164	14.72216	
48.26	344.26	0.7244	0.1	0.7	7.0000E-04	0.000584607	-16.484763	16.48476	
55.15	344.26	0.728	0.1	0.735	7.3500E-04	0.000597474	-18.711053	18.71105	
62.05	344.26	0.7315	0.1	0.765	7.6500E-04	0.00061029	-20.223512	20.22351	
68.94	344.26	0.7352	0.1	0.796	7.9600E-04	0.000624178	-21.585722	21.58572	
5.51	344.26	0.669	0.2	0.3925	3.9250E-04	0.000436217	11.1380619	11.13806	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
6.89	344.26	0.6722	0.2	0.4	4.000E-04	0.000445276	11.3189082	11.31891	
8.61	344.26	0.6748	0.2	0.41	4.100E-04	0.00045279	10.4368002	10.4366	
10.34	344.26	0.6773	0.2	0.422	4.220E-04	0.000460149	9.04004337	9.040043	
12.06	344.26	0.6795	0.2	0.432	4.320E-04	0.000466735	8.04060284	8.040603	
13.79	344.26	0.6822	0.2	0.44	4.400E-04	0.000474963	7.94619662	7.946197	
15.51	344.26	0.6849	0.2	0.451	4.510E-04	0.000483354	7.17382308	7.173823	
17.23	344.26	0.6874	0.2	0.462	4.620E-04	0.000491272	6.3358501	6.33585	
18.96	344.26	0.6899	0.2	0.471	4.710E-04	0.000499335	6.01600426	6.016004	
20.68	344.26	0.6925	0.2	0.482	4.820E-04	0.00050788	5.36931799	5.369318	
24.13	344.26	0.6956	0.2	0.5	5.000E-04	0.000518284	3.65686548	3.656865	
27.57	344.26	0.6985	0.2	0.5175	5.175E-04	0.000528236	2.07453648	2.074536	
31.02	344.26	0.7016	0.2	0.535	5.350E-04	0.000539113	0.7688381	0.768838	
34.47	344.26	0.7045	0.2	0.555	5.550E-04	0.000549519	-0.9874862	0.987486	
41.36	344.26	0.7082	0.2	0.587	5.870E-04	0.000563129	-4.0665902	4.06659	
48.26	344.26	0.7128	0.2	0.619	6.190E-04	0.000580587	-6.2055921	6.205592	
55.15	344.26	0.7163	0.2	0.645	6.450E-04	0.000594285	-7.8628078	7.862808	
62.05	344.26	0.7205	0.2	0.675	6.750E-04	0.000611212	-9.4500569	9.450057	
68.94	344.26	0.7241	0.2	0.695	6.950E-04	0.000626162	-9.9047911	9.904791	
10.34	344.26	0.6556	0.3	0.36944	3.6944E-04	0.000408738	10.6372625	10.63726	
12.06	344.26	0.6584	0.3	0.37432	3.7432E-04	0.000416604	11.2862911	11.28629	
13.79	344.26	0.6616	0.3	0.38007	3.8007E-04	0.000425802	12.0325517	12.03255	
17.23	344.26	0.6671	0.3	0.40188	4.0188E-04	0.000442148	10.0199135	10.01991	
20.68	344.26	0.6719	0.3	0.41823	4.1823E-04	0.000456992	9.26804409	9.268044	
27.57	344.26	0.6788	0.3	0.44648	4.4648E-04	0.000479325	7.3563616	7.356362	
34.47	344.26	0.6855	0.3	0.4798	4.7980E-04	0.000502199	4.66841329	4.668413	
13.79	344.26	0.6373	0.4	0.3225	3.2250E-04	0.000357882	10.9711849	10.97118	
15.51	344.26	0.6403	0.4	0.3315	3.3150E-04	0.000365449	10.2410547	10.24105	
17.23	344.26	0.6431	0.4	0.3395	3.3950E-04	0.000372673	9.77103336	9.771033	
18.96	344.26	0.6454	0.4	0.3475	3.4750E-04	0.000378725	8.98575145	8.985751	
20.68	344.26	0.648	0.4	0.355	3.5500E-04	0.0003867	8.64798259	8.647983	
24.13	344.26	0.652	0.4	0.37	3.7000E-04	0.000396713	7.2197546	7.219755	
27.57	344.26	0.6561	0.4	0.385	3.8500E-04	0.000408368	6.06962608	6.069626	
31.02	344.26	0.6596	0.4	0.4	4.0000E-04	0.000418622	4.65550252	4.655503	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
34.47	344.26	0.6644	0.4	0.415	4.1500E-04	0.000433159	4.37558685	4.375587	
41.36	344.26	0.6692	0.4	0.444	4.4400E-04	0.000448267	0.96096149	0.960961	
48.26	344.26	0.6763	0.4	0.473	4.7300E-04	0.000471718	-0.27103	0.27103	
55.15	344.26	0.6816	0.4	0.5	5.0000E-04	0.000490131	-1.9738084	1.973808	
62.05	344.26	0.6873	0.4	0.53	5.3000E-04	0.00051085	-3.6131499	3.61315	
68.94	344.26	0.6922	0.4	0.5575	5.5750E-04	0.000529461	-5.029418	5.029418	
27.57	344.26	0.624	0.5	0.33075	3.3075E-04	0.000312526	-5.5098417	5.509842	
31.02	344.26	0.6296	0.5	0.3426	3.4260E-04	0.000324989	-5.1403294	5.140329	
34.47	344.26	0.6363	0.5	0.35686	3.5686E-04	0.000338242	-5.2172083	5.217208	
41.36	344.26	0.642	0.5	0.37883	3.7883E-04	0.000354592	-6.3982316	6.398232	
24.13	344.26	0.5805	0.6	0.2475	2.4750E-04	0.000215527	-12.918529	12.91853	
27.57	344.26	0.5853	0.6	0.26	2.6000E-04	0.000222574	-14.394699	14.3947	
31.02	344.26	0.5928	0.6	0.2725	2.7250E-04	0.000234087	-14.098447	14.09845	
34.47	344.26	0.5991	0.6	0.285	2.8500E-04	0.000244257	-14.295884	14.29588	
41.36	344.26	0.609	0.6	0.309	3.0900E-04	0.000261219	-15.46295	15.46295	
48.26	344.26	0.6171	0.6	0.3325	3.3250E-04	0.000276054	-16.976222	16.97622	
55.15	344.26	0.6244	0.6	0.356	3.5600E-04	0.000290215	-18.478827	18.47883	
62.05	344.26	0.6314	0.6	0.378	3.7800E-04	0.000304547	-19.432131	19.43213	
68.94	344.26	0.6371	0.6	0.4	4.0000E-04	0.000316792	-20.801938	20.80194	
31.02	344.26	0.5384	0.7	0.19775	1.9775E-04	0.000149971	-24.16139	24.16139	
34.47	344.26	0.5459	0.7	0.21325	2.1325E-04	0.000157327	-26.224077	26.22408	
41.36	344.26	0.5575	0.7	0.22754	2.2754E-04	0.000169466	-25.522671	25.52267	
48.26	344.26	0.5674	0.7	0.23188	2.3188E-04	0.000180612	-22.1098	22.1098	
34.47	344.26	0.4648	0.8	0.1365	1.3650E-04	8.90656E-05	-34.750445	34.75045	
41.36	344.26	0.48	0.8	0.1575	1.5750E-04	9.75763E-05	-38.04677	38.04677	
48.26	344.26	0.4939	0.8	0.175	1.7500E-04	0.000106102	-39.370112	39.37011	
55.15	344.26	0.5037	0.8	0.19	1.9000E-04	0.000112579	-40.747952	40.74795	
62.05	344.26	0.5136	0.8	0.206	2.0600E-04	0.000119543	-41.969274	41.96927	
68.94	344.26	0.5224	0.8	0.228	2.2800E-04	0.000126114	-44.686969	44.68697	
41.36	344.26	0.3679	0.9	0.076	7.6000E-05	5.15575E-05	-32.161234	32.16123	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
48.26	344.26	0.3652	0.9	0.092	9.2000E-05	5.68178E-05	-38.241561	38.24156	
55.15	344.26	0.4	0.9	0.108	1.0600E-04	6.17794E-05	-41.717574	41.71757	
62.05	344.26	0.414	0.9	0.118	1.1800E-04	6.69025E-05	-43.302955	43.30295	
68.94	344.26	0.4236	0.9	0.129	1.2900E-04	7.06766E-05	-45.211917	45.21192	
5.51	377.59	0.6593	0.1	0.332	3.3200E-04	0.000350955	5.70945544	5.709455	
6.89	377.59	0.6614	0.1	0.34	3.4000E-04	0.000355307	4.50193808	4.501938	
8.61	377.59	0.6635	0.1	0.349	3.4900E-04	0.000359716	3.07037134	3.070371	
10.34	377.59	0.6657	0.1	0.358	3.5800E-04	0.000364398	1.78703044	1.78703	
12.06	377.59	0.6678	0.1	0.367	3.6700E-04	0.000368928	0.52530165	0.525302	
13.79	377.59	0.67	0.1	0.376	3.7600E-04	0.000373739	-0.6013346	0.601335	
15.51	377.59	0.6721	0.1	0.384	3.8400E-04	0.000378395	-1.4597423	1.459742	
17.23	377.59	0.6743	0.1	0.393	3.9300E-04	0.000383339	-2.4582241	2.458224	
18.96	377.59	0.6743	0.1	0.402	4.0200E-04	0.000383339	-4.6419952	4.641995	
20.68	377.59	0.6787	0.1	0.411	4.1100E-04	0.00039344	-4.2726091	4.272609	
24.13	377.59	0.6809	0.1	0.428	4.2800E-04	0.000398598	-6.8696724	6.869672	
27.57	377.59	0.6854	0.1	0.445	4.4500E-04	0.00040938	-8.0045937	8.004594	
31.02	377.59	0.6877	0.1	0.462	4.6200E-04	0.000415013	-10.170388	10.17039	
34.47	377.59	0.6923	0.1	0.479	4.7900E-04	0.000426536	-10.952907	10.95291	
41.36	377.59	0.6978	0.1	0.51	5.1000E-04	0.000440776	-13.573305	13.57331	
48.26	377.59	0.7033	0.1	0.54	5.4000E-04	0.000455543	-15.640267	15.64027	
55.15	377.59	0.7083	0.1	0.57	5.7000E-04	0.000469443	-17.641635	17.64164	
62.05	377.59	0.7132	0.1	0.6	6.0000E-04	0.000483523	-19.4128	19.4128	
68.94	377.59	0.7176	0.1	0.628	6.2800E-04	0.000496569	-20.92854	20.92854	
6.89	377.59	0.6435	0.2	0.3	3.0000E-04	0.000339916	13.3052711	13.30527	
8.61	377.59	0.6469	0.2	0.308	3.0800E-04	0.000347329	12.7692591	12.76926	
10.34	377.59	0.6489	0.2	0.316	3.1600E-04	0.000351773	11.3204763	11.32048	
12.06	377.59	0.6505	0.2	0.3204	3.2040E-04	0.000355372	10.9151907	10.91519	
13.79	377.59	0.6532	0.2	0.332	3.3200E-04	0.000361539	8.89715091	8.897151	
15.51	377.59	0.6548	0.2	0.34	3.4000E-04	0.000365248	7.42589559	7.425896	
17.23	377.59	0.6568	0.2	0.347	3.4700E-04	0.000369944	6.61208758	6.612088	
18.96	377.59	0.6592	0.2	0.355	3.5500E-04	0.000375667	5.82170235	5.821702	
20.68	377.59	0.6617	0.2	0.362	3.6200E-04	0.000381733	5.4510222	5.451022	
24.13	377.59	0.6657	0.2	0.377	3.7700E-04	0.000391664	3.88972843	3.889728	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
27.57	377.59	0.6893	0.2	0.392	3.9200E-04	0.000400848	2.25712956	2.25713	
31.02	377.59	0.6734	0.2	0.408	4.0800E-04	0.0004116	0.88226532	0.882265	
34.47	377.59	0.6773	0.2	0.422	4.2200E-04	0.000422126	0.02977314	0.029773	
41.38	377.59	0.6842	0.2	0.451	4.5100E-04	0.000441493	-2.1079115	2.107912	
48.26	377.59	0.6902	0.2	0.48	4.8000E-04	0.000459147	-4.3444342	4.344434	
55.15	377.59	0.6956	0.2	0.509	5.0900E-04	0.000475716	-6.5391519	6.539152	
62.05	377.59	0.7005	0.2	0.539	5.3900E-04	0.000491336	-8.8430347	8.843035	
68.94	377.59	0.705	0.2	0.568	5.6800E-04	0.000506194	-10.881376	10.88138	
10.34	377.59	0.6258	0.3	0.28197	2.8197E-04	0.000316424	12.2191518	12.21915	
12.06	377.59	0.6289	0.3	0.28614	2.8614E-04	0.000323038	12.8952137	12.89521	
13.79	377.59	0.6313	0.3	0.29089	2.9089E-04	0.000328263	12.8479353	12.84794	
15.51	377.59	0.6339	0.3	0.29595	2.9595E-04	0.000334029	12.8667258	12.86673	
17.23	377.59	0.6368	0.3	0.30425	3.0425E-04	0.000340592	11.9448656	11.94487	
18.96	377.59	0.6388	0.3	0.30901	3.0901E-04	0.000345202	11.7121089	11.71211	
20.68	377.59	0.642	0.3	0.31626	3.1626E-04	0.000352721	11.5287494	11.52875	
24.13	377.59	0.6459	0.3	0.32658	3.2658E-04	0.000362131	10.8927904	10.89279	
27.57	377.59	0.6492	0.3	0.33889	3.3889E-04	0.000370313	9.27219339	9.272193	
31.02	377.59	0.6535	0.3	0.35018	3.5018E-04	0.000381283	8.88203137	8.882031	
34.47	377.59	0.6579	0.3	0.36514	3.6514E-04	0.000392886	7.59861343	7.598613	
13.79	377.59	0.605	0.4	0.244	2.4400E-04	0.000278117	13.9822476	13.98225	
15.51	377.59	0.6083	0.4	0.25	2.5000E-04	0.000284441	13.776543	13.77654	
17.23	377.59	0.6116	0.4	0.256	2.5600E-04	0.000290924	13.6421447	13.64214	
18.96	377.59	0.6152	0.4	0.262	2.6200E-04	0.000298181	13.8096135	13.80961	
20.68	377.59	0.618	0.4	0.268	2.6800E-04	0.000303963	13.4191654	13.41917	
24.13	377.59	0.6235	0.4	0.28	2.8000E-04	0.000315684	12.7443585	12.74436	
27.57	377.59	0.6275	0.4	0.292	2.9200E-04	0.000324522	11.137588	11.13759	
31.02	377.59	0.6321	0.4	0.305	3.0500E-04	0.000335025	9.84425904	9.844259	
34.47	377.59	0.6365	0.4	0.317	3.1700E-04	0.000345425	8.96699709	8.966997	
41.36	377.59	0.6443	0.4	0.342	3.4200E-04	0.000364757	6.653999	6.653999	
48.26	377.59	0.6508	0.4	0.365	3.6500E-04	0.00038179	4.60010407	4.600104	
55.15	377.59	0.6572	0.4	0.39	3.9000E-04	0.000399436	2.41957603	2.419578	
62.05	377.59	0.6635	0.4	0.415	4.1500E-04	0.000417705	0.6519001	0.6519	
68.94	377.59	0.6695	0.4	0.44	4.4000E-04	0.000435983	-0.9129692	0.912969	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
27.57	377.59	0.5952	0.5	0.26038	2.6038E-04	0.000253845	-2.5098154	2.509815	
31.02	377.59	0.6	0.5	0.27	2.7000E-04	0.000262308	-2.8487124	2.848712	
34.47	377.59	0.6055	0.5	0.27433	2.7433E-04	0.000272387	-0.7083195	0.70832	
41.36	377.59	0.6137	0.5	0.29591	2.9591E-04	0.000288209	-2.6025105	2.60251	
24.13	377.59	0.5441	0.6	0.186	1.8600E-04	0.000170643	-8.2564939	8.256494	
27.57	377.59	0.5519	0.6	0.1975	1.9750E-04	0.000179611	-9.0575946	9.057595	
31.02	377.59	0.5592	0.6	0.207	2.0700E-04	0.00018846	-8.9563633	8.956363	
34.47	377.59	0.5657	0.6	0.217	2.1700E-04	0.000196732	-9.3400189	9.34002	
41.36	377.59	0.5755	0.6	0.236	2.3600E-04	0.000209948	-11.038999	11.039	
48.26	377.59	0.5843	0.6	0.2545	2.5450E-04	0.000222631	-12.522058	12.52206	
55.15	377.59	0.5931	0.6	0.273	2.7300E-04	0.000236147	-13.499389	13.49939	
68.94	377.59	0.6083	0.6	0.311	3.1100E-04	0.000281637	-15.87247	15.87247	
34.47	377.59	0.5092	0.7	0.16848	1.6848E-04	0.000127434	-24.362738	24.36274	
41.36	377.59	0.5231	0.7	0.18294	1.8294E-04	0.000139069	-23.98136	23.98136	
48.26	377.59	0.5351	0.7	0.19712	1.9712E-04	0.000150013	-23.897608	23.89761	
34.47	377.59	0.427	0.8	0.109	1.0900E-04	7.38469E-05	-32.250593	32.25059	
41.36	377.59	0.4484	0.8	0.126	1.2600E-04	8.37496E-05	-33.532066	33.53207	
48.26	377.59	0.4641	0.8	0.1405	1.4050E-04	9.18956E-05	-34.593911	34.59391	
55.15	377.59	0.4755	0.8	0.154	1.5400E-04	9.83291E-05	-36.149915	36.14991	
62.05	377.59	0.4867	0.8	0.167	1.6700E-04	0.000105112	-37.058675	37.05868	
68.94	377.59	0.4969	0.8	0.178	1.7800E-04	0.00011718	-37.237104	37.2371	
41.36	377.59	0.3366	0.9	0.0675	6.7500E-05	4.57448E-05	-32.229983	32.22998	
48.26	377.59	0.3568	0.9	0.0805	8.0500E-05	5.1042E-05	-36.593757	36.59376	
55.15	377.59	0.3706	0.9	0.0915	9.1500E-05	5.5055E-05	-39.830595	39.83059	
62.05	377.59	0.3878	0.9	0.101	1.0100E-04	6.05516E-05	-40.047909	40.04791	
68.94	377.59	0.3996	0.9	0.11	1.1000E-04	6.46683E-05	-41.21064	41.21064	
5.51	410.93	0.6313	0.1	0.255	2.5500E-04	0.000273548	7.2738677	7.273868	
6.89	410.93	0.6332	0.1	0.261	2.6100E-04	0.000273548	4.80780177	4.807802	
8.61	410.93	0.6371	0.1	0.268	2.6800E-04	0.000276596	3.20732746	3.207327	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
10.34	410.93	0.639	0.1	0.276	2.7600E-04	0.000282863	2.52282832	2.522828	
12.06	410.93	0.643	0.1	0.284	2.8400E-04	0.000286121	0.74678463	0.746785	
13.79	410.93	0.645	0.1	0.29	2.9000E-04	0.000292891	0.99703905	0.997039	
15.51	410.93	0.647	0.1	0.297	2.9700E-04	0.00029634	-0.222173	0.222173	
17.23	410.93	0.649	0.1	0.303	3.0300E-04	0.000299832	-1.0455364	1.045536	
18.96	410.93	0.6511	0.1	0.31	3.1000E-04	0.000303368	-2.1394542	2.139454	
20.68	410.93	0.6531	0.1	0.317	3.1700E-04	0.000307128	-3.1141999	3.1142	
24.13	410.93	0.6572	0.1	0.33	3.3000E-04	0.000310755	-5.8316733	5.831673	
27.57	410.93	0.6614	0.1	0.343	3.4300E-04	0.000318336	-7.1907177	7.190718	
31.02	410.93	0.6657	0.1	0.357	3.5700E-04	0.000326307	-8.5974687	8.597469	
34.47	410.93	0.67	0.1	0.37	3.7000E-04	0.000334691	-9.5430005	9.543	
41.36	410.93	0.6765	0.1	0.397	3.9700E-04	0.000343308	-13.52452	13.52452	
48.26	410.93	0.6832	0.1	0.423	4.2300E-04	0.000356792	-15.651916	15.65192	
55.15	410.93	0.69	0.1	0.45	4.5000E-04	0.000371297	-17.489477	17.48948	
62.05	410.93	0.6946	0.1	0.477	4.7700E-04	0.00038668	-18.93494	18.93494	
68.94	410.93	0.7	0.1	0.504	5.0400E-04	0.000397483	-21.13442	21.13442	
6.89	410.93	0.6146	0.2	0.235	2.3500E-04	0.000268298	14.1694146	14.16941	
8.61	410.93	0.6167	0.2	0.242	2.4200E-04	0.000271849	12.3342007	12.3342	
10.34	410.93	0.6207	0.2	0.248	2.4800E-04	0.000278752	12.400155	12.40015	
12.06	410.93	0.6249	0.2	0.254	2.5400E-04	0.000286205	12.6791214	12.67912	
13.79	410.93	0.6274	0.2	0.26	2.6000E-04	0.000290743	11.8242291	11.82423	
15.51	410.93	0.6301	0.2	0.266	2.6600E-04	0.000295732	11.1773312	11.17733	
17.23	410.93	0.6325	0.2	0.272	2.7200E-04	0.000300244	10.3838519	10.38385	
18.96	410.93	0.6348	0.2	0.278	2.7800E-04	0.000304639	9.5822597	9.58226	
20.68	410.93	0.6372	0.2	0.283	2.8300E-04	0.000309299	9.29295782	9.292958	
24.13	410.93	0.642	0.2	0.296	2.9600E-04	0.000318855	7.72119237	7.721192	
27.57	410.93	0.646	0.2	0.308	3.0800E-04	0.000327064	6.18974357	6.189744	
31.02	410.93	0.6509	0.2	0.32	3.2000E-04	0.000337438	5.44952444	5.449524	
34.47	410.93	0.6557	0.2	0.332	3.3200E-04	0.000347952	4.80496895	4.804969	
41.36	410.93	0.6624	0.2	0.356	3.5600E-04	0.000363237	2.03295313	2.032953	
48.26	410.93	0.669	0.2	0.38	3.8000E-04	0.000379024	-0.2569095	0.256909	
55.15	410.93	0.6751	0.2	0.405	4.0500E-04	0.000394294	-2.6433787	2.643379	
62.05	410.93	0.6805	0.2	0.43	4.3000E-04	0.000408386	-5.0264372	5.026437	
68.94	410.93	0.6862	0.2	0.455	4.5500E-04	0.000423875	-6.8406138	6.840614	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
10.34	410.93	0.5963	0.3	0.21484	2.1484E-04	0.00025281	17.6737589	17.67376	
12.06	410.93	0.6008	0.3	0.22182	2.2182E-04	0.000260387	17.386746	17.38675	
13.79	410.93	0.6048	0.3	0.2265	2.2650E-04	0.000267329	18.0261032	18.0261	
15.51	410.93	0.6074	0.3	0.23141	2.3141E-04	0.000271949	17.5182242	17.51822	
17.23	410.93	0.6098	0.3	0.23669	2.3669E-04	0.000276291	15.7528597	15.75286	
18.96	410.93	0.6123	0.3	0.24175	2.4175E-04	0.000280893	16.1916852	16.19169	
20.68	410.93	0.615	0.3	0.24733	2.4733E-04	0.000285959	15.6182765	15.61828	
24.13	410.93	0.62	0.3	0.25677	2.5677E-04	0.000295605	15.1242539	15.12425	
27.57	410.93	0.6251	0.3	0.26769	2.6769E-04	0.000305812	14.2410748	14.24107	
13.79	410.93	0.5743	0.4	0.192	1.9200E-04	0.000223979	16.6555357	16.65554	
15.51	410.93	0.5791	0.4	0.198	1.9800E-04	0.000231288	16.8122869	16.81229	
17.23	410.93	0.5827	0.4	0.203	2.0300E-04	0.000236939	16.7189578	16.71896	
18.96	410.93	0.5867	0.4	0.208	2.0800E-04	0.000243394	17.016478	17.01648	
20.68	410.93	0.5902	0.4	0.212	2.1200E-04	0.000249199	17.5465728	17.54657	
24.13	410.93	0.5962	0.4	0.222	2.2200E-04	0.000259502	16.8929131	16.89291	
27.57	410.93	0.6021	0.4	0.232	2.3200E-04	0.000270088	16.4173737	16.41737	
31.02	410.93	0.6078	0.4	0.242	2.4200E-04	0.000280765	16.0186957	16.0187	
34.47	410.93	0.6131	0.4	0.252	2.5200E-04	0.000291109	15.5195077	15.51951	
41.36	410.93	0.6211	0.4	0.272	2.7200E-04	0.000307525	13.0607473	13.06075	
48.26	410.93	0.6291	0.4	0.292	2.9200E-04	0.000324969	11.2907052	11.29071	
55.15	410.93	0.6359	0.4	0.312	3.1200E-04	0.00034066	9.18585607	9.185856	
62.05	410.93	0.6429	0.4	0.332	3.3200E-04	0.000357697	7.74008514	7.740085	
68.94	410.93	0.6485	0.4	0.352	3.5200E-04	0.000372012	5.68515091	5.685151	
24.13	410.93	0.5614	0.5	0.19513	1.9513E-04	0.000203289	4.1812102	4.18121	
27.57	410.93	0.5682	0.5	0.20429	2.0429E-04	0.000212758	4.14507591	4.145076	
31.02	410.93	0.5744	0.5	0.21069	2.1069E-04	0.000203289	-3.5128409	3.512841	
34.47	410.93	0.5802	0.5	0.21811	2.1811E-04	0.000212758	-2.4536189	2.453819	
41.36	410.93	0.5894	0.5	0.23179	2.3179E-04	0.000245466	5.90012584	5.900126	
24.13	410.93	0.5127	0.6	0.15	1.5000E-04	0.000141808	-5.4611805	5.461181	
27.57	410.93	0.5219	0.6	0.1575	1.5750E-04	0.000150498	-4.445796	4.445796	
31.02	410.93	0.5305	0.6	0.1655	1.6550E-04	0.00015913	-3.84896	3.84896	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
34.47	410.93	0.5386	0.6	0.1735	1.7350E-04	0.000167741	-3.3194449	3.319445	
41.36	410.93	0.5502	0.6	0.19	1.9000E-04	0.000180946	-4.7655209	4.765521	
48.26	410.93	0.5609	0.6	0.207	2.0700E-04	0.000194113	-6.225756	6.225756	
55.15	410.93	0.5699	0.6	0.222	2.2200E-04	0.000205984	-7.2144011	7.214401	
62.05	410.93	0.5786	0.6	0.238	2.3800E-04	0.000218205	-8.3170873	8.317087	
68.94	410.93	0.5883	0.6	0.254	2.5400E-04	0.000229877	-9.5761635	9.576163	
31.02	410.93	0.4691	0.7	0.12956	1.2956E-04	0.000102352	-21.000679	21.00068	
34.47	410.93	0.479	0.7	0.13754	1.3754E-04	0.000108796	-20.898409	20.89841	
41.36	410.93	0.496	0.7	0.14956	1.4956E-04	0.000120874	-19.180453	19.18045	
48.26	410.93	0.5098	0.7	0.15543	1.5543E-04	0.000131711	-15.260155	15.26016	
31.02	410.93	0.3601	0.8	0.085	8.5000E-05	5.87402E-05	-30.893638	30.89384	
34.47	410.93	0.3941	0.8	0.093	9.3000E-05	6.3633E-05	-31.577378	31.57738	
41.36	410.93	0.4186	0.8	0.106	1.0600E-04	7.32749E-05	-30.872704	30.8727	
48.26	410.93	0.4368	0.8	0.118	1.1800E-04	8.14379E-05	-30.984828	30.98483	
55.15	410.93	0.4511	0.8	0.13	1.3000E-04	8.85258E-05	-31.90326	31.90326	
62.05	410.93	0.4628	0.8	0.142	1.4200E-04	9.48097E-05	-33.232594	33.23259	
68.94	410.93	0.4745	0.8	0.1525	1.5250E-04	0.000101567	-33.398657	33.39866	
41.36	410.93	0.308	0.9	0.06	6.0000E-05	4.15178E-05	-30.803654	30.80365	
48.26	410.93	0.3301	0.9	0.0705	7.0500E-05	4.65957E-05	-33.908849	33.90885	
55.15	410.93	0.3487	0.9	0.0805	8.0500E-05	5.14375E-05	-36.102438	36.10244	
62.05	410.93	0.3636	0.9	0.089	8.9000E-05	5.57326E-05	-37.379061	37.37906	
68.94	410.93	0.377	0.9	0.097	9.7000E-05	5.99417E-05	-38.204438	38.20444	
5.51	444.26	0.602	0.1	0.2	2.0000E-04	0.000218238	9.11883818	9.118838	
6.89	444.26	0.6055	0.1	0.208	2.0800E-04	0.00022271	7.07218604	7.072186	
8.61	444.26	0.609	0.1	0.214	2.1400E-04	0.000227278	6.20446273	6.204463	
10.34	444.26	0.6128	0.1	0.22	2.2000E-04	0.000232077	5.48953584	5.489536	
12.06	444.26	0.6163	0.1	0.226	2.2600E-04	0.00023712	4.92025349	4.920253	
13.79	444.26	0.62	0.1	0.232	2.3200E-04	0.000242277	4.42976742	4.429767	
15.51	444.26	0.6218	0.1	0.238	2.3800E-04	0.000244828	2.86904289	2.869043	
17.23	444.26	0.6256	0.1	0.243	2.4300E-04	0.000250307	3.00712122	3.007121	
18.96	444.26	0.6254	0.1	0.25	2.5000E-04	0.000250016	0.00630005	0.0063	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
20.68	444.26	0.6293	0.1	0.256	2.5600E-04	0.000255766	-0.09137	0.09137	
24.13	444.26	0.6351	0.1	0.268	2.6800E-04	0.000264577	-1.277121	1.277121	
27.57	444.26	0.639	0.1	0.279	2.7900E-04	0.000270682	-2.9812251	2.981225	
31.02	444.26	0.643	0.1	0.291	2.9100E-04	0.0002771	-4.7767444	4.776744	
34.47	444.26	0.649	0.1	0.3025	3.0250E-04	0.000287031	-5.1135669	5.113567	
41.36	444.26	0.6572	0.1	0.328	3.2800E-04	0.000301226	-8.1628792	8.162879	
48.28	444.26	0.6635	0.1	0.351	3.5100E-04	0.000312644	-10.927733	10.92773	
55.15	444.26	0.67	0.1	0.375	3.7500E-04	0.000324916	-13.355729	13.35573	
62.05	444.26	0.6765	0.1	0.4	4.0000E-04	0.000337713	-15.571744	15.57174	
68.94	444.26	0.6809	0.1	0.423	4.2300E-04	0.000346687	-18.040931	18.04093	
8.89	444.26	0.5822	0.2	0.188	1.8800E-04	0.000212669	13.1216136	13.12161	
8.61	444.26	0.5877	0.2	0.193	1.9300E-04	0.000220031	14.005685	14.00557	
10.34	444.26	0.5914	0.2	0.199	1.9900E-04	0.000225135	13.1329578	13.13296	
12.06	444.26	0.5951	0.2	0.204	2.0400E-04	0.000230364	12.923548	12.92355	
13.79	444.26	0.5989	0.2	0.209	2.0900E-04	0.000235869	12.8561572	12.85616	
15.51	444.26	0.6008	0.2	0.214	2.1400E-04	0.000238674	11.5300956	11.5301	
17.23	444.26	0.6047	0.2	0.219	2.1900E-04	0.000244544	11.6840321	11.66403	
18.96	444.26	0.6087	0.2	0.224	2.2400E-04	0.000250725	11.930901	11.9309	
20.68	444.26	0.6106	0.2	0.229	2.2900E-04	0.00025372	10.7946046	10.7946	
24.13	444.26	0.6167	0.2	0.24	2.4000E-04	0.000263596	9.83162807	9.831628	
27.57	444.26	0.6207	0.2	0.25	2.5000E-04	0.000270296	8.11859214	8.118592	
31.02	444.26	0.6261	0.2	0.26	2.6000E-04	0.000279636	7.55225508	7.552255	
34.47	444.26	0.6318	0.2	0.27	2.7000E-04	0.000289875	7.36112893	7.361129	
41.36	444.26	0.6416	0.2	0.29	2.9000E-04	0.000306447	6.36089077	6.360891	
48.26	444.26	0.6496	0.2	0.311	3.1100E-04	0.000324573	4.36441144	4.364411	
55.15	444.26	0.655	0.2	0.332	3.3200E-04	0.000335982	1.19934294	1.199343	
62.05	444.26	0.6599	0.2	0.352	3.5200E-04	0.000346717	-1.5007113	1.500711	
68.94	444.26	0.6662	0.2	0.373	3.7300E-04	0.000361082	-3.1951915	3.195191	
10.34	444.26	0.5831	0.3	0.173	1.7300E-04	0.000201466	16.4545509	16.45455	
12.06	444.26	0.5875	0.3	0.179	1.7900E-04	0.000207274	15.7956335	15.79563	
13.79	444.26	0.5737	0.3	0.184	1.8400E-04	0.000215762	17.2621616	17.26216	
15.51	444.26	0.5781	0.3	0.189	1.8900E-04	0.000222011	17.4661817	17.46618	
17.23	444.26	0.5817	0.3	0.194	1.9400E-04	0.000227268	17.1483688	17.14837	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
18.96	444.26	0.5838	0.3	0.2	2.0000E-04	0.000230396	15.1979188	15.19792	
20.68	444.26	0.5877	0.3	0.205	2.0500E-04	0.000236328	15.282187	15.28219	
24.13	444.26	0.5934	0.3	0.214	2.1400E-04	0.000245297	14.6249424	14.62494	
27.57	444.26	0.5987	0.3	0.224	2.2400E-04	0.000253988	13.378403	13.3784	
31.02	444.26	0.6048	0.3	0.233	2.3300E-04	0.00026436	13.4592307	13.45923	
34.47	444.26	0.6105	0.3	0.242	2.4200E-04	0.00027449	13.4256607	13.42566	
41.36	444.26	0.6219	0.3	0.26	2.6000E-04	0.000296046	13.8640321	13.86403	
48.26	444.26	0.63	0.3	0.277	2.7700E-04	0.00031249	12.8123842	12.81238	
55.15	444.26	0.6351	0.3	0.294	2.9400E-04	0.000323359	9.98602878	9.986029	
62.05	444.26	0.6402	0.3	0.309	3.0900E-04	0.000334647	8.29998403	8.299984	
68.94	444.26	0.6462	0.3	0.324	3.2400E-04	0.00034849	7.55853632	7.558536	
13.79	444.26	0.5401	0.4	0.16	1.6000E-04	0.00017934	12.0875419	12.08754	
15.51	444.26	0.547	0.4	0.164	1.6400E-04	0.000187672	14.4339901	14.43399	
17.23	444.26	0.5521	0.4	0.168	1.6800E-04	0.000194094	15.5321521	15.53215	
18.96	444.26	0.5552	0.4	0.172	1.7200E-04	0.000198112	15.1813518	15.18135	
20.68	444.26	0.5605	0.4	0.177	1.7700E-04	0.000205189	15.9257558	15.92576	
24.13	444.26	0.5694	0.4	0.183	1.8300E-04	0.000217689	18.955655	18.95565	
27.57	444.26	0.5754	0.4	0.192	1.9200E-04	0.000226577	18.0088331	18.00883	
31.02	444.26	0.5813	0.4	0.2	2.0000E-04	0.0002357	17.8500751	17.85008	
34.47	444.26	0.5874	0.4	0.209	2.0900E-04	0.000245553	17.4892433	17.48924	
41.36	444.26	0.5991	0.4	0.224	2.2400E-04	0.000265726	18.6278643	18.62786	
48.26	444.26	0.6078	0.4	0.24	2.4000E-04	0.0002819	17.4583483	17.45835	
55.15	444.26	0.6139	0.4	0.255	2.5500E-04	0.000293883	15.2483093	15.24831	
62.05	444.26	0.619	0.4	0.272	2.7200E-04	0.000304333	11.8869944	11.88699	
68.94	444.26	0.6248	0.4	0.285	2.8500E-04	0.000316717	11.1288123	11.12881	
18.96	444.26	0.5119	0.5	0.14116	1.4116E-04	0.000149007	5.55901062	5.559011	
20.68	444.26	0.5193	0.5	0.14495	1.4495E-04	0.0001564	7.8991003	7.8991	
24.13	444.26	0.5346	0.5	0.15264	1.5264E-04	0.000172841	13.2999217	13.29992	
27.57	444.26	0.5426	0.5	0.1597	1.5970E-04	0.00018232	14.164346	14.16435	
24.13	444.26	0.4811	0.6	0.125	1.2500E-04	0.000118889	-4.8691892	4.869189	
27.57	444.26	0.4941	0.6	0.1315	1.3150E-04	0.000129167	-1.7740047	1.774005	
31.02	444.26	0.502	0.6	0.1385	1.3850E-04	0.000135865	-1.9024495	1.90245	

[illegible]

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
NAPHTHALENE (1) - BENZENE (2)									
01236 Chatterji, A. C.; Bose, A. N.; J. Indian Chem. Soc., 25, 39-42(1948)									
P= 0.101 MPa									
<i>Naphthalene</i>									
	298.15	0.919520323	0.2476	0.8712	8.7120E-04	0.000860492	-1.2291261	1.229126	%AAD= 0.996204
	303.15	0.914842884	0.2476	0.8077	8.0770E-04	0.000804234	-0.4291503	0.42915	
	308.15	0.910129698	0.2476	0.7485	7.4850E-04	0.000752829	0.5783932	0.578393	
	313.15	0.905379635	0.2476	0.6983	6.9830E-04	0.000705782	1.07149735	1.071497	
	318.15	0.900591504	0.2476	0.654	6.5400E-04	0.000662654	1.32325681	1.323257	
	303.15	0.933305419	0.3592	0.9452	9.4520E-04	0.000915857	-3.1255562	3.125556	0.926285
	308.15	0.928750261	0.3592	0.8742	8.7420E-04	0.000858324	-1.8161151	1.816115	
	313.15	0.924160854	0.3592	0.8115	8.1150E-04	0.00080573	-0.7109703	0.71097	
	318.15	0.91953811	0.3592	0.7546	7.5460E-04	0.000757411	0.37247048	0.37247	
<i>Average Error for Temp.</i>								1.506276	

NAPHTHALENE (1) - BENZENE (2)									
01236 Bose, A. N.; J. Indian Chem. Soc., 25, 33-38(1948)									
P= 0.101 MPa									
<i>Naphthalene</i>									
	303.15	0.914842884	0.2476	0.8077	8.0770E-04	0.000804234	-0.4291503	0.42915	1.343156
	303.15	0.917717746	0.2644	0.8211	8.2110E-04	0.000821099	-6.938E-05	6.94E-05	
	303.15	0.929134393	0.3332	0.874	8.7400E-04	0.000889888	1.81784844	1.817848	
	303.15	0.933305419	0.3592	0.9452	9.4520E-04	0.000915857	-3.1255562	3.125556	
	318.15	0.900591504	0.2476	0.654	6.5400E-04	0.000662654	1.32325681	1.323257	
	318.15	0.903539346	0.2644	0.666	6.6600E-04	0.000676878	1.63334285	1.633343	1.714391
	318.15	0.915253401	0.3332	0.7066	7.0660E-04	0.000735326	4.06535277	4.065353	
	318.15	0.91953611	0.3592	0.7546	7.5460E-04	0.000757411	0.37247048	0.37247	
	318.15	0.928992208	0.4183	0.817	8.1700E-04	0.00080738	-1.177532	1.177532	
<i>Average Error for Temp.</i>								1.714391	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
NAPHTHALENE (1) - BENZENE (2)									
00824 Tamura, M.; Kurata, M.; Sala, S.; Bull. Chem. Soc. Jpn., 25(2), 124-126(1952)									
P= 0.101 MPa									
<i>Naphthalene</i>									
			0	(g/m s)					
298.15	0.873007427		0	0.602	6.0200E-04	0.000601895	-0.0174668	0.017467	
298.15	0.878769367		0.0282	0.6309	6.3090E-04	0.000630162	-0.1169175	0.116918	
298.15	0.886879629		0.069	0.6732	6.7320E-04	0.00067185	-0.2005448	0.200545	
298.15	0.890914946		0.0898	0.6932	6.9320E-04	0.000693405	0.02952786	0.029528	
298.15	0.899294902		0.1341	0.7423	7.4230E-04	0.000739839	-0.331473	0.331473	
298.15	0.903828568		0.1587	0.7733	7.7330E-04	0.000765859	-0.9822842	0.982284	
298.15	0.912816319		0.2089	0.833	8.3300E-04	0.00081925	-1.6506119	1.650612	
298.15	0.920491661		0.2533	0.8891	8.8910E-04	0.000866561	-2.5350657	2.535066	0.832346
303.15	0.867979124		0	0.5632	5.6320E-04	0.000562015	-0.210431	0.210431	
303.15	0.873781088		0.0282	0.5882	5.8820E-04	0.000588344	0.02440827	0.024408	
303.15	0.881949334		0.069	0.6269	6.2690E-04	0.000627237	0.05368244	0.053682	
303.15	0.886014219		0.0898	0.6448	6.4480E-04	0.000647377	0.39961947	0.399619	
303.15	0.894457103		0.1341	0.6897	6.8970E-04	0.0006900836	0.16467205	0.164672	
303.15	0.899023653		0.1587	0.7181	7.1810E-04	0.000715231	-0.3995289	0.399529	
303.15	0.908084398		0.2089	0.7723	7.7230E-04	0.000765391	-0.8945397	0.89454	
303.15	0.915822226		0.2533	0.8222	8.2220E-04	0.000809957	-1.4890576	1.489058	0.489358
313.15	0.85779985		0	0.4932	4.9320E-04	0.000492672	-0.1071267	0.107127	
313.15	0.863683245		0.0282	0.516	5.1600E-04	0.000515583	-0.0807322	0.080732	
313.15	0.871969587		0.069	0.5478	5.4780E-04	0.000549539	0.31745719	0.317457	
313.15	0.876094746		0.0898	0.5665	5.6650E-04	0.000567174	0.11904376	0.119044	
313.15	0.884666023		0.1341	0.6017	6.0170E-04	0.000605351	0.60669905	0.606699	
313.15	0.889303818		0.1587	0.6283	6.2830E-04	0.000626855	0.08855787	0.088558	
313.15	0.898509668		0.2089	0.6698	6.6980E-04	0.000671244	0.21551977	0.21552	
313.15	0.906375361		0.2533	0.72	7.2000E-04	0.000710884	-1.2661083	1.266108	0.364874
323.15	0.847448009		0	0.4344	4.3440E-04	0.00043488	0.11048292	0.110483	
323.15	0.853414783		0.0282	0.4564	4.5640E-04	0.000454897	-0.3292807	0.329281	
323.15	0.861822222		0.069	0.4838	4.8380E-04	0.000484656	0.17703108	0.177031	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
323.15	0.866009266		0.0898	0.4993	4.9930E-04	0.000500156	0.17153266	0.171533	
323.15	0.874712523		0.1341	0.529	5.2900E-04	0.000533814	0.9099982	0.909998	
323.15	0.879423646		0.1587	0.5509	5.5090E-04	0.000552836	0.35141081	0.351411	
323.15	0.886779034		0.2089	0.5871	5.8710E-04	0.000592248	0.87693557	0.876936	
323.15	0.896776898		0.2533	0.6319	6.3190E-04	0.000627618	-0.6777133	0.677713	0.499129
333.15	0.836911736		0	0.3652	3.6520E-04	0.00038638	0.30624164	0.306242	
333.15	0.842963976		0.0282	0.4059	4.0590E-04	0.000403934	-0.4843141	0.484314	
333.15	0.851495731		0.069	0.4294	4.2940E-04	0.000430112	0.16573044	0.16573	
333.15	0.855746385		0.0898	0.4418	4.4180E-04	0.000443784	0.44896321	0.448963	
333.15	0.864585483		0.1341	0.4695	4.6950E-04	0.00047356	0.86470687	0.864707	
333.15	0.869372177		0.1587	0.4925	4.9250E-04	0.000490442	-0.4178133	0.417813	
333.15	0.878881884		0.2089	0.5209	5.2090E-04	0.000525548	0.89221362	0.892214	
333.15	0.887015956		0.2533	0.5572	5.5720E-04	0.000557199	-0.0002258	0.000226	0.46771
Average Error for Temp.									

NAPHTHALENE (1) - BENZENE (2)
01141 Campbell, A. N.; Can. J. Res. Sect. B, 19, 143-149(1941)
P= 0.101 MPa

Naphthalene (g/m s)									
Naphthalene									
352.65	0.815783968	0	0.321	3.2100E-04	0.000312147	-2.7580822	2.758082		
352.65	0.826603343	0.0634	0.347	3.4700E-04	0.000343594	-0.9815958	0.981596		
352.65	0.843905054	0.1322	0.385	3.8500E-04	0.000379915	-1.3207457	1.320746		
352.65	0.856710836	0.2071	0.412	4.1200E-04	0.000421675	2.34823234	2.348232		
352.65	0.874038902	0.2889	0.462	4.6200E-04	0.00046941	1.60381451	1.603815		
352.65	0.889934658	0.3787	0.52	5.2000E-04	0.000523701	0.71181988	0.71182		
352.65	0.906408618	0.4776	0.59	5.9000E-04	0.000584951	-0.8558403	0.85584		
352.65	0.923499392	0.5871	0.662	6.6200E-04	0.000653594	-1.2698027	1.269803		
352.65	0.941256232	0.7091	0.765	7.6500E-04	0.000730188	-4.5505247	4.550525		
352.65	0.959709765	0.8458	0.837	8.3700E-04	0.000815705	-2.5442264	2.544226		
Average Error for Temp.									

NAPHTHALENE - BENZENE
1.798511
kij
Total Error for All Temps. 59.50164 0.984609 1.09604012
ljj

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
BENZENE (1) - o-XYLENE (2)									
01810 Mamedov, A. A.; Panchenkov, G. M.; Zh. Fiz. Khim., 29(7), 1204-1220(1955)									
P=	1 atm			%AAD= 20.46666					
Benzene									
(10-5 P)									
294.29	0.879017929		0	984	9.8400E-04	0.00072149	-26.677818	26.67782	
294.29	0.878864656		0.1	848	8.4800E-04	0.000683761	-19.36786	19.36786	
294.29	0.87868234		0.2	749	7.4900E-04	0.000664831	-11.237463	11.23746	
294.29	0.878500207		0.3	657	6.5700E-04	0.000656998	-0.0002485	0.000249	
294.29	0.878307394		0.4	583	5.8300E-04	0.000652146	11.860336	11.86034	
294.29	0.878102932		0.5	519	5.1900E-04	0.000643692	24.0253486	24.02535	
294.29	0.877885734		0.6	469	4.6900E-04	0.000629067	34.1293648	34.12936	
294.29	0.877654572		0.7	427	4.2700E-04	0.000611377	43.1797047	43.1797	
294.29	0.877408052		0.8	396	3.9600E-04	0.00059892	51.2424086	51.24241	24.38034
314.44	0.862515169		0	933	9.3300E-04	0.000574184	-38.458344	38.45834	
314.44	0.86205667		0.1	810	8.1000E-04	0.000551838	-31.871851	31.87185	
314.44	0.861571065		0.2	710	7.1000E-04	0.000542612	-23.575843	23.57584	
314.44	0.861059237		0.3	625	6.2500E-04	0.00054069	-13.48955	13.48955	
314.44	0.860517827		0.4	554	5.5400E-04	0.000539332	-2.6476512	2.647651	
314.44	0.859944195		0.5	493	4.9300E-04	0.000532756	8.06405086	8.064051	
314.44	0.859335373		0.6	447	4.4700E-04	0.000518509	15.9976466	15.99765	
314.44	0.858888024		0.7	405	4.0500E-04	0.000498995	23.2087254	23.20873	
314.44	0.857998369		0.8	379	3.7900E-04	0.000480953	26.900649	26.90065	18.2195
332.53	0.847316509		0	907	9.0700E-04	0.00047615	-47.502762	47.50276	
332.53	0.846572057		0.1	790	7.9000E-04	0.000463217	-41.364985	41.36498	
332.53	0.845787488		0.2	685	6.8500E-04	0.000460023	-32.843321	32.84332	
332.53	0.844959467		0.3	601	6.0100E-04	0.000461815	-23.158865	23.15887	
332.53	0.844084284		0.4	531	5.3100E-04	0.000462719	-12.859033	12.85903	
332.53	0.843157789		0.5	474	4.7400E-04	0.000457539	-3.4727453	3.472745	
332.53	0.842175335		0.6	428	4.2800E-04	0.000443978	3.73320379	3.733204	
332.53	0.841131693		0.7	389	3.8900E-04	0.000424012	9.000391	9.000391	
332.53	0.840020963		0.8	363	3.6300E-04	0.000403371	11.1215393	11.12154	17.19426

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	345.1	0.836522399	0	892	8.9200E-04	0.00042179	-52.714111	52.71411	
	345.1	0.835567449	0.1	762	7.6200E-04	0.000413706	-45.707912	45.70791	
	345.1	0.834561581	0.2	669	6.6900E-04	0.000413625	-38.172585	38.17258	
	345.1	0.833500611	0.3	585	5.8500E-04	0.000417316	-28.663856	28.66386	
	345.1	0.832379883	0.4	517	5.1700E-04	0.000419386	-18.88086	18.88086	
	345.1	0.831194204	0.5	461	4.6100E-04	0.000415005	-9.9772029	9.977203	
	345.1	0.829937757	0.6	415	4.1500E-04	0.000402002	-3.1321674	3.132167	
	345.1	0.828604013	0.7	377	3.7700E-04	0.000382132	1.36138705	1.361387	
	345.1	0.827185612	0.8	350	3.5000E-04	0.00036057	3.02003951	3.02004	18.6145
	358.29	0.824973014	0	879	8.7900E-04	0.000374043	-57.446751	57.44675	
	358.29	0.823784344	0.1	757	7.5700E-04	0.000369935	-51.131439	51.13144	
	358.29	0.822533064	0.2	658	6.5800E-04	0.000372385	-43.406574	43.40657	
	358.29	0.821214094	0.3	575	5.7500E-04	0.000377584	-34.333272	34.33327	
	358.29	0.819821788	0.4	506	5.0600E-04	0.000380573	-24.787892	24.78789	
	358.29	0.818349855	0.5	450	4.5000E-04	0.000376883	-16.24813	16.24813	
	358.29	0.816791263	0.6	406	4.0600E-04	0.000364488	-10.224639	10.22464	
	358.29	0.815138127	0.7	368	3.6800E-04	0.000344963	-6.2600025	6.260002	
	358.29	0.813381575	0.8	340	3.4000E-04	0.000322983	-5.0051428	5.005143	
Average Error for Temp.									
23.92464									
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1.155468									
l/lj									
1.221628									
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Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	283.15	0.879329451	0.5889	802	8.0200E-04	0.000789718	-1.531369	1.531369	8.075839
	293.15	0.870308657	0.5889	693	6.9300E-04	0.000689639	-0.4849283	0.484928	
	303.15	0.861164015	0.5889	607	6.0700E-04	0.000607	-4.719E-05	4.72E-05	
	313.15	0.851888227	0.5889	537	5.3700E-04	0.000538257	0.23410387	0.234104	
	323.15	0.842473267	0.5889	479	4.7900E-04	0.000480659	0.34634908	0.346349	
	333.15	0.832910271	0.5889	432	4.3200E-04	0.00043205	0.0115677	0.011568	
	343.15	0.823189407	0.5889	392	3.9200E-04	0.000390731	-0.3238354	0.323835	0.418886
	283.15	0.883630758	0.8176	766	7.6600E-04	0.000740843	-3.284251	3.284251	
	293.15	0.874185958	0.8176	660	6.6000E-04	0.000644785	-2.3052356	2.305236	
	303.15	0.864602709	0.8176	575	5.7500E-04	0.000565561	-1.6415916	1.641592	
	313.15	0.854872479	0.8176	512	5.1200E-04	0.000499738	-2.3949912	2.394991	
	323.15	0.84498585	0.8176	454	4.5400E-04	0.000444654	-2.0585931	2.058593	
	333.15	0.834932378	0.8176	408	4.0800E-04	0.000398229	-2.3949587	2.394959	
	343.15	0.824700438	0.8176	371	3.7100E-04	0.000358822	-3.2824541	3.282454	2.480296
	283.15	0.86557049	0.9057	756	7.5600E-04	0.000738976	-2.2518819	2.251882	
	293.15	0.875933377	0.9057	653	6.5300E-04	0.000641074	-1.8263233	1.826323	
	303.15	0.866151423	0.9057	563	5.6300E-04	0.000560456	-0.4519338	0.451934	
	313.15	0.856215572	0.9057	496	4.9600E-04	0.000493581	-0.4877372	0.487737	
	323.15	0.846115812	0.9057	441	4.4100E-04	0.000437709	-0.7462631	0.746263	
	333.15	0.835841034	0.9057	397	3.9700E-04	0.0003907	-1.5867834	1.586783	
	343.15	0.825378855	0.9057	359	3.5900E-04	0.000350872	-2.2639665	2.263966	1.373556
BENZENE - ISOPROPLBENZENE									
						<i>Average Error for Temp.</i>		<i>klj</i>	<i>llj</i>
						<i>Total Error for All Temps.</i>		1.062011	0.77567061

ETHYLBENZENE (1) - BENZENE (2)									
00769 Lutskil, A. E.; Obukhova, E. M.; Sidorov, I. A.; J. Gen. Chem. USSR, 28, 2423-2432(1958)									
P= 0.101 MPa									
				<i>Ethylbenzene</i>					
				(g/m s)					
298.15	0.873007427	0	0.602	6.0200E-04	0.000601895	-0.0174668	0.017467	%AAD= 0.962727	
298.15	0.871758776	0.1	0.599	5.9900E-04	0.000597289	-0.2856225	0.285623		

[illegible]

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
BENZENE (1) - ETHYLBENZENE (2)									
01788 Alrapetova, R. P.; Redkorebrova, N. T.; Zh. Obshch. Khim., 26, 668-672(1956)									
P= 0.101 MPa									
<i>Benzene</i>									
			0	0.6283	6.2830E-04	0.000660735	5.16238617	5.162386	
298.15		0.8635796		0.6185	6.1850E-04	0.000641762	3.76101167	3.761012	
298.15		0.86461544	0.145	0.6165	6.1650E-04	0.000633506	2.75851576	2.758516	
298.15		0.865144259	0.2147	0.6156	6.1560E-04	0.000624869	1.50569344	1.505693	
298.15		0.865774058	0.2942	0.6078	6.0780E-04	0.000613217	0.89129896	0.891299	
298.15		0.866822154	0.4187	0.6057	6.0570E-04	0.00060739	0.27896389	0.278964	
298.15		0.867499564	0.4944	0.6038	6.0380E-04	0.000601434	-0.3918289	0.391829	
298.15		0.868427886	0.5926	0.6029	6.0290E-04	0.000597574	-0.8834119	0.883412	
298.15		0.869395493	0.6887	0.6012	6.0120E-04	0.000595957	-0.8720636	0.872064	
298.15		0.870358821	0.7786	0.6006	6.0060E-04	0.000597114	-0.5804848	0.580485	
298.15		0.871684316	0.8938	0.6008	6.0080E-04	0.000599483	-0.2192833	0.219283	
298.15		0.872456734	0.9568	0.6029	6.0290E-04	0.000601895	-0.1667192	0.166719	1.214256
298.15		0.873007427	1						
<i>Benzene</i>									
318.15		0.846237099	0	0.5038	5.0380E-04	0.000528726	4.94752254	4.947523	
318.15		0.84694335	0.145	0.4939	4.9390E-04	0.000512328	3.73110911	3.731109	
318.15		0.847303709	0.2147	0.4912	4.9120E-04	0.000505016	2.81278712	2.812787	
318.15		0.847732704	0.2942	0.4912	4.9120E-04	0.000497191	1.21974902	1.219749	
318.15		0.848446206	0.4187	0.4812	4.8120E-04	0.00048617	1.03287255	1.032873	
318.15		0.848907074	0.4944	0.4774	4.7740E-04	0.000480291	0.80555686	0.805557	
318.15		0.849536306	0.5926	0.4737	4.7370E-04	0.000473706	0.0012158	0.001216	
318.15		0.850195806	0.6887	0.469	4.6900E-04	0.000468531	-0.1000711	0.100071	
318.15		0.850849954	0.7786	0.4657	4.6570E-04	0.000464967	-0.1573599	0.15736	
318.15		0.851749309	0.8938	0.4621	4.6210E-04	0.000462455	0.07679432	0.076794	
318.15		0.852273013	0.9568	0.4607	4.6070E-04	0.000462179	0.32109019	0.32109	
318.15		0.852646212	1	0.46	4.6000E-04	0.000462486	0.54045788	0.540458	1.005861
<i>Benzene</i>									
338.15		0.828417781	0	0.4128	4.1280E-04	0.000431564	4.54548329	4.545483	
338.15		0.828766339	0.145	0.4042	4.0420E-04	0.000417515	3.29410394	3.294104	
338.15		0.828944077	0.2147	0.4014	4.0140E-04	0.000411139	2.42635049	2.42635	
338.15		0.82915557	0.2942	0.3988	3.9880E-04	0.000404207	1.35579984	1.3558	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
338.15	0.829507089		0.4187	0.392	3.9200E-04	0.000394158	0.55048759	0.550488	
338.15	0.829733988		0.4944	0.3892	3.8920E-04	0.000388582	-0.1588403	0.15884	
338.15	0.830044563		0.5926	0.3842	3.8420E-04	0.000382019	-0.5675474	0.567547	
338.15	0.830367819		0.6887	0.3821	3.8210E-04	0.00037641	-1.4890671	1.489067	
338.15	0.830689181		0.7786	0.3761	3.7610E-04	0.000371977	-1.0963083	1.096308	
338.15	0.831130604		0.8938	0.3697	3.6970E-04	0.000367598	-0.5685537	0.568554	
338.15	0.831387435		0.9568	0.3661	3.6610E-04	0.000365898	-0.055312	0.055312	
338.15	0.831570362		1	0.3645	3.6450E-04	0.000365044	0.14921129	0.149211	1.156237
<i>Average Error for Temp.</i>									

ETHYLBENZENE (1) - BENZENE (2)

01797 Lutskil, A. E.; Obukhova, E. M.; Zh. Fiz. Khim., 31(8), 1693-1703(1957)

P= 0.101 MPa

		<i>Ethylbenzene</i>							
				(g/m s)					
298.15	0.870597014	0.2	0.601	6.0100E-04	0.000595884	-0.8512988	0.851299		
298.15	0.867550949	0.5	0.607	6.0700E-04	0.000607	-5.235E-05	5.23E-05		0.425676
323.15	0.846015893	0.2	0.443	4.4300E-04	0.00043802	-1.1241563	1.124156		
323.15	0.844201706	0.5	0.453	4.5300E-04	0.00045418	0.26046884	0.260469		0.692313
<i>Average Error for Temp.</i>									

BENZENE (1) - ETHYLBENZENE (2)

01810 Mamedov, A. A.; Panchenkov, G. M.; Zh. Fiz. Khim., 29(7), 1204-1220(1955)

P= 0.101 MPa

		<i>Benzene</i>							
				(g/m s)					
293.15	0.86967725	0.2323	0.657	6.5700E-04	0.000670839	2.10636383	2.106384		
303.15	0.86085594	0.2323	0.583	5.8300E-04	0.000595397	2.1263629	2.126363		
313.15	0.851914706	0.2323	0.521	5.2100E-04	0.000531518	2.01874071	2.018741		
323.15	0.842846658	0.2323	0.469	4.6900E-04	0.000477087	1.72424589	1.724246		
333.15	0.833644239	0.2323	0.427	4.2700E-04	0.000430423	0.80164927	0.801649		
343.15	0.824299127	0.2323	0.389	3.8900E-04	0.000390181	0.30350144	0.303501		1.513477
293.15	0.871832821	0.4707	0.646	6.4600E-04	0.000648308	0.35732974	0.35733		
303.15	0.862703351	0.4707	0.57	5.7000E-04	0.000573191	0.55974077	0.559741		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	313.15	0.853442562	0.4707	0.508	5.0800E-04	0.000509946	0.38299878	0.382999	
	323.15	0.8440425	0.4707	0.458	4.5600E-04	0.000456347	0.07603452	0.076035	
	333.15	0.83448439	0.4707	0.415	4.1500E-04	0.000410632	-1.052479	1.052479	
	343.15	0.824786519	0.4707	0.377	3.7700E-04	0.000371398	-1.4868778	1.486878	0.65241
	293.15	0.87254852	0.5427	0.644	6.4400E-04	0.000643605	-0.0613584	0.061358	
	303.15	0.863316463	0.5427	0.568	5.6800E-04	0.000568181	0.03178118	0.031781	
	313.15	0.853949384	0.5427	0.506	5.0600E-04	0.000504802	-0.2367624	0.236762	
	323.15	0.844438988	0.5427	0.453	4.5300E-04	0.000451191	-0.3993905	0.399391	
	333.15	0.834778113	0.5427	0.412	4.1200E-04	0.000405548	-1.5660964	1.566096	
	343.15	0.824950601	0.5427	0.372	3.7200E-04	0.000366441	-1.4942528	1.494253	0.631607
	293.15	0.874373398	0.7124	0.635	6.3500E-04	0.000637246	0.35377457	0.353775	
	303.15	0.864879155	0.7124	0.56	5.6000E-04	0.000560169	0.03013961	0.03014	
	313.15	0.855240631	0.7124	0.498	4.9800E-04	0.00049573	-0.4558174	0.455817	
	323.15	0.845448689	0.7124	0.443	4.4300E-04	0.000441489	-0.3411321	0.341132	
	333.15	0.835493216	0.7124	0.4	4.0000E-04	0.000395526	-1.1184718	1.118472	
	343.15	0.825362963	0.7124	0.365	3.6500E-04	0.000366322	-2.3774553	2.377455	0.779465
	293.15	0.876150152	0.8608	0.64	6.4000E-04	0.000638165	-0.2867845	0.286784	
	303.15	0.866399795	0.8608	0.581	5.6100E-04	0.000558339	-0.474248	0.474248	
	313.15	0.856496392	0.8608	0.493	4.9300E-04	0.000491938	-0.2154166	0.215417	
	323.15	0.846430031	0.8608	0.44	4.4000E-04	0.000436316	-0.8372792	0.837279	
	333.15	0.836189715	0.8608	0.396	3.9600E-04	0.000389405	-1.6654957	1.665496	
	343.15	0.825763194	0.8608	0.36	3.6000E-04	0.000349573	-2.896405	2.896405	1.082605
<i>Average Error for Temp.</i>									

ETHYLBENZENE (1) - BENZENE (2)

00769 Luts'kii, A. E.; Obukhova, E. M.; Sidorov, I. A.; J. Gen. Chem. USSR, 28, 2423-2432(1958)

P= 1 atm

Ethylbenzene (10-5 P)			
298.15	0.873007427	0	602
298.15	0.871756776	0.1	599
298.15	0.870597014	0.2	601

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
298.15	0.868500245	0.4	603	6.0300E-04	0.000601065	-0.3209681	0.320968		
298.15	0.867550949	0.5	607	6.0700E-04	0.000607	-5.236E-05	5.23E-05		
298.15	0.866659642	0.6	608	6.0800E-04	0.00061481	1.12002692	1.120027		
298.15	0.865030963	0.8	616	6.1600E-04	0.000635196	3.11630115	3.116301		
298.15	0.8635796	1	625	6.2500E-04	0.000660735	5.71764357	5.717644		0.949045
308.15	0.862910365	0	527	5.2700E-04	0.000525735	-0.2400113	0.240011		
308.15	0.861859493	0.1	528	5.2800E-04	0.000523719	-0.8107639	0.810764		
308.15	0.860881347	0.2	530	5.3000E-04	0.000524245	-1.0859353	1.085935		
308.15	0.85911499	0.4	535	5.3500E-04	0.000531672	-0.6220725	0.622073		
308.15	0.85831487	0.5	538	5.3800E-04	0.000538067	0.01251191	0.012512		
308.15	0.85756339	0.6	542	5.4200E-04	0.000545974	0.73313593	0.733136		
308.15	0.856189627	0.8	551	5.5100E-04	0.000565644	2.65769284	2.657693		
308.15	0.854964783	1	560	5.6000E-04	0.000589495	5.26696529	5.266965		0.987019
318.15	0.852646212	0	464	4.6400E-04	0.000462486	-0.3262702	0.32627		
318.15	0.851799805	0.1	468	4.6800E-04	0.000462391	-1.1984197	1.19842		
318.15	0.851011631	0.2	471	4.7100E-04	0.000464317	-1.4187931	1.418793		
318.15	0.849587491	0.4	477	4.7700E-04	0.000473261	-0.7839144	0.783914		
318.15	0.848942032	0.5	481	4.8100E-04	0.000479883	-0.2322756	0.232276		
318.15	0.848335609	0.6	484	4.8400E-04	0.000487722	0.76905976	0.76906		
318.15	0.847226516	0.8	492	4.9200E-04	0.000506525	2.95218592	2.952186		
318.15	0.846237099	1	502	5.0200E-04	0.000528726	5.3238284	5.323828		1.225775
323.15	0.847448009	0	436	4.3600E-04	0.00043488	-0.256895	0.256895		
323.15	0.846706522	0.1	440	4.4000E-04	0.000435549	-1.0116167	1.011617		
323.15	0.846015893	0.2	443	4.4300E-04	0.00043802	-1.1241563	1.124156		
323.15	0.84476762	0.4	449	4.4900E-04	0.00044751	-0.3318195	0.331819		
323.15	0.844201706	0.5	453	4.5300E-04	0.00045418	0.26046884	0.260469		
323.15	0.843669925	0.6	456	4.5600E-04	0.000461942	1.30306781	1.303068		
323.15	0.842697112	0.8	466	4.6600E-04	0.000480276	3.06343427	3.063434		
323.15	0.841829016	1	474	4.7400E-04	0.000501673	5.83626698	5.836267		1.182427

BENZENE (1) - ETHYLBENZENE (2)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%D	%AD	%AAD
01786 Alrapetova, R. P.; Redkorebrova, N. T.; Zh. Obshch. Khim., 26, 668-672(1956)									
P= 1 atm									
Benzene									
(10-4 N s/m2)									
298.15	0.8635796		0	6.283	6.2830E-04	0.000660735	5.16238617	5.162386	
298.15	0.86461544		0.145	6.185	6.1850E-04	0.000641762	3.76101167	3.761012	
298.15	0.865144259		0.2147	6.165	6.1650E-04	0.000633506	2.75851576	2.758516	
298.15	0.865774058		0.2942	6.156	6.1560E-04	0.000624869	1.50569344	1.505693	
298.15	0.866822154		0.4187	6.078	6.0780E-04	0.000613217	0.89129896	0.891299	
298.15	0.867499554		0.4944	6.057	6.0570E-04	0.00060739	0.27896389	0.278964	
298.15	0.868427886		0.5926	6.038	6.0380E-04	0.000601434	-0.3918289	0.391829	
298.15	0.869395493		0.6887	6.029	6.0290E-04	0.000597574	-0.8834119	0.883412	
298.15	0.870358821		0.7786	6.012	6.0120E-04	0.000595957	-0.8720636	0.872064	
298.15	0.871684316		0.8938	6.006	6.0060E-04	0.000597114	-0.5804848	0.580485	
298.15	0.872456734		0.9568	6.008	6.0080E-04	0.000599483	-0.2192833	0.219283	
298.15	0.873007427		1	6.029	6.0290E-04	0.000601895	-0.1667192	0.166719	1.214256
318.15	0.846237099		0	5.038	5.0380E-04	0.000528726	4.94752254	4.947523	
318.15	0.84694335		0.145	4.939	4.9390E-04	0.000512328	3.73110911	3.731109	
318.15	0.847303709		0.2147	4.912	4.9120E-04	0.000505016	2.81278712	2.812787	
318.15	0.847732704		0.2942	4.912	4.9120E-04	0.000497191	1.21974902	1.219749	
318.15	0.848446206		0.4187	4.812	4.8120E-04	0.00048617	1.03287255	1.032873	
318.15	0.848907074		0.4944	4.774	4.7740E-04	0.000480291	0.60555686	0.605557	
318.15	0.849538306		0.5926	4.737	4.7370E-04	0.000473706	0.0012158	0.001216	
318.15	0.850195806		0.6887	4.69	4.6900E-04	0.000468531	-0.1000711	0.100071	
318.15	0.850849954		0.7786	4.657	4.6570E-04	0.000464967	-0.1573599	0.15736	
318.15	0.851749309		0.8938	4.621	4.6210E-04	0.000462455	0.07679432	0.076794	
318.15	0.852273013		0.9568	4.607	4.6070E-04	0.000462179	0.32109019	0.32109	
318.15	0.852646212		1	4.6	4.6000E-04	0.000462486	0.54045788	0.540458	1.005861
338.15	0.828417781		0	4.128	4.1280E-04	0.000431564	4.54548329	4.545483	
338.15	0.828766339		0.145	4.042	4.0420E-04	0.000417515	3.29410394	3.294104	
338.15	0.828944077		0.2147	4.014	4.0140E-04	0.000411139	2.42635049	2.42635	
338.15	0.82915557		0.2942	3.988	3.9880E-04	0.000404207	1.35579984	1.3558	
338.15	0.829507089		0.4187	3.92	3.9200E-04	0.000394158	0.55048759	0.550488	
338.15	0.829733988		0.4944	3.892	3.8920E-04	0.000388562	-0.1588403	0.15884	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
338.15	0.830044563		0.5928	3.842	3.8420E-04	0.000382019	-0.5675474	0.567547	
338.15	0.830367819		0.6887	3.821	3.8210E-04	0.00037641	-1.4890671	1.489067	
338.15	0.830689181		0.7786	3.761	3.7610E-04	0.000371977	-1.0963083	1.096308	
338.15	0.831130604		0.8938	3.697	3.6970E-04	0.000367598	-0.5685537	0.568554	
338.15	0.831387435		0.9568	3.661	3.6610E-04	0.000365898	-0.055312	0.055312	
338.15	0.831570362		1	3.645	3.6450E-04	0.000365044	0.14921129	0.149211	1.156237

ETHYLBENZENE (1) - BENZENE (2)

01797 Lutskil, A. E.; Obukhova, E. M.; Zh. Fiz. Khim., 31(8), 1693-1703(1957)

P= 1 atm

Ethylbenzene (10-3 mN s/m2)

298.15	0.870597014	0.2	601	6.0100E-04	0.000595884	-0.8512988	0.851299		
298.15	0.867550949	0.5	607	6.0700E-04	0.000607	-5.235E-05	5.23E-05	0.425676	
323.15	0.846015893	0.2	443	4.4300E-04	0.00043802	-1.1241563	1.124156		
323.15	0.844201706	0.5	453	4.5300E-04	0.00045418	0.26046884	0.260469	0.692313	

BENZENE (1) - ETHYLBENZENE (2)

01810 Mamedov, A. A.; Panchenkov, G. M.; Zh. Fiz. Khim., 29(7), 1204-1220(1955)

P= 1 atm

Benzene (10-5 P)

293.15	0.86967725	0.2323	657	6.5700E-04	0.000670839	2.10836383	2.108364		
303.15	0.86085594	0.2323	583	5.8300E-04	0.000595397	2.1263629	2.126363		
313.15	0.851914706	0.2323	521	5.2100E-04	0.000531518	2.01874071	2.018741		
323.15	0.842846658	0.2323	469	4.6900E-04	0.000477087	1.72424589	1.724246		
333.15	0.833644239	0.2323	427	4.2700E-04	0.000430423	0.80164927	0.801649		
343.15	0.824299127	0.2323	389	3.8900E-04	0.000390181	0.30350144	0.303501	1.513477	
293.15	0.871832821	0.4707	646	6.4600E-04	0.000648308	0.35732974	0.35733		
303.15	0.862703351	0.4707	570	5.7000E-04	0.000573191	0.55974077	0.559741		
313.15	0.853442562	0.4707	508	5.0800E-04	0.000509946	0.38299878	0.382999		
323.15	0.8440425	0.4707	456	4.5600E-04	0.000456347	0.07603452	0.076035		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
333.15	0.83449439	0.4707	415	4.1500E-04	0.000410632	-1.052479	1.052479		
343.15	0.824788519	0.4707	377	3.7700E-04	0.000371398	-1.4858778	1.485878		0.65241
293.15	0.87254852	0.5427	644	6.4400E-04	0.000643605	-0.0613584	0.061358		
303.15	0.863316463	0.5427	568	5.6800E-04	0.000568181	0.03178118	0.031781		
313.15	0.853949384	0.5427	506	5.0600E-04	0.000504802	-0.2367624	0.236762		
323.15	0.844438988	0.5427	453	4.5300E-04	0.000451191	-0.3993905	0.399391		
333.15	0.834778113	0.5427	412	4.1200E-04	0.000405548	-1.5660984	1.566096		
343.15	0.824950601	0.5427	372	3.7200E-04	0.000366441	-1.4942528	1.494253		0.631607
293.15	0.874373398	0.7124	635	6.3500E-04	0.000637246	0.35377457	0.353775		
303.15	0.864879155	0.7124	560	5.6000E-04	0.000560169	0.03013961	0.03014		
313.15	0.855240631	0.7124	498	4.9800E-04	0.00049573	-0.4558174	0.455817		
323.15	0.845448689	0.7124	443	4.4300E-04	0.000441489	-0.3411321	0.341132		
333.15	0.835493216	0.7124	400	4.0000E-04	0.000395526	-1.1184718	1.118472		
343.15	0.825362983	0.7124	365	3.6500E-04	0.000356322	-2.3774553	2.377455		0.779465
293.15	0.876150152	0.8608	640	6.4000E-04	0.000638165	-0.2667845	0.266784		
303.15	0.866399795	0.8608	561	5.6100E-04	0.000568339	-0.474248	0.474248		
313.15	0.856496392	0.8608	493	4.9300E-04	0.000491938	-0.2154166	0.215417		
323.15	0.846430031	0.8608	440	4.4000E-04	0.000436316	-0.8372792	0.837279		
333.15	0.836189715	0.8608	396	3.9600E-04	0.000389405	-1.6654957	1.665496		
343.15	0.825763194	0.8608	360	3.6000E-04	0.000349573	-2.896405	2.896405		1.062605
ETHYLBENZENE - BENZENE									
							<i>k</i> / <i>J</i>	<i>h</i> / <i>J</i>	
BENZENE (1) - p-XYLENE (2)							Total Error for All Temps.		
00370 Manjeshwar, L. S.; Aminabhavi, T. M.; J. Chem. Eng. Data, 32(4), 409-412(1987)							179.805	1.020542	0.93030963
P= 1 atm									
Benzene									
(cP)									
318.15	0.839742363	0	0.49188	4.9188E-04	0.000478208	-2.7796286	2.779629	%AAD=	
318.15	0.841697401	0.1977	0.48564	4.8564E-04	0.000478409	-1.4890421	1.489042		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%D	%AD	%AAD
318.15	0.843669582	0.3756	0.4775	4.7750E-04	0.000477428	-0.0149959	0.014996		
318.15	0.846224324	0.5821	0.47391	4.7391E-04	0.000473135	-0.1635177	0.163518		
318.15	0.848157108	0.7212	0.47199	4.7199E-04	0.000468662	-0.7050092	0.705009		
318.15	0.850736478	0.8882	0.47179	4.7179E-04	0.000463759	-1.7023048	1.702305		
318.15	0.852646212	1	0.47653	4.7653E-04	0.000462486	-2.9471164	2.947116		0.814974

BENZENE (1) - p-XYLENE (2)

01810 Mamedov, A. A.; Panchenkov, G. M.; Zh. Fiz. Khim., 29(7), 1204-1220(1955)

P= 1 atm

Benzene									
(10-5 P)									
283.15	0.872306218	0.2202	719	7.1900E-04	0.000712238	-0.9404121	0.940412		
293.15	0.863775574	0.2202	631	6.3100E-04	0.000630998	-0.0003157	0.000316		
303.15	0.855130482	0.2202	557	5.5700E-04	0.000562448	0.97811487	0.978115		
313.15	0.846364619	0.2202	497	4.9700E-04	0.000504225	1.45378152	1.453782		
323.15	0.837471073	0.2202	450	4.5000E-04	0.000454461	0.9912344	0.991234		
333.15	0.82844226	0.2202	400	4.0000E-04	0.000411664	2.91601226	2.916012		
343.15	0.819289834	0.2202	369	3.6900E-04	0.00037464	1.52832006	1.52832		
353.15	0.809844571	0.2202	351	3.5100E-04	0.00034242	-2.4444948	2.444495		1.406586
283.15	0.875559061	0.42	720	7.2000E-04	0.000714028	-0.8294717	0.829472		
293.15	0.866752521	0.42	623	6.2300E-04	0.000631311	1.33398256	1.333983		
303.15	0.857823172	0.42	550	5.5000E-04	0.000561758	2.13773944	2.137739		
313.15	0.84876393	0.42	493	4.9300E-04	0.000502881	2.00423786	2.004238		
323.15	0.839567019	0.42	447	4.4700E-04	0.000452717	1.27898644	1.278986		
333.15	0.83022387	0.42	398	3.9800E-04	0.000409704	2.94075159	2.940752		
343.15	0.820725007	0.42	365	3.6500E-04	0.000372591	2.07975933	2.079759		
353.15	0.811059902	0.42	345	3.4500E-04	0.000340369	-1.3422932	1.342293		1.743403
283.15	0.861709131	0.7393	715	7.1500E-04	0.000721952	0.9722791	0.972279		
293.15	0.872376383	0.7393	627	6.2700E-04	0.000632424	0.86508628	0.865086		
303.15	0.862905677	0.7393	550	5.5000E-04	0.000557924	1.44070869	1.440709		
313.15	0.853288585	0.7393	490	4.9000E-04	0.000495492	1.12073469	1.120735		
323.15	0.843515809	0.7393	442	4.4200E-04	0.000442813	0.18382868	0.183829		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
333.15	0.83357705	0.7393	392	3.9200E-04	0.000398062	1.54649863	1.546499		
343.15	0.823460851	0.7393	359	3.5900E-04	0.000359793	0.2207559	0.220756		
353.15	0.813154409	0.7393	336	3.3600E-04	0.000326846	-2.724492	2.724492		1.134298
283.15	0.883505104	0.8207	722	7.2200E-04	0.00072688	0.67589564	0.675898		
293.15	0.874017561	0.8207	628	6.2800E-04	0.000634352	1.01151148	1.011511		
303.15	0.864367802	0.8207	553	5.5300E-04	0.000557632	0.83753375	0.837534		
313.15	0.854607028	0.8207	485	4.8500E-04	0.000493563	1.7655612	1.765561		
323.15	0.844665522	0.8207	435	4.3500E-04	0.000439688	1.07764477	1.077645		
333.15	0.834552514	0.8207	387	3.8700E-04	0.000394074	1.82799555	1.827996		
343.15	0.824256006	0.8207	351	3.5100E-04	0.000355194	1.19491028	1.19491		
353.15	0.813762576	0.8207	330	3.3000E-04	0.000321829	-2.4760213	2.476021		1.358384

p-XYLENE (1) - BENZENE (2)

02506 Ruiz, E.; Uribe, J. S.; Santafo, J.; Gutierrez, C.; Bull. Soc.Chim.Fr., 3, 304-8(1989)

P= 1 atm

		<i>p</i> -Xylene		(10+3 kg/m s)					
303	0.868130556	0	0.5553	5.5530E-04	0.000553157	1.41487901	1.414879		
303	0.866061516	0.1002	0.5613	5.6130E-04	0.00055956	-0.3100685	0.310068		
303	0.864114384	0.2018	0.5603	5.6030E-04	0.000558661	-0.2926036	0.292604		
303	0.86234115	0.3012	0.5605	5.6050E-04	0.000559349	-0.2054063	0.205406		
303	0.86074325	0.397	0.5611	5.6110E-04	0.000560615	-0.0863759	0.086376		
303	0.859160915	0.4983	0.5617	5.6170E-04	0.000561935	0.04190358	0.041904		
303	0.857731096	0.5959	0.5628	5.6280E-04	0.000562831	0.00543501	0.005435		
303	0.856292455	0.7005	0.5641	5.6410E-04	0.00056329	-0.1435888	0.143589		
303	0.854982144	0.8019	0.5666	5.6660E-04	0.000563408	-0.5632955	0.563296		
303	0.853800842	0.8988	0.5684	5.6840E-04	0.000563523	-0.8579804	0.85798		
303	0.852634907	1	0.576	5.7600E-04	0.000564009	-2.0817141	2.081714		0.278517
313	0.857953786	0	0.4927	4.9270E-04	0.00049362	0.18674552	0.186746		
313	0.856114183	0.1002	0.4975	4.9750E-04	0.000493305	-0.8431494	0.843149		
313	0.854382163	0.2018	0.4982	4.9820E-04	0.000494916	-0.6591279	0.659128		
313	0.85280415	0.3012	0.4993	4.9930E-04	0.000497435	-0.3735669	0.373567		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
313	0.851381611		0.397	0.502	5.0200E-04	0.000500011	-0.3961648	0.396165	
313	0.849972409		0.4983	0.5024	5.0240E-04	0.000502337	-0.0126056	0.012606	
313	0.848698592		0.5959	0.5039	5.0390E-04	0.0005039	1.4371E-05	1.44E-05	
313	0.847416488		0.7005	0.5071	5.0710E-04	0.00050479	-0.4555463	0.455546	
313	0.846248379		0.8019	0.509	5.0900E-04	0.000505054	-0.775193	0.775193	
313	0.845194973		0.8988	0.5122	5.1220E-04	0.000505048	-1.3962749	1.396275	
313	0.844154988		1	0.5157	5.1570E-04	0.000505113	-2.0530176	2.053018	0.545738
323	0.847604618		0	0.4346	4.3460E-04	0.000435673	0.2469383	0.246938	
323	0.846001182		0.1002	0.4435	4.4350E-04	0.000437804	-1.2843572	1.284357	
323	0.844490777		0.2018	0.4443	4.4430E-04	0.000441266	-0.6827829	0.682783	
323	0.843114047		0.3012	0.4462	4.4620E-04	0.000445117	-0.2426976	0.242698	
323	0.841872447		0.397	0.4502	4.5020E-04	0.000448631	-0.348503	0.348503	
323	0.840642008		0.4983	0.4513	4.5130E-04	0.000451661	0.07998316	0.079983	
323	0.839529369		0.5959	0.4527	4.5270E-04	0.000453678	0.21612573	0.216126	
323	0.838409097		0.7005	0.4554	4.5540E-04	0.000454843	-0.1224032	0.122403	
323	0.837388087		0.8019	0.4585	4.5850E-04	0.000455171	-0.7259859	0.725986	
323	0.836467054		0.8988	0.4598	4.5960E-04	0.000455033	-0.9937075	0.993708	
323	0.835557493		1	0.4647	4.6470E-04	0.000454738	-2.1436871	2.143687	0.521838

p-XYLENE - BENZENE

Total Error for All Temps. k_{ij} l_{ij}
1.060824 0.84413579

2,4-DIMETHYLPENTANE (1) - BENZENE (2)

00843 Trevo, D. J.; Drickamer, H. G.; J. Chem. Phys., 17(6), 582-583(1949)

P= 1 atm

		2,4-Dimethylpenta (cP)		%AAD=
298	0.744673262	0.5	0.00038251	0.00269232
318	0.726312695	0.5	0.00031119	-0.8948662
335.8	0.709314291	0.5	0.0002641	-0.0001189
298	0.688042455	1	0.000368608	8.70199849
318	0.651037541	1	0.000295511	5.12684217

0.299226

0.299226

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
335.8	0.635236885		1	0.2377	2.3770E-04	0.000247447	4.10059984	4.1006	
2,4-DIMETHYLPENTANE - BENZENE							<i>Average Error for Temp.</i>		
							<i>kij</i>	<i>lij</i>	
<i>Total Error for All Temps.</i>							0.897679	1.0555	0.75791683

n-HEXANE (1) - BENZENE (2)									
01213 Lulskii, A. E.; Obukhova, E. M.; J. Gen. Chem. USSR, 31(8), 2522-2527(1961)									
P=	1 atm								
<i>n-Hexane</i>				(10-4 Pa.s)					
298.15	0.873007427		0	6.01	6.0100E-04	0.000601895	0.14889349	0.148893	
298.15	0.814750864		0.2	4.69	4.6900E-04	0.0004697	0.14932231	0.149322	
298.15	0.765661976		0.4	4	4.0000E-04	0.000391979	-2.0051738	2.005174	
298.15	0.743939655		0.5	3.77	3.7700E-04	0.000365819	-2.9657479	2.965748	
298.15	0.723766574		0.6	3.59	3.5900E-04	0.00034569	-3.7075539	3.707554	
298.15	0.687598623		0.8	3.34	3.3400E-04	0.000318983	-4.4962363	4.496236	
298.15	0.656026202		1	3.16	3.1600E-04	0.00030543	-3.3448971	3.344897	
<i>Average Error for Temp.</i>							%AAD= 3.906461		

n-HEXANE (1) - BENZENE (2)									
00322 Konobeev, B. I.; Lyapin, V. V.; J. Appl. Chem. USSR, 43(4), 806-813(1970)									
P=	1 atm								
<i>n-Hexane</i>				(10-6 N s/m2)					
293.15	0.87799651		0	649	6.4900E-04	0.000645812	-0.4911993	0.491199	
293.15	0.822328974		0.19	494	4.9400E-04	0.00050644	2.51817267	2.518173	
293.15	0.820718323		0.196	490	4.9000E-04	0.000503102	2.67395857	2.673959	
293.15	0.779917127		0.359	412	4.1200E-04	0.000429871	4.33768541	4.337685	
293.15	0.734579347		0.569	363	3.6300E-04	0.000371334	2.29597436	2.295974	
293.15	0.73418128		0.571	359	3.5900E-04	0.000370917	3.31947344	3.319473	
293.15	0.69490051		0.784	326	3.2600E-04	0.000337458	3.51461216	3.514612	
293.15	0.660502562		1	309	3.0900E-04	0.000320499	3.72150629	3.721506	
							3.109979		
313.15	0.85779985		0	491	4.9100E-04	0.000492672	0.34045848	0.340458	
313.15	0.802453118		0.19	392	3.9200E-04	0.000395079	0.78536692	0.785367	
313.15	0.800853716		0.196	390	3.9000E-04	0.000392733	0.7008122	0.700812	

[illegible]

n-HEXANE (1) - BENZENE (2)

00402 Awwad, A. M.; Al-Azzawi, S. F.; Salman, M. A.; Fluid Phase Equilib., 31, 171-182(1986)

$P = 1 \text{ atm}$

<i>n</i> -Hexane		(cP)					
298.15	0.873007427	0	0.6108	6.1080E-04	0.000601895	-1.4578486	1.457949
298.15	0.856260784	0.05393	0.5662	5.6620E-04	0.000556835	-1.3007124	1.300712
298.15	0.839037642	0.11224	0.5225	5.2250E-04	0.000518986	-0.6724544	0.672454
298.15	0.812640385	0.20795	0.472	4.7200E-04	0.000465778	-1.3182328	1.318233
298.15	0.786878293	0.30955	0.4294	4.2940E-04	0.000422212	-1.6738708	1.673871
298.15	0.761275296	0.41965	0.3921	3.9210E-04	0.000386291	-1.4813997	1.4814
298.15	0.743853806	0.50041	0.3712	3.7120E-04	0.000365725	-1.4748788	1.474879
298.15	0.725069213	0.59341	0.3533	3.5330E-04	0.000346857	-1.8237202	1.82372
298.15	0.707651948	0.6857	0.3394	3.3940E-04	0.000332308	-2.0894858	2.089486
298.15	0.68908654	0.79132	0.3268	3.2680E-04	0.000319834	-2.1314284	2.131428
298.15	0.673918159	0.88344	0.3202	3.2020E-04	0.000311984	-2.5658655	2.565865
298.15	0.658026202	1	0.3096	3.0960E-04	0.00030543	-1.3468588	1.346859
Average Error for Temp.							1.653205

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%D	%AD	%AAD
BENZENE (1) - HEXANE (2)									
00620 Heric, E. L.; Brewer, J. G.; J. Chem. Eng. Data, 12(4), 574-583(1967)									
P= 0.101 MPa									
			Benzene	(g/m ³)					
	298.15	0.873007427	1	0.6042	6.0420E-04	0.000601895	-0.381521	0.381521	
	298.15	0.850015362	0.9253	0.5346	5.3460E-04	0.000543904	1.74043083	1.740431	
	298.15	0.829417913	0.8538	0.4852	4.8520E-04	0.000498531	2.74752227	2.747522	
	298.15	0.808919553	0.7779	0.4456	4.4560E-04	0.000458996	3.00637187	3.006372	
	298.15	0.793402312	0.717	0.4191	4.1910E-04	0.000432511	3.1998721	3.199872	
	298.15	0.774680098	0.6392	0.3911	3.9110E-04	0.000404223	3.35539032	3.35539	
	298.15	0.756279169	0.5577	0.3698	3.6980E-04	0.000380083	2.78068382	2.780684	
	298.15	0.738349172	0.473	0.3508	3.5080E-04	0.000359847	2.57907947	2.579079	
	298.15	0.718443066	0.3722	0.3331	3.3310E-04	0.000340993	2.36950288	2.369503	
	298.15	0.697014456	0.2546	0.3168	3.1680E-04	0.000324786	2.52079868	2.520799	
	298.15	0.684165982	0.1795	0.3093	3.0930E-04	0.000317067	2.51102785	2.511028	
	298.15	0.658026202	0	0.2961	2.9610E-04	0.00030543	3.15100474	3.151005	2.681068
Average Error for Temp.									
BENZENE (1) - n-HEXANE (2)									
01330 Ridgway, K.; Butler, P. A.; J. Chem. Eng. Data, 12(4), 509-515(1967)									
P= 1 atm									
			Benzene	(cP)					
	298.15	0.656026202	0	0.3008	3.0080E-04	0.00030543	1.53927029	1.53927	
	298.15	0.675764984	0.1281	0.3134	3.1340E-04	0.000312829	-0.1821135	0.182114	
	298.15	0.699071357	0.2665	0.327	3.2700E-04	0.00032616	-0.2567505	0.25675	
	298.15	0.724759178	0.405	0.3471	3.4710E-04	0.000346573	-0.1517345	0.151734	
	298.15	0.759069666	0.5704	0.3822	3.8220E-04	0.000383519	0.34519624	0.345196	
	298.15	0.794547058	0.7216	0.4254	4.2540E-04	0.000434368	2.10813178	2.108132	
	298.15	0.837128249	0.8811	0.5139	5.1390E-04	0.000514826	0.18012562	0.180126	
	298.15	0.873007427	1	0.6059	6.0590E-04	0.000601895	-0.6610249	0.661025	0.537342
Average Error for Temp.									

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
P= 1 atm									
<i>n</i> -Hexane (cP)									
298.15	0.873007427		0	0.601	6.0100E-04	0.000601895	0.14889349	0.148893	
298.15	0.851416085		0.07	0.556	5.5600E-04	0.000547208	-1.5812067	1.581207	
298.15	0.819582139		0.182	0.5	5.0000E-04	0.000478891	-4.2217162	4.221716	
298.15	0.797906748		0.265	0.489	4.8900E-04	0.000439907	-10.039555	10.03956	
298.15	0.764554219		0.405	0.429	4.2900E-04	0.000390505	-8.9732898	8.97329	
298.15	0.731089173		0.563	0.4	4.0000E-04	0.00035252	-11.870062	11.87006	
298.15	0.656026202		1	0.295	2.9500E-04	0.00030543	3.53563561	3.535636	7.337166
308.15	0.862910365		0	0.524	5.2400E-04	0.000525735	0.33113367	0.331134	
308.15	0.841373579		0.07	0.486	4.8600E-04	0.00048002	-1.2305484	1.230548	
308.15	0.809636283		0.182	0.441	4.4100E-04	0.000422812	-4.1243401	4.12434	
308.15	0.788042476		0.265	0.415	4.1500E-04	0.000390118	-5.9955779	5.995578	
308.15	0.754832023		0.405	0.384	3.8400E-04	0.000348659	-9.2035153	9.203515	
308.15	0.721513525		0.563	0.361	3.6100E-04	0.000316817	-12.239091	12.23909	
308.15	0.646930659		1	0.265	2.6500E-04	0.000276131	4.95495169	4.954952	6.558615
323.15	0.847448009		0	0.434	4.3400E-04	0.00043488	0.20275065	0.202751	
323.15	0.825979841		0.07	0.407	4.0700E-04	0.000399456	-1.8536009	1.853601	
323.15	0.794375688		0.182	0.374	3.7400E-04	0.000365009	-5.0777239	5.077724	
323.15	0.772889552		0.265	0.366	3.6600E-04	0.000329549	-7.429971	7.429971	
323.15	0.739879996		0.405	0.334	3.3400E-04	0.000297218	-11.01251	11.01251	
323.15	0.706802246		0.563	0.32	3.2000E-04	0.000272416	-14.869888	14.86989	
323.15	0.632900249		1	0.235	2.3500E-04	0.000243135	3.46158865	3.461589	8.048739
Average Error for Temp.									

BENZENE (1) - n-HEXANE (2)

01528 Nigam, R. K.; Mahl, B. S.; Indian J. Chem., 9, 1255-1258(1971)

P= 1 atm									
<i>Benzene</i> (cP)									
293.15	0.687371793		0.1713	0.327	3.2700E-04	0.000332762	1.7620115	1.762012	
293.15	0.712385319		0.3148	0.345	3.4500E-04	0.000350481	1.58862767	1.588628	
293.15	0.741070003		0.4632	0.371	3.7100E-04	0.00037837	1.98651982	1.98652	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
293.15	0.765959847		0.5799	0.406	4.0600E-04	0.000409455	0.85099491	0.850995	
293.15	0.800657854		0.7266	0.454	4.5400E-04	0.000464458	2.30358249	2.303582	
293.15	0.82184491		0.8082	0.494	4.9400E-04	0.000505433	2.3143689	2.314369	
293.15	0.852598675		0.9173	0.57	5.7000E-04	0.000576154	1.07972855	1.079729	
293.15	0.87799851		1	0.648	6.4800E-04	0.000645812	-0.3376364	0.337636	1.697976
<i>Average Error for Temp.</i>									

BENZENE (1) - n-HEXANE (2)

01571 Asfour, A. F. A.; Dullien, F. A. L.; J. Chem. Eng. Data, 26(3), 312-316(1981)

P= 1 atm

<i>Benzene (10-3 Pa s)</i>									
298.15	0.656026202	0	0.2942	2.9420E-04	0.00030543	3.8171737	3.817174		
298.15	0.665851608	0.0651	0.2983	2.9830E-04	0.00030866	3.47314608	3.473146		
298.15	0.674754999	0.1218	0.3034	3.0340E-04	0.000312363	2.95424833	2.954248		
298.15	0.700807183	0.2763	0.3184	3.1840E-04	0.00032735	2.81099787	2.810998		
298.15	0.726597349	0.4144	0.339	3.3900E-04	0.000348267	2.73365404	2.733654		
298.15	0.761687283	0.5822	0.3759	3.7590E-04	0.000386815	2.90362713	2.903627		
298.15	0.79147114	0.7092	0.4165	4.1650E-04	0.000429411	3.09986694	3.099867		
298.15	0.820394689	0.821	0.4673	4.6730E-04	0.000480466	2.81752747	2.817527		
298.15	0.844179255	0.9055	0.5208	5.2080E-04	0.000530444	1.85170163	1.851702		
298.15	0.873007427	1	0.6029	6.0290E-04	0.000601895	-0.1667192	0.166719		2.830611
<i>Average Error for Temp.</i>									

n-HEXANE (1) - BENZENE (2)

01576 Medani, M. S.; Hasan, M. A.; J. Chem. Eng. Data, 23(1), 34-36(1978)

P= 1 atm

<i>n-Hexane (10-3 N s/m2)</i>									
363.15	0.605793581	0.9102	0.1715	1.7150E-04	0.000175453	2.30477827	2.304778		
363.15	0.626698629	0.7772	0.185	1.8500E-04	0.000178974	-3.2570872	3.257087		
363.15	0.641868784	0.688	0.187	1.8700E-04	0.000182705	-2.2965561	2.296556		
363.15	0.661083035	0.5829	0.2	2.0000E-04	0.000188763	-5.6185965	5.618596		
363.15	0.676662758	0.5035	0.208	2.0800E-04	0.000194734	-6.378066	6.378066		
363.15	0.698598258	0.3996	0.211	2.1100E-04	0.000204731	-2.9711803	2.97118		
363.15	0.715315566	0.326	0.225	2.2500E-04	0.000213611	-5.0617976	5.061798		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
363.15	0.751397699	0.1815	0.243	2.4300E-04	0.000236646	-2.6147091	2.614709		
363.15	0.764430149	0.1336	0.259	2.5900E-04	0.000246335	-4.8900457	4.890046		
363.15	0.790679517	0.0432	0.274	2.7400E-04	0.00026822	-2.1095225	2.109523		3.750234
363.15	0.583592764	0.9102	0.139	1.3900E-04	0.000148697	7.69596668	7.695967		
363.15	0.604263988	0.7771	0.152	1.5200E-04	0.000152554	0.36456766	0.364568		
363.15	0.619296783	0.6878	0.15	1.5000E-04	0.000155585	3.7096841	3.709684		
363.15	0.638322037	0.5828	0.163	1.6300E-04	0.000160417	-1.5848508	1.584851		
363.15	0.653463344	0.505	0.174	1.7400E-04	0.000165075	-5.1294391	5.129439		
363.15	0.675523499	0.3998	0.175	1.7500E-04	0.000173095	-1.0886505	1.088651		
363.15	0.692116484	0.3264	0.183	1.8300E-04	0.00018009	-1.5902988	1.590299		
363.15	0.729541486	0.1765	0.203	2.0300E-04	0.000198983	-1.9788536	1.978854		
363.15	0.741822372	0.1315	0.214	2.1400E-04	0.000206164	-3.6616891	3.661689		
363.15	0.7678565	0.0421	0.2315	2.3150E-04	0.000223096	-3.6303081	3.630308		3.043431
403.15	0.559640296	0.9102	0.11	1.1000E-04	0.000127922	16.2930762	16.29308		
403.15	0.579924438	0.7781	0.123	1.2300E-04	0.000130412	6.02589444	6.025894		
403.15	0.594826495	0.6887	0.126	1.2600E-04	0.000132978	5.53825984	5.53826		
403.15	0.613811233	0.5831	0.136	1.3600E-04	0.000137075	0.79080837	0.790808		
403.15	0.628545168	0.5069	0.139	1.3900E-04	0.000140861	1.33915958	1.33916		
403.15	0.650948095	0.3996	0.147	1.4700E-04	0.000147598	0.40712115	0.407121		
403.15	0.666446615	0.3308	0.15	1.5000E-04	0.000152944	1.96277511	1.962775		
403.15	0.704725766	0.1773	0.173	1.7300E-04	0.000168585	-2.5520841	2.552084		
403.15	0.717575818	0.1304	0.181	1.8100E-04	0.00017464	-3.5139098	3.51391		
403.15	0.743330633	0.0425	0.193	1.9300E-04	0.000188062	-2.5583272	2.558327		4.098142
423.15	0.53333551	0.9102	0.089	8.9000E-05	0.000108988	22.458293	22.45829		
423.15	0.553963007	0.7749	0.101	1.0100E-04	0.00011413	10.3102025	10.3102		
423.15	0.569263782	0.6828	0.108	1.0800E-04	0.000113832	5.40000763	5.400008		
423.15	0.585527881	0.5918	0.113	1.1300E-04	0.000116929	3.4768622	3.476862		
423.15	0.602865335	0.5017	0.119	1.1900E-04	0.000120797	1.51012716	1.510127		
423.15	0.625572102	0.3936	0.1235	1.2350E-04	0.000126695	2.5869002	2.5869		
423.15	0.63989064	0.3304	0.128	1.2800E-04	0.0001309	2.26568882	2.265699		
423.15	0.680851814	0.168	0.146	1.4600E-04	0.000145014	-0.6753894	0.675389		
423.15	0.694727886	0.1184	0.152	1.5200E-04	0.000150517	-0.9759403	0.97594		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
423.15	0.718416919		0.0392	0.163	1.6300E-04	0.000160798	-1.3506226	1.350623	5.101004
443.15	0.503767481		0.9102	0.07	7.0000E-05	9.19874E-05	31.4106292	31.41063	
443.15	0.52426748		0.7747	0.083	8.3000E-05	9.44028E-05	13.7384708	13.73847	
443.15	0.539580165		0.6824	0.082	9.2000E-05	9.6889E-05	5.09668846	5.096688	
443.15	0.556146346		0.5897	0.101	1.0100E-04	9.95938E-05	-1.3922714	1.392271	
443.15	0.57312877		0.5019	0.103	1.0300E-04	0.000103	-0.0003171	0.000317	
443.15	0.596325877		0.3922	0.109	1.0900E-04	0.000108329	-0.6159449	0.615945	
443.15	0.61010686		0.332	0.114	1.1400E-04	0.00011858	-1.878998	1.878998	
443.15	0.652084728		0.168	0.128	1.2800E-04	0.000124294	-2.8956586	2.895659	
443.15	0.666117805		0.1189	0.132	1.3200E-04	0.000129027	-2.2524348	2.252435	
443.15	0.69070176		0.0387	0.135	1.3500E-04	0.00013806	2.26700527	2.267005	6.154842
463.15	0.468947184		0.9102	0.0524	5.2400E-05	7.60744E-05	45.1800744	45.18007	
463.15	0.489473957		0.7745	0.0625	6.2500E-05	7.85558E-05	25.6892453	25.68925	
463.15	0.504973334		0.6814	0.068	6.8000E-05	8.08065E-05	18.8330171	18.83302	
463.15	0.52187097		0.5879	0.08	8.0000E-05	8.35976E-05	4.49695558	4.496956	
463.15	0.536826441		0.5015	0.0865	8.6500E-05	8.67329E-05	0.26921227	0.269212	
463.15	0.562390071		0.3922	0.094	9.4000E-05	9.16271E-05	-2.5243446	2.524345	
463.15	0.576825674		0.3307	0.1	1.0000E-04	9.49301E-05	-5.0699438	5.069944	
463.15	0.619818979		0.1682	0.11	1.1000E-04	0.000106156	-3.4946519	3.494652	
463.15	0.634384246		0.1192	0.114	1.1400E-04	0.000110445	-3.1182039	3.118204	
463.15	0.660110687		0.039	0.121	1.2100E-04	0.00018654	-1.9385634	1.938563	11.08142
<i>Average Error for Temp.</i>									

BENZENE (1) - n-HEXANE (2)

02228 Dymond, J. H.; Young, K. J.; Int. J. Thermophys., 2(3), 237-247(1981)

P= 1 atm

		<i>Benzene</i>		<i>(mN s/m2)</i>	
283.15	0.757929211	0.4995	0.4193	4.1930E-04	0.000435508
288.15	0.753274199	0.4995	0.3963	3.9630E-04	0.000410249
298.19	0.743838794	0.4997	0.3561	3.5610E-04	0.000365587
313.23	0.728333622	0.4999	0.3062	3.0620E-04	0.000310859
333.36	0.709187619	0.5002	0.2545	2.5450E-04	0.000254601
					0.03953615
					0.039536

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	353.28	0.68831031	0.5007	0.2163	2.1630E-04	0.000212383	-1.8107924	1.810792	
	373.28	0.666195533	0.5012	0.1857	1.8570E-04	0.000179309	-3.4417491	3.441749	
Average Error for Temp.									2.408985
n-HEXANE - BENZENE									
Total Error for All Temps.							<i>klj</i>	<i>klj</i>	<i>klj</i>
							553.8581	0.996848	0.95059609

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
BENZENE (1) - n-PENTANE (2)									
01528 Nigam, R. K.; Mahl, B. S.; Indian J. Chem., 9, 1255-1258(1971)									
P=	1 atm			%AAD= 0.543108					
Benzene									
(cP)									
298.15	0.621742523		0	0.216	2.1600E-04	0.000229	5.960766	5.96076551	
298.15	0.654378712		0.1622	0.241	2.4100E-04	0.000245	1.768938	1.76893849	
298.15	0.695801215		0.3515	0.274	2.7400E-04	0.000275	0.234856	0.23485575	
298.15	0.717471677		0.4439	0.295	2.9500E-04	0.000295	-0.11351	0.11350676	
298.15	0.746395411		0.5608	0.328	3.2800E-04	0.000327	-0.15343	0.15343331	
298.15	0.779164397		0.6851	0.375	3.7500E-04	0.000375	-1.1E-06	1.0615E-06	
298.15	0.811515175		0.8001	0.434	4.3400E-04	0.000435	0.335645	0.33564512	
298.15	0.843083678		0.9056	0.505	5.0500E-04	0.000511	1.195377	1.19537739	
298.15	0.873007427		1	0.603	6.0300E-04	0.000602	-0.18328	0.18327531	
Average Error for Temp.							0.543108		
BENZENE - n-PENTANE							k/lj		
Total Error for All T _e							0.999383 0.923037		
i/j							0.923037		

BENZENE (1) - CYCLOHEXANE (2)									
00213 Fort, R. J.; Moore, W. R.; Trans. Faraday Soc., 62, 1112-1119(1966)									
P=	1 atm			%AAD= 1.896705					
	Benzene			(mP)					
298.15	0.773109026	0	8.92	8.9200E-04	0.000881	-1.20557	1.20557155		
298.15	0.790137444	0.2	7.34	7.3400E-04	0.000731	-0.42478	0.42478367		
298.15	0.808471746	0.4	6.41	6.4100E-04	0.000846	0.781269	0.78126924		
298.15	0.828268144	0.6	5.93	5.9300E-04	0.000602	1.449379	1.44937911		
298.15	0.849708794	0.8	5.87	5.8700E-04	0.000588	0.105473	0.10547257		
298.15	0.873007427	1	6.02	6.0200E-04	0.000602	-0.01747	0.0174668		
Average Error for Temp.									
0.690226									

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
298.15	0.849708794	0.2	5.81	5.8100E-04	0.000588	1.139264	1.13926403		
298.15	0.828268144	0.4	5.88	5.8800E-04	0.000602	2.312044	2.3120439		
298.15	0.818176466	0.5	6.06	6.0600E-04	0.00062	2.24758	2.24758023		
298.15	0.808471746	0.6	6.29	6.2900E-04	0.000646	2.703984	2.70398436		
298.15	0.790137444	0.8	7.02	7.0200E-04	0.000731	4.114258	4.11425753		
298.15	0.773109026	1	8.41	8.4100E-04	0.000881	4.785529	4.78552935		2.503422
<i>Average Error for Temp.</i>									

CYCLOHEXANE (1) - BENZENE

00700 Rodwin, L.; Harpst, J. A.; Lyons, P. A.; J. Phys. Chem., 69(8), 2783-2785(1965)

P= 1 atm

<i>Cyclohexane</i> (cP)									
298.15	0.868103959	0.0407	0.5938	5.9380E-04	0.000597	0.482717	0.48271657		
298.15	0.861379033	0.0977	0.5871	5.8710E-04	0.000591	0.725149	0.72514904		
298.15	0.85547557	0.1489	0.5839	5.8390E-04	0.000589	0.798827	0.79882667		
298.15	0.849809303	0.1991	0.581	5.8100E-04	0.000588	1.139404	1.13940351		
298.15	0.838652546	0.3011	0.5852	5.8520E-04	0.000591	1.014632	1.01463234		
298.15	0.828360796	0.3991	0.5953	5.9530E-04	0.000601	1.036033	1.03603293		
298.15	0.818305126	0.4987	0.6127	6.1270E-04	0.000619	1.082889	1.08288914		
298.15	0.808309982	0.6017	0.6403	6.4030E-04	0.000647	0.974007	0.97400741		
298.15	0.799260476	0.6986	0.6783	6.7830E-04	0.000682	0.501327	0.50132725		
298.15	0.790084478	0.8006	0.7301	7.3010E-04	0.000731	0.153055	0.15305509		
298.15	0.781818105	0.8959	0.7929	7.9290E-04	0.000792	-0.06129	0.06128916		
298.15	0.778819838	0.9313	0.8219	8.2190E-04	0.00082	-0.26713	0.2671278		
298.15	0.776100689	0.9638	0.8484	8.4840E-04	0.000847	-0.12874	0.1287437		
298.15	0.774228432	0.9864	0.8732	8.7320E-04	0.000868	-0.58651	0.58651005		0.639408
<i>Average Error for Temp.</i>									

BENZENE (1) - CYCLOHEXANE (2)

00806 Grunberg, L.; Trans. Faraday Soc., 50, 1293-1303(1954)

P= 1 atm

<i>Benzene</i> (cP)									
298.15	0.773109026	0	0.8856	8.8560E-04	0.000881	-0.49161	0.49161		
298.15	0.794035909	0.2438	0.7115	7.1150E-04	0.000708	-0.50873	0.50872554		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
298.15	0.823071616		0.549	0.6011	6.0110E-04	0.00061	1.44902	1.44902006	
298.15	0.848016973		0.7848	0.574	5.7400E-04	0.000588	2.3852	2.38519982	
298.15	0.873007427		1	0.5996	5.9960E-04	0.000602	0.38273	0.38273013	1.447648
Average Error for Temp.									

CYCLOHEXANE (1) - BENZENE

00872 Linke, R.; Z. Phys. Chem., A188, 17-26(1941)

P= 1 atm

Cyclohexane (cP)									
286.05	0.88501591	0	0.7509	7.5090E-04	0.000716	-4.63418	4.63418203		
294.35	0.876802643	0	0.6559	6.5590E-04	0.000635	-3.20503	3.20502908		
304.85	0.866260349	0	0.5927	5.9270E-04	0.000549	-7.32309	7.32308551		
312.95	0.85800509	0	0.5173	5.1730E-04	0.000494	-4.51637	4.51636969		
322.75	0.84786554	0	0.4749	4.7490E-04	0.000437	-7.98064	7.980642		5.531862
287.45	0.87160885	0.1	0.7165	7.1650E-04	0.000687	-4.07829	4.07829081		
293.65	0.865547109	0.1	0.6528	6.5280E-04	0.000629	-3.62164	3.62163686		
312.15	0.847104282	0.1	0.5154	5.1540E-04	0.000492	-4.56262	4.56262192		
322.95	0.836072414	0.1	0.4671	4.5710E-04	0.000431	-5.72666	5.7266627		
323.95	0.835040384	0.1	0.4572	4.5720E-04	0.000426	-6.8577	6.85770433		4.969383
287.05	0.8604636	0.2	0.7165	7.1650E-04	0.000686	-4.27565	4.2756543		
296.05	0.851757723	0.2	0.631	6.3100E-04	0.000605	-4.18336	4.18335703		
306.35	0.84164203	0.2	0.5538	5.5380E-04	0.000527	-4.75487	4.75487078		
313.25	0.834769472	0.2	0.5122	5.1220E-04	0.000484	-5.59665	5.59665093		4.702633
293.85	0.842909242	0.3	0.6581	6.5810E-04	0.000627	-4.79134	4.79134307		
303.75	0.833337542	0.3	0.5794	5.7940E-04	0.000549	-5.24166	5.24165879		
312.75	0.824500785	0.3	0.5184	5.1840E-04	0.00049	-5.45448	5.45447917		
323.95	0.813312012	0.3	0.4552	4.5520E-04	0.000429	-5.73384	5.73384291		5.305331
287.35	0.838492133	0.4	0.7376	7.3760E-04	0.000699	-5.28343	5.28343436		
293.15	0.833022906	0.4	0.6789	6.7890E-04	0.000644	-5.15026	5.15025531		
303.65	0.822993767	0.4	0.5874	5.8740E-04	0.00056	-4.74214	4.74213638		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
312.65	0.814259028		0.4	0.5272	5.2720E-04	0.0005	-5.24731	5.24730746	
322.95	0.804095483		0.4	0.4739	4.7390E-04	0.000442	-6.73452	6.73451744	5.43153
286.85	0.828749843		0.5	0.7635	7.6350E-04	0.000726	-4.95017	4.95016883	
292.75	0.823252578		0.5	0.6982	6.9820E-04	0.000667	-4.14869	4.1486857	
303.55	0.813056118		0.5	0.6035	6.0350E-04	0.000577	-4.43568	4.43567609	
312.65	0.804322985		0.5	0.5397	5.3970E-04	0.000514	-4.80362	4.80362056	
323.45	0.793778667		0.5	0.4785	4.7850E-04	0.000452	-5.62306	5.62306126	4.792242
286.15	0.819571455		0.6	0.8096	8.0960E-04	0.000766	-5.32702	5.32701978	
294.85	0.811545127		0.6	0.7104	7.1040E-04	0.000676	-4.80494	4.80494017	
304.55	0.802464163		0.6	0.61886	6.1886E-04	0.000593	-4.23057	4.23056894	
312.85	0.794576911		0.6	0.5535	5.5350E-04	0.000533	-3.76468	3.76467941	
322.55	0.785214096		0.6	0.5006	5.0060E-04	0.000473	-5.43802	5.43802031	4.713046
285.25	0.810929		0.7	0.8769	8.7690E-04	0.000824	-6.02056	6.02055886	
294.35	0.802632201		0.7	0.7579	7.5790E-04	0.00072	-4.97182	4.97182202	
303.45	0.794214269		0.7	0.6645	6.6450E-04	0.000634	-4.58936	4.58935708	
315.75	0.782630836		0.7	0.5676	5.6760E-04	0.00054	-4.94839	4.94839053	5.132532
286.15	0.796575399		0.85	0.9771	9.7710E-04	0.000915	-6.39312	6.39311886	
294.55	0.78902879		0.85	0.8456	8.4560E-04	0.000803	-5.03874	5.03874216	
304.25	0.780186565		0.85	0.7288	7.2880E-04	0.000696	-4.46188	4.46188471	
314.15	0.771012282		0.85	0.6325	6.3250E-04	0.000607	-4.04057	4.04056558	
322.85	0.762817081		0.85	0.567	5.6700E-04	0.000541	-4.50149	4.50149473	4.887161
286.65	0.783320157		1	1.1326	1.1326E-03	0.001063	-6.18079	6.18078866	
292.75	0.777927182		1	1.0122	1.0122E-03	0.000961	-5.07883	5.07882592	
303.75	0.768067136		1	0.8403	8.4030E-04	0.000808	-3.86159	3.86159148	
312.75	0.759863258		1	0.7277	7.2770E-04	0.000706	-2.92845	2.92844982	4.512414
									<i>Average Error for Temp.</i>

BENZENE (1) - CYCLOHEXANE (2)
01192 Donald, M. B.; Ridgway, K.; J. Appl. Chem., 8, 403-407(1958)
P= 1 atm

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
Benzene									
298.15	0.773109026		0	0.8887	8.8870E-04	0.000881	-0.83872	0.83871928	
298.15	0.781468877		0.1	0.7978	7.9780E-04	0.000795	-0.29633	0.29633216	
298.15	0.790402449		0.203	0.7292	7.2920E-04	0.000729	0.001889	0.00188925	
298.15	0.800050265		0.31	0.6772	6.7720E-04	0.000678	0.140689	0.14068883	
298.15	0.812405317		0.441	0.6283	6.2830E-04	0.000634	0.922647	0.92264696	
298.15	0.829402848		0.611	0.595	5.9500E-04	0.0006	0.853786	0.85378621	
298.15	0.842330537		0.733	0.5877	5.8770E-04	0.000589	0.246728	0.24672761	
298.15	0.859138706		0.883	0.5923	5.9230E-04	0.00059	-0.37374	0.37373787	
298.15	0.873007427		1	0.6092	6.0920E-04	0.000602	-1.19914	1.19913824	
Average Error for Temp.									
									0.405116

BENZENE (1) - CYCLOHEXANE (2)
01330 Ridgway, K.; Butler, P. A.; J. Chem. Eng. Data, 12(4), 509-515(1967)
P= 1 atm

Benzene									
298.15	0.773109026		0	0.869	8.6900E-04	0.000881	1.409241	1.40924071	
298.15	0.783881429		0.1282	0.7622	7.6220E-04	0.000775	1.724644	1.72464401	
298.15	0.791678576		0.2174	0.7122	7.1220E-04	0.000721	1.291837	1.29183741	
298.15	0.802490808		0.3364	0.6599	6.5990E-04	0.000668	1.197994	1.19799365	
298.15	0.816932832		0.4874	0.6124	6.1240E-04	0.000622	1.642779	1.64277905	
298.15	0.833151552		0.647	0.5879	5.8790E-04	0.000596	1.334277	1.33427674	
298.15	0.847639996		0.7814	0.563	5.6300E-04	0.000588	0.811192	0.81119234	
298.15	0.861495612		0.9033	0.5926	5.9260E-04	0.000591	-0.19736	0.19736276	
298.15	0.873007427		1	0.6059	6.0590E-04	0.000602	-0.66102	0.66102494	
Average Error for Temp.									
									1.171441

BENZENE (1) - CYCLOHEXANE (2)
01368 Katti, P. K.; Chaudri, M. M.; Prakash, O.; J. Chem. Eng. Data, 11(4), 593-594(1966)
P= 1 atm

Benzene									
298.15	0.773109026		0	0.8856	8.8560E-04	0.000881	-0.49161	0.49161	
298.15	0.785763512		0.15	0.7725	7.7250E-04	0.000761	-1.50444	1.50444212	
298.15	0.794035909		0.2438	0.7115	7.1150E-04	0.000708	-0.50873	0.50872554	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
298.15	0.803757607	0.35	0.6571	6.5710E-04	0.00663	0.864938	0.86493849		
298.15	0.818176466	0.5	0.612	6.1200E-04	0.0062	1.245153	1.24515297		
298.15	0.823071616	0.549	0.6011	6.0110E-04	0.0061	1.44902	1.44902006		
298.15	0.833466397	0.65	0.5853	5.8530E-04	0.00595	1.729954	1.72995407		
298.15	0.848016973	0.7848	0.574	5.7400E-04	0.00588	2.3852	2.38519982		
298.15	0.861111089	0.9	0.5761	5.7610E-04	0.00591	2.61988	2.61987987		
298.15	0.873007427	1	0.5996	5.9960E-04	0.00602	0.38273	0.38273013		1.538389
<i>Average Error for Temp.</i>									

CYCLOHEXANE (1) - BENZENE

01729 Amlinabhavi, T. M.; Patel, R. C.; Bridger, K.; Jayadevappa, E. S.; Prasad, B. R.; J. Chem. Eng. Data, 27, 125-128(1982)

P= 1 atm

		Cyclohexane		(cP)					
293.15	0.87799651	0	0.6565	6.5650E-04	0.00646	-1.62801	1.62800969		
293.15	0.86603809	0.1	0.646	6.4600E-04	0.00634	-1.92172	1.92172146		
293.15	0.854576139	0.2	0.6382	6.3820E-04	0.00629	-1.40583	1.40583322		
293.15	0.843580369	0.3	0.6374	6.3740E-04	0.00633	-0.74726	0.74725858		
293.15	0.833022906	0.4	0.6442	6.4420E-04	0.00644	-0.04115	0.04114922		
293.15	0.822878054	0.5	0.6602	6.6020E-04	0.00664	0.515748	0.5157477		
293.15	0.813122089	0.6	0.6864	6.8640E-04	0.00693	0.911253	0.91125318		
293.15	0.80373307	0.7	0.7243	7.2430E-04	0.00733	1.176498	1.17649785		
293.15	0.794690677	0.8	0.781	7.8100E-04	0.00787	0.747165	0.7471652		
293.15	0.785976062	0.9	0.8664	8.6640E-04	0.00859	-0.87977	0.87977052		
293.15	0.77757172	1	0.9751	9.7510E-04	0.00955	-2.10463	2.10463341		0.927377
<i>Average Error for Temp.</i>									

BENZENE (1) - CYCLOHEXANE (2)

02228 Dymond, J. H.; Young, K. J.; Int. J. Thermophys., 2(3), 237-247(1981)

P= 1 atm

		Benzene		(mN s/m2)					
283.15	0.803609364	0.1991	0.9348	9.3480E-04	0.000919	-1.71786	1.71787517		
283.15	0.822507749	0.402	0.8055	8.0550E-04	0.000801	-0.59543	0.59542713		
283.15	0.842464316	0.6004	0.7431	7.4310E-04	0.000742	-0.09687	0.09686874		
283.15	0.863621639	0.7949	0.7269	7.2690E-04	0.000726	-0.14779	0.14779422		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
373.28	0.770280608		0.7922	0.2608	2.6080E-04	0.000258	-1.0378	1.03780272	
373.28	0.77901679		0.8762	0.2633	2.6330E-04	0.000256	-2.86429	2.86429324	1.475816
393.2	0.694277017		0.1944	0.2503	2.5030E-04	0.000254	1.609382	1.60938186	
393.2	0.710681044		0.395	0.2348	2.3480E-04	0.000239	1.774375	1.77437515	
393.2	0.72822608		0.5936	0.227	2.2700E-04	0.000227	-2.1E-06	2.0711E-06	
393.2	0.747062379		0.7905	0.2227	2.2270E-04	0.000218	-2.10746	2.10745844	1.372804
<i>Average Error for Temp.</i>									

CYCLOHEXANE (1) - BENZENE

02483 Papaloannou, D.; Evangelou, T.; Panayiotou, C.; J. Chem. Eng. Data, 36, 43-6(1991)

P= 1 atm

		Cyclohexane	(cP)						
298.15	0.873007427	0	0.6048	6.0480E-04	0.000602	-0.48035	0.4803489		
298.15	0.861297457	0.0984	0.582	5.8200E-04	0.000591	1.599075	1.59907548		
298.15	0.849865157	0.1986	0.576	5.7600E-04	0.000588	2.01747	2.01747041		
298.15	0.838673969	0.3009	0.579	5.7900E-04	0.000591	2.093883	2.09388287		
298.15	0.828185814	0.4008	0.589	5.8900E-04	0.000602	2.157639	2.15763887		
298.15	0.818285328	0.4989	0.609	6.0900E-04	0.000619	1.704218	1.70421833		
298.15	0.81308314	0.552	0.623	6.2300E-04	0.000632	1.479861	1.47986108		
298.15	0.808405125	0.6007	0.639	6.3900E-04	0.000646	1.130714	1.1307143		
298.15	0.803983145	0.6478	0.653	6.5300E-04	0.000662	1.376754	1.37675413		
298.15	0.794817842	0.7475	0.699	6.9900E-04	0.000704	0.664262	0.66426182		
298.15	0.790040349	0.8011	0.733	7.3300E-04	0.000731	-0.205	0.20499812		
298.15	0.781261701	0.9022	0.803	8.0300E-04	0.000797	-0.73624	0.73624386		
298.15	0.773109026	1	0.8984	8.9840E-04	0.000881	-1.90936	1.90936089		1.378829
<i>Average Error for Temp.</i>									

BENZENE (1) - CYCLOHEXANE (2)

00322 Konobeev, B. I.; Lyapin, V. V.; J. Appl. Chem. USSR, 43(4), 806-813(1970)

P= 1 atm

		Benzene	(10 ⁻⁶ N s/m2)						
293.15	0.77757172	0	973	9.7300E-04	0.000955	-1.89335	1.89334844		
293.15	0.794779448	0.201	794	7.9400E-04	0.000786	-0.98053	0.98052742		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
293.15	0.796293589		0.218	783	7.8300E-04	0.000776	-0.90303	0.903033	0.517009
293.15	0.813122089		0.4	690	6.9000E-04	0.000693	0.38476	0.38475968	
293.15	0.815719152		0.427	682	6.8200E-04	0.000684	0.264484	0.26448389	
293.15	0.817076444		0.441	676	6.7600E-04	0.00068	0.520384	0.52038449	
293.15	0.833022906		0.6	639	6.3900E-04	0.000644	0.772287	0.77228743	
293.15	0.835309281		0.622	638	6.3800E-04	0.000641	0.431788	0.43178835	
293.15	0.835413686		0.623	638	6.3800E-04	0.000641	0.410615	0.41061506	
293.15	0.849572073		0.755	627	6.2700E-04	0.00063	0.446608	0.44660808	
293.15	0.855475554		0.808	627	6.2700E-04	0.000629	0.365313	0.36531317	
293.15	0.855588192		0.809	628	6.2800E-04	0.000629	0.207286	0.20728596	
293.15	0.87799651		1	649	6.4900E-04	0.000646	-0.4912	0.49119932	
313.15	0.75949566		0	704	7.0400E-04	0.000702	-0.24177	0.24176519	0.279968
313.15	0.776336543		0.201	593	5.9300E-04	0.000593	-0.01127	0.01126891	
313.15	0.777818473		0.218	585	5.8500E-04	0.000586	0.201309	0.20130856	
313.15	0.794289729		0.4	533	5.3300E-04	0.000531	-0.43806	0.43806041	
313.15	0.796831783		0.427	526	5.2600E-04	0.000525	-0.26228	0.26227612	
313.15	0.798160339		0.441	523	5.2300E-04	0.000522	-0.25312	0.25312388	
313.15	0.813769858		0.6	495	4.9500E-04	0.000496	0.300557	0.3005566	
313.15	0.816008024		0.622	493	4.9300E-04	0.000494	0.225397	0.22539722	
313.15	0.816110228		0.623	492	4.9200E-04	0.000494	0.408388	0.40838818	
313.15	0.829970656		0.755	486	4.8600E-04	0.000485	-0.18264	0.18264449	
313.15	0.835750188		0.808	486	4.8600E-04	0.000484	-0.39772	0.39772137	
313.15	0.835860462		0.809	486	4.8600E-04	0.000484	-0.39891	0.39890519	0.279968
313.15	0.85779985		1	491	4.9100E-04	0.000493	0.340458	0.34045848	
333.15	0.740769712		0	534	5.3400E-04	0.000534	-0.03191	0.03191165	
333.15	0.757235919		0.201	461	4.6100E-04	0.000462	0.17071	0.17071034	
333.15	0.758684964		0.218	456	4.5600E-04	0.000457	0.278503	0.27850329	
333.15	0.774791625		0.4	422	4.2200E-04	0.000419	-0.6206	0.62060206	
333.15	0.777277561		0.427	419	4.1900E-04	0.000415	-0.92655	0.92654686	
333.15	0.778576803		0.441	416	4.1600E-04	0.000413	-0.71518	0.71518458	
333.15	0.793842736		0.6	396	3.9600E-04	0.000394	-0.40432	0.40431783	
333.15	0.796031761		0.622	395	3.9500E-04	0.000393	-0.62758	0.62758242	
333.15	0.796131722		0.623	394	3.9400E-04	0.000392	-0.39604	0.39604372	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
333.15	0.809688534		0.755	387	3.8700E-04	0.000385	-0.6078	0.60778834	
333.15	0.815341818		0.808	388	3.8800E-04	0.000383	-1.23948	1.23947536	
333.15	0.815449885		0.809	388	3.8800E-04	0.000383	-1.24414	1.24413682	
333.15	0.836911736		1	389	3.8900E-04	0.000386	-0.67361	0.67361368	
<i>Average Error for Temp.</i>									0.657355

BENZENE (1) - CYCLOHEXANE (2)

00344 Mato, F.; Hernandez, J. L.; An. R. Soc. Esp. Fis. Quim. Ser. B, 65, 9-18(1969)

P= 1 atm

<i>Benzene</i> (cP)									
288.15	0.78198881		0	1.065	1.0650E-03	0.001036	-2.69617	2.6961724	
288.15	0.789931878		0.094	0.971	9.7100E-04	0.000935	-3.72707	3.72707	
288.15	0.80380136		0.251	0.823	8.2300E-04	0.000816	-0.83819	0.83818756	
288.15	0.819473329		0.418	0.735	7.3500E-04	0.000738	0.362222	0.36222171	
288.15	0.83567517		0.582	0.695	6.9500E-04	0.000694	-0.16406	0.16405683	
288.15	0.852279862		0.736	0.678	6.7800E-04	0.000676	-0.24907	0.24906841	
288.15	0.86987043		0.891	0.688	6.8800E-04	0.00068	-1.23119	1.23118908	
288.15	0.882947548		1	0.699	6.9900E-04	0.000694	-0.6774	0.67740145	1.095299
293.15	0.77757172		0	0.972	9.7200E-04	0.000955	-1.79242	1.79241567	
293.15	0.785463219		0.094	0.893	8.9300E-04	0.000864	-3.27185	3.27185487	
293.15	0.799280189		0.251	0.762	7.6200E-04	0.000757	-0.61137	0.61137488	
293.15	0.814850468		0.418	0.684	6.8400E-04	0.000687	0.389952	0.38995245	
293.15	0.831167095		0.582	0.649	6.4900E-04	0.000647	-0.33338	0.33337624	
293.15	0.847486946		0.736	0.628	6.2800E-04	0.000631	0.400249	0.40024919	
293.15	0.864986652		0.891	0.636	6.3600E-04	0.000633	-0.49153	0.4915321	
293.15	0.87798651		1	0.644	6.4400E-04	0.000646	0.281385	0.28138453	0.91639
303.15	0.768609593		0	0.819	8.1900E-04	0.000815	-0.45072	0.45072282	
303.15	0.776417322		0.094	0.755	7.5500E-04	0.000742	-1.66943	1.66942998	
303.15	0.79006818		0.251	0.658	6.5800E-04	0.000657	-0.22592	0.22592075	
303.15	0.805493886		0.418	0.594	5.9400E-04	0.000599	0.817225	0.81722462	
303.15	0.821638879		0.582	0.566	5.6600E-04	0.000566	-0.06027	0.06026846	
303.15	0.837787679		0.736	0.55	5.5000E-04	0.000551	0.243334	0.24333343	

[illegible]

BENZENE - CYCLOHEXANE

n-OCTANE (1) - BENZENE (2)

00402 Awwad, A. M.; Al-Azzawi, S. F.; Salman, M. A.; Fluid Phase Equilib., 31, 171-182(1986)

P= 1 atm

	<i>n</i> -Octane	(cP)					
298, 15	0.873007427	0	0.6108	6.1080E-04	0.000602	-1.45795	1.45794861
298, 15	0.859320705	0.04472	0.5829	5.8290E-04	0.000579	-0.61785	0.61784847
298, 15	0.845916186	0.09184	0.5595	5.5950E-04	0.000559	-0.06709	0.06709048
298, 15	0.82532835	0.17152	0.5352	5.3520E-04	0.000532	-0.58165	0.58165121
298, 15	0.797845878	0.2954	0.5081	5.0810E-04	0.000504	-0.46287	0.46286684

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
288.15	0.77602134	0.40878	0.4934	4.9340E-04	0.000489	-0.98485	0.98485	0.98485354	
288.15	0.762183981	0.49074	0.4904	4.9040E-04	0.000482	-1.66364	1.66364	1.663644	
288.15	0.74775808	0.58551	0.4924	4.9240E-04	0.000479	-2.77186	2.7718608		
288.15	0.72737107	0.73898	0.4929	4.9290E-04	0.00048	-2.67707	2.67707393		
288.15	0.70628648	0.92798	0.5124	5.1240E-04	0.000489	-4.53869	4.53869284		
288.15	0.699197897	1	0.5194	5.1940E-04	0.000495	-4.77025	4.77024775		1.598165
<i>Average Error for Temp.</i>									

BENZENE (1) - n-OCTANE (2)

02228 Dymond, J. H.; Young, K. J.; Int. J. Thermophys., 2(3), 237-247(1981)

P= 1 atm

<i>Benzene</i>									
			(mN s/m2)						
283.15	0.738705922	0.2539	0.5838	5.8380E-04	0.000568	-2.63527	2.63526561		
283.15	0.774185276	0.5041	0.5773	5.7730E-04	0.000575	-0.36148	0.36147919		
283.15	0.804986951	0.6746	0.5938	5.9380E-04	0.000601	1.243328	1.24332843		
283.15	0.838575562	0.8255	0.6357	6.3570E-04	0.000648	1.933214	1.93321418		1.543322
288.15	0.734668316	0.2539	0.5491	5.4910E-04	0.000536	-2.30232	2.30231739		
288.15	0.769941042	0.5041	0.5414	5.4140E-04	0.000541	-0.00021	0.00020624		
288.15	0.800562387	0.6746	0.5567	5.5670E-04	0.000564	1.303181	1.30318148		
288.15	0.833953353	0.8255	0.5941	5.9410E-04	0.000605	1.892347	1.89234748		1.374513
298.19	0.726433512	0.2536	0.4863	4.8630E-04	0.00048	-1.35457	1.35456938		
298.19	0.761258813	0.5037	0.4803	4.8030E-04	0.000482	0.294659	0.29465946		
298.19	0.791518332	0.6743	0.4917	4.9170E-04	0.000499	1.402357	1.40235659		
298.19	0.824518153	0.8253	0.5207	5.2070E-04	0.000531	1.958725	1.95872468		1.252578
313.23	0.713676202	0.2533	0.4132	4.1320E-04	0.00041	-0.80365	0.80364631		
313.23	0.748048052	0.5034	0.4068	4.0680E-04	0.000409	0.555111	0.55511112		
313.23	0.777754771	0.6741	0.4151	4.1510E-04	0.00042	1.128133	1.12813305		
313.23	0.810164249	0.8252	0.4359	4.3590E-04	0.000442	1.399904	1.39990397		0.971699
333.36	0.696550947	0.2527	0.3383	3.3830E-04	0.000338	-0.1669	0.16690272		
333.36	0.729798182	0.5027	0.3335	3.3350E-04	0.000335	0.455278	0.45527849		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
333.36	0.756722624		0.6735	0.3393	3.3930E-04	0.00034	0.343371	0.34337051	
333.36	0.790314308		0.8249	0.3524	3.5240E-04	0.000354	0.374647	0.37464673	0.33505
353.29	0.678732902		0.2518	0.2825	2.8250E-04	0.000283	0.319554	0.31955428	
353.29	0.711004555		0.5016	0.2786	2.7860E-04	0.00028	0.521581	0.5215814	
353.29	0.739127049		0.6726	0.2823	2.8230E-04	0.000282	0.036681	0.03668137	
353.29	0.769868791		0.8243	0.2923	2.9230E-04	0.00029	-0.7645	0.76450151	0.41058
373.28	0.660069208		0.2503	0.2394	2.3940E-04	0.000241	0.605852	0.60585159	
373.28	0.691303033		0.4999	0.2363	2.3630E-04	0.000238	0.522845	0.52284465	
373.28	0.718598731		0.6713	0.239	2.3900E-04	0.000238	-0.38252	0.38252282	
373.28	0.748493203		0.8236	0.2458	2.4580E-04	0.000242	-1.45704	1.45703841	0.742064
393.2	0.640562093		0.2482	0.2051	2.0510E-04	0.000207	0.875294	0.87529352	
393.2	0.670682436		0.4975	0.2044	2.0440E-04	0.000204	-0.2158	0.21580035	
393.2	0.69710266		0.6694	0.2062	2.0620E-04	0.000204	-1.29871	1.2987127	
393.2	0.726095182		0.8224	0.2105	2.1050E-04	0.000205	-2.39834	2.39834345	1.197038
BENZENE - n-OCTANE									
				<i>Average Error for Temp.</i>			<i>k/j</i>	<i>l/j</i>	
				<i>Total Error for All Tϵ</i>			45.672851	1.047008	0.844524

n-DODECANE (1) - BENZENE (2)

00402 Awwad, A. M.; Al-Azzawi, S. F.; Salman, M. A.; Fluid Phase Equilib., 31, 171-182(1986)

P=	1 atm	n-Dodecane	(cP)	%AAD=
298.15	0.873007427	0	0.6108	2.055089
298.15	0.858602214	0.04733	0.6259	
298.15	0.842696156	0.1084	0.6476	
298.15	0.822469412	0.20364	0.6913	
298.15	0.806500407	0.29778	0.7491	
298.15	0.790715055	0.41395	0.8308	
298.15	0.779133944	0.51924	0.9153	
298.15	0.770244975	0.61646	0.9976	
			6.1080E-04	-1.45795
			6.2590E-04	-0.84521
			6.4760E-04	0.164401
			6.9130E-04	0.0007
			7.4910E-04	1.197132
			8.3080E-04	1.000504
			9.1530E-04	0.289357
			9.9760E-04	-1.07693
				-2.68506

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
298,15	0.761349393		0.72914	1.1016	1.1016E-03	0.001043	-5.28452	5.28452451	
298,15	0.756440304		0.80113	1.1682	1.1682E-03	0.001085	-7.13347	7.13347383	
298,15	0.749155228		0.92308	1.2912	1.2912E-03	0.001144	-11.3853	11.3853132	
298,15	0.745114601		1	1.3706	1.3706E-03	0.001173	-14.3905	14.390475	3.10619
<i>Average Error for Temp.</i>									

BENZENE (1) - n-DODECANE (2)

00843 Trevooy, D. J.; Drickamer, H. G.; J. Chem. Phys., 17(6), 582-583(1949)

P= 1 atm

<i>Benzene</i> (cP)									
298	0.781207331		0.5	0.9053	9.0530E-04	0.000894	-1.24597	1.24597345	
318	0.765487293		0.5	0.6904	6.9040E-04	0.00069	-0.00712	0.00712129	
335.8	0.751140938		0.5	0.5494	5.4940E-04	0.00056	1.93864	1.93864033	1.063912
<i>Average Error for Temp.</i>									

BENZENE (1) - n-DODECANE (2)

02228 Dymond, J. H.; Young, K. J.; Int. J. Thermophys., 2(3), 237-247(1981)

P= 1 atm

<i>Benzene</i> (mN s/m2)									
283,15	0.770774918		0.2509	1.443	1.4430E-03	0.001306	-9.49126	9.491256	
283,15	0.792567489		0.4984	1.129	1.1290E-03	0.001103	-2.31677	2.31676803	
283,15	0.826834909		0.7498	0.8795	8.7950E-04	0.000899	2.200806	2.20080561	4.66961
288,15	0.76718189		0.2509	1.317	1.3170E-03	0.001214	-7.79178	7.79177782	
288,15	0.788743971		0.4984	1.04	1.0400E-03	0.001026	-1.35011	1.35011038	
288,15	0.822634714		0.7498	0.8143	8.1430E-04	0.000836	2.658526	2.65852553	3.933471
298,19	0.759873443		0.2504	1.108	1.1080E-03	0.001055	-4.78208	4.78208112	
298,19	0.780935874		0.4988	0.8917	8.9170E-04	0.000893	0.09444	0.09444031	
298,19	0.814065808		0.7495	0.7079	7.0790E-04	0.000727	2.677333	2.6773329	2.517951
313,23	0.748797491		0.25	0.8848	8.8480E-04	0.000865	-2.24074	2.24074322	
313,23	0.769103919		0.4983	0.7258	7.2580E-04	0.000733	1.059767	1.05976712	
313,23	0.80103593		0.7492	0.5854	5.8540E-04	0.000597	2.03578	2.03577961	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
333.36	0.733633702		0.249	0.6814	6.8140E-04	0.000678	-0.53747	0.5374654	1.778763
333.36	0.752873922		0.4973	0.5703	5.7030E-04	0.000577	1.15462	1.15462042	
333.36	0.783098938		0.7485	0.4668	4.6680E-04	0.00047	0.729238	0.729238	
353.29	0.718195288		0.2473	0.5445	5.4450E-04	0.000545	0.002028	0.00202807	0.807108
353.29	0.736272041		0.4954	0.4626	4.6260E-04	0.000466	0.642668	0.64266827	
353.29	0.764713624		0.7474	0.3831	3.8310E-04	0.00038	-0.81672	0.8167179	
373.28	0.702230652		0.2446	0.446	4.4600E-04	0.000446	0.035085	0.03508544	0.487138
373.28	0.71903482		0.4925	0.3834	3.8340E-04	0.000383	-0.01077	0.01077329	
373.28	0.74554819		0.7457	0.32	3.2000E-04	0.000313	-2.07696	2.07695954	
393.2	0.685794294		0.2408	0.3739	3.7390E-04	0.000372	-0.41342	0.41342479	0.707606
393.2	0.701187018		0.4882	0.3243	3.2430E-04	0.000322	-0.82223	0.82222527	
393.2	0.725602187		0.7431	0.2725	2.7250E-04	0.000263	-3.38503	3.38502584	
Average Error for Temp.									
									1.540225

n-DODECANE (1) - BENZENE (2)

02428 Knapstad, B.; Skjolsvik, P. A.; Oye, H. A.; J. Chem. Eng. Data, 36, 84-8(1991)

P= 1 atm

		<i>n</i> -Dodecane		(mPa s)					
288.8	0.761589271	1	1.6149	1.6149E-03	0.00134	-17.0055	17.0055297		
298.22	0.745065895	1	1.3528	1.3528E-03	0.001172	-13.3485	13.3484779		
298.39	0.744947594	1	1.3503	1.3503E-03	0.001169	-13.393	13.3930483		
307.52	0.738563272	1	1.1589	1.1589E-03	0.001033	-10.8802	10.8801689		
307.57	0.738528139	1	1.159	1.1590E-03	0.001032	-10.9472	10.9471839		
322.6	0.727880506	1	0.9255	9.2550E-04	0.000851	-8.07809	8.07808616		
322.6	0.727880506	1	0.9257	9.2570E-04	0.000851	-8.09795	8.09794614		
342.64	0.713398787	1	0.7157	7.1570E-04	0.000671	-6.24519	6.24518742		10.99945
288.4	0.766966138	0.7496	1.3052	1.3052E-03	0.00121	-7.26565	7.2656522		
288.69	0.766757121	0.7496	1.2973	1.2973E-03	0.001205	-7.08848	7.08848335		
298.76	0.759458129	0.7496	1.0965	1.0965E-03	0.001047	-4.53111	4.53111338		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	298.77	0.759450841	0.7496	1.0959	1.0959E-03	0.001047	-4.4919	4.49189858	
	298.79	0.759436263	0.7496	1.095	1.0950E-03	0.001046	-4.43952	4.43952092	
	308.9	0.752025039	0.7496	0.9482	9.4820E-04	0.000914	-3.56623	3.56623082	
	323.37	0.741264251	0.7496	0.7775	7.7750E-04	0.000762	-1.95301	1.9530059	
	341.99	0.72713032	0.7496	0.6228	6.2280E-04	0.000614	-1.38369	1.38368722	4.339949
	286.6	0.786440896	0.5002	1.0245	1.0245E-03	0.001019	-0.52885	0.52885049	
	298.38	0.780891649	0.5002	0.8885	8.8850E-04	0.00089	0.119049	0.11904888	
	299.49	0.780029168	0.5002	0.8746	8.7460E-04	0.000876	0.19482	0.19482036	
	308.08	0.773314311	0.5002	0.775	7.7500E-04	0.000782	0.95128	0.95128002	
	322.92	0.761537546	0.5002	0.6451	6.4510E-04	0.00065	0.827738	0.82773829	
	340.1	0.74760218	0.5002	0.5289	5.2890E-04	0.000534	0.963665	0.96366459	0.597567
	288.59	0.822263787	0.2502	0.8194	8.1940E-04	0.000831	1.379393	1.37939332	
	298.52	0.813834651	0.2502	0.7103	7.1030E-04	0.000723	1.847425	1.84742461	
	308.51	0.805238036	0.2502	0.6242	6.2420E-04	0.000634	1.560671	1.56067106	
	322.94	0.792599779	0.2502	0.5262	5.2620E-04	0.00053	0.741961	0.74196107	
	340.7	0.776653479	0.2502	0.4343	4.3430E-04	0.000433	-0.30389	0.30388776	1.166668
	288.55	0.8625552838	0	0.6942	6.9420E-04	0.00069	-0.57492	0.57491987	
	298.58	0.872596599	0	0.5984	5.9840E-04	0.000598	0.013209	0.01320886	
	298.58	0.872596599	0	0.5985	5.9850E-04	0.000598	-0.0035	0.00350178	
	308.68	0.862391027	0	0.522	5.2200E-04	0.000522	0.042414	0.04241425	
	312.72	0.85824103	0	0.4948	4.9480E-04	0.000495	0.120751	0.12075096	
	322.47	0.848157636	0	0.4402	4.4020E-04	0.000438	-0.38782	0.38782324	
	332.87	0.837209377	0	0.3922	3.9220E-04	0.000388	-1.16573	1.16572553	0.329763
Average Error for Temp.									
Total Error for All Tc									
<div> <div> <div></div> <div>k_{ij}</div> </div> <div> <div></div> <div>l_{ij}</div> </div> </div>									
<div> <div> <div></div> <div>127.717592</div> </div> <div> <div></div> <div>1.076915</div> </div> </div>									
<div> <div> <div></div> <div>0.963441</div> </div> <div> <div></div> <div>%AAD=</div> </div> </div>									
<div> <div> <div></div> <div>1.22996</div> </div> <div> <div></div> <div>%AAD=</div> </div> </div>									

BENZENE - n-DODECANE

n-DECANE (1) - BENZENE (2)

00402 Awwad, A. M.; Al-Azzawi, S. F.; Salman, M. A.; Fluid Phase Equilib., 31, 171-182(1986)

P= 1 atm

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
			<i>n-Decane</i>	(cP)					
	298.15	0.873007427	0	0.6108	6.1080E-04	0.00602	-1.45795	1.45794861	
	298.15	0.861981483	0.03584	0.6003	6.0030E-04	0.00601	0.099801	0.09980109	
	298.15	0.844288689	0.10038	0.5986	5.9860E-04	0.00602	0.576439	0.57643873	
	298.15	0.820955831	0.20129	0.6012	6.0120E-04	0.0061	1.463441	1.46344105	
	298.15	0.803857512	0.29022	0.613	6.1300E-04	0.00622	1.436837	1.43683689	
	298.15	0.786306017	0.3988	0.6372	6.3720E-04	0.00641	0.54681	0.54681036	
	298.15	0.772509669	0.49997	0.6648	6.6480E-04	0.00661	-0.52441	0.52441211	
	298.15	0.761395597	0.59432	0.6949	6.9490E-04	0.00682	-1.83982	1.83982339	
	298.15	0.750362215	0.7021	0.7313	7.3130E-04	0.00707	-3.38031	3.38031434	
	298.15	0.738688847	0.83527	0.7784	7.7840E-04	0.00736	-5.41576	5.4157599	
	298.15	0.732436149	0.91651	0.8086	8.0850E-04	0.00753	-6.81891	6.81890689	
	298.15	0.726585151	1	0.8391	8.3910E-04	0.0077	-8.25111	8.25111061	
							<i>Average Error for Temp.</i>		2.210254

BENZENE (1) - n-DECANE (2)
00843 Trevo, D. J.; Drickamer, H. G.; J. Chem. Phys., 17(6), 582-583(1949)

P=		1 atm							
			<i>Benzene</i>	(cP)					
	298	0.772628276	0.5	0.6712	6.7120E-04	0.00663	-1.28651	1.28651074	
	318	0.756084491	0.5	0.5262	5.2620E-04	0.00522	-0.77551	0.7755095	
	335.8	0.740849545	0.5	0.4272	4.2720E-04	0.00431	0.833638	0.83363786	
							<i>Average Error for Temp.</i>		0.965219

BENZENE (1) - n-DECANE (2)
02228 Dymond, J. H.; Young, K. J.; Int. J. Thermophys., 2(3), 237-247(1981)

P=		1 atm							
			<i>Benzene</i>	(mN s/m2)					
	283.15	0.784510246	0.4991	0.8086	8.0860E-04	0.00804	-0.52373	0.52372661	
	288.15	0.780497071	0.4991	0.7526	7.5250E-04	0.00752	-0.02327	0.023266	
	298.19	0.772296934	0.4986	0.6561	6.5610E-04	0.00661	0.790843	0.79084335	
	313.23	0.76985207	0.4982	0.5456	5.4560E-04	0.00552	1.127931	1.12793089	
	333.36	0.742719376	0.4972	0.4387	4.3870E-04	0.00442	0.812598	0.81259776	
	353.29	0.725160602	0.4956	0.3617	3.6170E-04	0.00363	0.332442	0.33244223	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
373.28	0.70665736		0.4931	0.3031	3.0310E-04	0.000303	-0.00061	0.00060787	
393.2	0.68783047		0.4895	0.2585	2.5850E-04	0.000257	-0.50383	0.50383196	
<i>Average Error for Temp.</i>									0.514406
BENZENE - n-DECANE									
<i>Total Error for All Tϵ</i>									<i>kij</i> 1.059337 0.914869 <i>lij</i>
BENZENE (1) - n-HEPTANE (2)									
00322 Konobeov, B. I.; Lyapin, V. V.; J. Appl. Chem. USSR, 43(4), 806-813(1970)									
P=	1 atm			<i>Benzene</i>			<i>(10⁻⁶ N s/m2)</i>		
293.15	0.685763254		0	417	4.1700E-04	0.000415	-0.38343	0.38342548	
293.15	0.712284587		0.208	419	4.1900E-04	0.000413	-1.43487	1.43486862	
293.15	0.718195764		0.25	418	4.1800E-04	0.000414	-0.89972	0.89971624	
293.15	0.752113579		0.464	430	4.3000E-04	0.000429	-0.16213	0.16212887	
293.15	0.755997864		0.486	432	4.3200E-04	0.000432	-0.04782	0.04781582	
293.15	0.776925929		0.597	441	4.4100E-04	0.000448	1.638244	1.63824414	
293.15	0.780319506		0.662	454	4.5400E-04	0.000462	1.734235	1.73423526	
293.15	0.82105164		0.796	505	5.0500E-04	0.000505	0.049599	0.04959918	
293.15	0.831411646		0.837	536	5.3600E-04	0.000524	-2.1607	2.16070406	
293.15	0.87799651		1	649	6.4900E-04	0.000646	-0.4912	0.49119932	
									1.015914
313.15	0.668682364		0	337	3.3700E-04	0.000341	1.049263	1.04926285	
313.15	0.694710303		0.208	341	3.4100E-04	0.000341	0.034493	0.03449278	
313.15	0.700537472		0.25	342	3.4200E-04	0.000342	0.121441	0.12144099	
313.15	0.733873874		0.464	355	3.5500E-04	0.000354	-0.26179	0.26178559	
313.15	0.73769304		0.486	355	3.5500E-04	0.000356	0.220005	0.22000541	
313.15	0.758275434		0.597	366	3.6600E-04	0.000367	0.154042	0.15404241	
313.15	0.771452378		0.662	373	3.7300E-04	0.000375	0.598954	0.59895416	
313.15	0.801700988		0.796	400	4.0000E-04	0.000403	0.652321	0.65232054	
313.15	0.811902251		0.837	411	4.1100E-04	0.000415	0.91806	0.91806021	
313.15	0.85779985		1	491	4.9100E-04	0.000493	0.340458	0.34045848	
									0.370138
333.15	0.650951185		0	283	2.8300E-04	0.000283	0.139286	0.13928609	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
333.15	0.67649563	0.208	289	2.8900E-04	0.000286	-0.91985	0.91985468		
333.15	0.682216693	0.25	289	2.8900E-04	0.000288	-0.43659	0.43658976		
333.15	0.714961135	0.464	297	2.9700E-04	0.000297	0.165209	0.16520941		
333.15	0.718714122	0.486	300	3.0000E-04	0.000299	-0.42484	0.42484349		
333.15	0.738945655	0.597	306	3.0600E-04	0.000306	-0.0002	0.00019916		
333.15	0.751903114	0.662	312	3.1200E-04	0.000312	-0.15066	0.15066175		
333.15	0.781663068	0.796	331	3.3100E-04	0.000329	-0.6954	0.69540084		
333.15	0.791704306	0.837	340	3.4000E-04	0.000336	-1.06752	1.06751568		
333.15	0.836911736	1	389	3.8900E-04	0.000386	-0.67361	0.67361368		
Average Error for Temp.									0.482534

BENZENE (1) - n-HEPTANE (2)
00843 Trevo, D. J.; Drickamer, H. G.; J. Chem. Phys., 17(6), 582-583(1949)
P= 1 atm

Benzene		(cP)	
298	0.754120976	0.5	0.4167
318	0.735618976	0.5	0.3407
335.6	0.718568195	0.5	0.285
		Average Error for Temp.	
		1.337018	

BENZENE - n-HEPTANE

kij	ljj
Total Error for All Tc	18.959744
	1.080212
	0.672023

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η^{pred} (Pa.s)	%D	%AD	%AAD
n-HEXADECANE (1) - BENZENE (2)									
00402 Awwad, A. M.; Al-Azzawi, S. F.; Salman, M. A.; Fluid Phase Equilib., 31, 171-182(1986)									
P= 1 atm									
n-Hexadecani									
298,15	0.873007427	0	0.6108	6.1080E-04	0.000601895	-1.4579486	1.457949		
298,15	0.856810105	0.0535	0.6803	6.8030E-04	0.00066376	-2.4313192	2.431319		
298,15	0.845479673	0.0944	0.7563	7.5630E-04	0.000726111	-3.9917023	3.991702		
298,15	0.823289391	0.21994	0.9761	9.7610E-04	0.00092936	-4.7884282	4.788428		
298,15	0.809850539	0.32338	1.1612	1.1612E-03	0.00114899	-1.0514957	1.051496		
298,15	0.798997943	0.43415	1.429	1.4290E-03	0.00142526	-0.2617181	0.261718		
298,15	0.792356026	0.51942	1.6488	1.6488E-03	0.001658259	0.57368918	0.573689		
298,15	0.784704618	0.64097	1.9721	1.9721E-03	0.001997334	1.2795409	1.279541		
298,15	0.781942153	0.69281	2.1071	2.1071E-03	0.002135611	1.35310575	1.353106		
298,15	0.775476777	0.8361	2.4922	2.4922E-03	0.002463307	-1.1593314	1.159331		
298,15	0.771575222	0.94161	2.8871	2.8871E-03	0.00262924	-8.9314663	8.931466		
298,15	0.769662334	1	3.0782	3.0782E-03	0.0026687	-12.653507	12.65351		
Average Error for Temp.									2.582178

HEXADECANE (1) - BENZENE (2)

00620 Heric, E. L.; Brewer, J. G.; J. Chem. Eng. Data, 12(4), 574-583(1967)

P= 0,101 MPa

Hexadecane		$(g/m\ s)$							
298.15	0.769862334	1	3.062	3.0620E-03	0.0026887	-12.191386	12.19139		
298.15	0.779465268	0.7656	2.3235	2.3235E-03	0.002314401	-0.3915957	0.391596		
298.15	0.788851839	0.5715	1.7722	1.7722E-03	0.001804334	1.81320108	1.813201		
298.15	0.797150712	0.4563	1.4768	1.4768E-03	0.001484537	0.52391938	0.523919		
298.15	0.81132118	0.3105	1.1495	1.1495E-03	0.001119463	-2.6130301	2.61303		
298.15	0.815945385	0.2727	1.0703	1.0703E-03	0.001036318	-3.1750247	3.175025		
298.15	0.836278339	0.1436	0.8242	8.2420E-04	0.000793931	-3.6724719	3.672472		
298.15	0.84333973	0.1091	0.7645	7.6450E-04	0.000740287	-3.1671051	3.167105		
298.15	0.853573536	0.0658	0.6955	6.9550E-04	0.000679629	-2.2819092	2.281909		
298.15	0.862963779	0.0317	0.6449	6.4490E-04	0.000637131	-1.2047213	1.204721		
298.15	0.873007427	0	0.6042	6.0420E-04	0.000601895	-0.381521	0.381521		
								Average Error for Temp.	
								2.093664	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
BENZENE (1) - n-HEXADECANE(2)									
00843 Trevo, D. J.; Drickamer, H. G.; J. Chem. Phys., 17(6), 582-583(1949)									
P= 1 atm									
Benzene									
			(cP)						
298	0.793872223		0.5	1.6502	1.6502E-03	0.001607944	-2.5606777	2.560678	
318	0.77907373		0.5	1.1919	1.1919E-03	0.001196754	0.40726292	0.407263	
335.8	0.765620458		0.5	0.9081	9.0810E-04	0.00094111	3.6350351	3.635035	
298	0.793872223		0.5	1.6515	1.6515E-03	0.001607944	-2.6373783	2.637378	
318	0.77907373		0.5	1.1928	1.1928E-03	0.001196754	0.33150292	0.331503	
335.8	0.765620458		0.5	0.91	9.1000E-04	0.00094111	3.41865426	3.418654	2.165085
<i>Average Error for Temp.</i>									

BENZENE (1) - n-HEXADECANE(2)									
02228 Dymond, J. H.; Young, K. J.; Int. J. Thermophys., 2(3), 237-247(1981)									
P= 1 atm									
Benzene									
			(mN s/m2)						
298.19	0.773791894		0.1211	2.682	2.6820E-03	0.002537712	-5.3798615	5.379861	
298.19	0.78084715		0.2858	2.189	2.1890E-03	0.002188901	-0.004521	0.004521	
298.19	0.801785478		0.5976	1.369	1.3690E-03	0.001341546	-2.0053743	2.005374	
298.19	0.834968472		0.8497	0.8411	8.4110E-04	0.000804437	-4.358881	4.358881	2.937159
313.23	0.763637145		0.1207	1.968	1.9680E-03	0.001985343	0.88123123	0.881231	
313.23	0.770342858		0.2852	1.652	1.6520E-03	0.001728469	4.62886644	4.628866	
313.23	0.79024368		0.5971	1.078	1.0780E-03	0.001078946	0.0877457	0.087746	
313.23	0.821739245		0.8495	0.6797	6.7970E-04	0.000655138	-3.6136919	3.613692	2.302884
333.36	0.749830654		0.1199	1.398	1.3980E-03	0.001465357	4.81813128	4.818131	
333.36	0.756028153		0.2839	1.197	1.1970E-03	0.001291476	7.89268682	7.892697	
333.36	0.774441288		0.596	0.8185	8.1850E-04	0.000828122	0.93115838	0.931158	
333.36	0.803552126		0.8491	0.5351	5.3510E-04	0.000510008	-4.6892601	4.68926	4.582812
353.29	0.735894166		0.1186	1.051	1.0510E-03	0.001144431	6.03528217	6.035282	
353.29	0.741533076		0.2817	0.9154	9.1540E-04	0.000993939	8.57978933	8.579789	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	353.29	0.758331231	0.594	0.6514	6.5140E-04	0.000651217	-0.0280801	0.02809	
	353.29	0.784903576	0.8483	0.4353	4.3530E-04	0.000408258	-6.2121923	6.212192	5.213638
	373.28	0.721619628	0.1165	0.8212	8.2120E-04	0.00086869	5.78297973	5.78298	
	373.28	0.72663587	0.2782	0.7274	7.2740E-04	0.000783817	7.75598809	7.755988	
	373.28	0.741667053	0.591	0.53	5.3000E-04	0.00052548	-0.852796	0.852796	
	373.28	0.765498861	0.8472	0.363	3.6300E-04	0.000333916	-8.012061	8.012061	5.600958
	393.2	0.707072987	0.1134	0.665	6.6500E-04	0.00069387	4.34134409	4.341344	
	393.2	0.711397966	0.273	0.5932	5.9320E-04	0.000633132	6.73164686	6.731647	
	393.2	0.724477485	0.5664	0.458	4.5800E-04	0.000433866	-5.2694325	5.269432	
	393.2	0.745317652	0.8454	0.3071	3.0710E-04	0.000276724	-9.2401399	9.24014	6.395641
<i>Average Error for Temp.</i>									

BENZENE - n-HEXADECANE

Total Error for All Temps. 165.7884 1.126976 1.00729642

BENZENE (1) - n-OCTADECANE(2)

00843 Trevo, D. J.; Drickamer, H. G.; J. Chem. Phys., 17(6), 582-583(1949)

P=	1 atm								
		Benzene	(mN s/m2)					%AAD=	0.015603
298	0.797998636	0.5	2.1226	2.1226E-03	0.002122756	0.00733484	0.007335		
318	0.78373014	0.5	1.5012	1.5012E-03	0.001500608	-0.0394111	0.039411		
335.8	0.770766594	0.5	1.1284	1.1284E-03	0.001128401	6.3493E-05	6.35E-05		0.015603
<i>Average Error for Temp.</i>									

BENZENE - n-OCTADECANE

Total Error for All Temps. 0.046809 0.997432 1.34869371

n-TETRADECANE (1) - BENZENE (2)

00402 Awwad, A. M.; Al-Azzawi, S. F.; Salman, M. A.; Fluid Phase Equilib., 31, 171-182(1986)

P=	1 atm								
		n-Tetradecane	(cP)					%AAD=	1.356944
298.15	0.873007427	0	0.6108	6.1080E-04	0.000601895	-1.4579486	1.457949		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
298.15	0.859415883	0.04444	0.6498	6.4980E-04	0.000636017	-2.1210376	2.121038		
298.15	0.847370919	0.09068	0.6807	6.8070E-04	0.000678032	-0.3919823	0.391982		
298.15	0.822903823	0.21254	0.8158	8.1580E-04	0.000814954	-0.1036481	0.103648		
298.15	0.79614335	0.41693	1.0787	1.0787E-03	0.001104521	2.39371762	2.393718		
298.15	0.787294843	0.51212	1.2214	1.2214E-03	0.001251509	2.46514534	2.465145		
298.15	0.778566301	0.62706	1.4234	1.4234E-03	0.001425266	0.13110245	0.131102		
298.15	0.773051138	0.71387	1.5787	1.5787E-03	0.001545356	-2.1121109	2.112111		
298.15	0.768263648	0.80062	1.7163	1.7163E-03	0.001648491	-3.9508725	3.950873		
298.15	0.764300255	0.88223	1.8423	1.8423E-03	0.001724498	-6.3942801	6.39428		
298.15	0.759330572	1	2.0883	2.0883E-03	0.001789075	-14.328659	14.32866		2.229322
<i>Average Error for Temp.</i>									

BENZENE (1) - n-TETRADECANE(2)

00843 Trevo, D. J.; Drickamer, H. G.; J. Chem. Phys., 17(6), 582-583(1949)

P= 1 atm

		Benzene	(cP)	
298	0.788443134	0.5	1.2394	1.2394E-03
318	0.77315941	0.5	0.9217	9.2170E-04
335.8	0.759244466	0.5	0.7175	7.1750E-04
<i>Average Error for Temp.</i>				
				0.484567

BENZENE - n-TETRADECANE

Total Error for All Temps. 21.5176 1.048464 1.13235219

NAPHTHALENE (1) - HEXANE (2)

01235 Chatterji, A. C.; Bose, A. N.; J. Indian Chem. Soc., 25, 39-42(1948)

P= 1 atm

		Naphthalene	(Poise)	
298.15	0.68934217	0.09526016	0.003806	3.8060E-04
303.15	0.684794578	0.09526016	0.003636	3.6360E-04
308.15	0.680198039	0.09526016	0.003455	3.4550E-04
313.15	0.675550539	0.09526016	0.00331	3.3100E-04
318.15	0.670849931	0.09526016	0.003166	3.1660E-04
<i>%AAD=</i> 1.677045				
				2.204789
				-2.4993584
				-2.185251
				-2.5906052
				-2.7635042
				2.763504
				2.448702

[illegible]

NAPHTHALENE (1) - HEXANE (2)

01236 Bose, A. N.; J. Indian Chem. Soc., 25, 33-38(1948)

$P = 1 \text{ atm}$

Naphthalene		(P)	1.476383				
303, 15	0.684794578	0.09528016	0.003636	3.6360E-04	0.000354512	-2.49935684	2.489358
303, 15	0.692972684	0.11853122	0.003813	3.8130E-04	0.000371486	-2.5737039	2.573704
303, 15	0.702774828	0.14635665	0.003926	3.9260E-04	0.0003926	1.6664E-05	1.67E-05
303, 15	0.713619834	0.17705783	0.004135	4.1350E-04	0.000416942	0.83245255	0.832453
318, 15	0.670849931	0.09528016	0.003166	3.1660E-04	0.000307851	-2.7635042	2.763504
318, 15	0.679019658	0.11853122	0.003268	3.2680E-04	0.000322297	-1.3779855	1.377965
318, 15	0.688816776	0.14635665	0.003406	3.4060E-04	0.000340289	-0.0970368	0.097037
318, 15	0.699662802	0.17705783	0.003567	3.5670E-04	0.000360997	1.20452977	1.20453
318, 15	0.713654994	0.21650732	0.003785	3.7850E-04	0.000389032	2.78248354	2.782484
Average Error for Temp.							1.645104

NAPHTHALENE - HEXANE

m-XYLENE (1) - o-XYLENE (2)

01870 Serrano, L.; Silva, J. A.; Farelo, F.; J. Chem. Eng. Data, 35, 288-291(1990)

$P = 1 \text{ atm}$

	<i>Exp. Density</i>	<i>m-Xylene</i>	(cSt)			
273.15	0.99437	0	1.225	1.0956E-03	0.00093528	-14.633323
273.15	0.99286	0.1001	1.173	1.0473E-03	0.000937307	-10.504644
273.15	0.99152	0.2081	1.133	1.0101E-03	0.000937873	-7.1497613
273.15	0.99058	0.2907	1.1	9.7984E-04	0.00093625	-4.4290185
273.15	0.98865	0.4111	1.062	9.4375E-04	0.000927902	-1.6788224
273.15	0.98716	0.5029	1.036	9.1910E-04	0.000918058	-0.1130933

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	273.15	0.88557	0.6175	1.014	8.979E-04	0.000902519	0.50865328	0.508853	5.409061
	273.15	0.88397	0.7339	0.98	8.6629E-04	0.000882378	1.85701393	1.857014	
	273.15	0.88293	0.8046	0.958	8.4585E-04	0.000868005	2.61959313	2.619593	
	273.15	0.88146	0.904	0.931	8.2064E-04	0.000845749	3.05976728	3.059767	
	273.15	0.88036	1	0.916	8.0641E-04	0.000823584	2.12966334	2.129663	
	278.15	0.89137	0	1.136	1.0126E-03	0.000879268	-13.166936	13.16694	5.620501
	278.15	0.8898	0.1001	1.099	9.7789E-04	0.00087996	-10.014418	10.01442	
	278.15	0.88809	0.2081	1.067	9.4759E-04	0.000878488	-7.2926075	7.292608	
	278.15	0.88677	0.2907	1.039	9.2135E-04	0.000875339	-4.9942866	4.994287	
	278.15	0.88501	0.4111	0.998	8.8324E-04	0.000867725	-1.7566106	1.756611	
	278.15	0.8837	0.5029	0.975	8.6161E-04	0.000859041	-0.2978981	0.297898	4.992356
	278.15	0.88204	0.6175	0.947	8.3529E-04	0.000844528	1.10569033	1.10569	
	278.15	0.88036	0.7339	0.913	8.0377E-04	0.000825982	2.76370568	2.763706	
	278.15	0.87919	0.8046	0.897	7.8863E-04	0.00081261	3.04030341	3.040303	
	278.15	0.87759	0.904	0.874	7.6701E-04	0.000792213	3.28539645	3.285396	
	278.15	0.87662	1	0.857	7.5126E-04	0.000772799	2.86665824	2.866658	5.820501
	283.15	0.88739	0	1.054	9.3531E-04	0.000825016	-11.792148	11.79215	
	283.15	0.88577	0.1001	1.024	9.0703E-04	0.000824638	-9.0835228	9.083523	
	283.15	0.88412	0.2081	0.992	8.7705E-04	0.000822725	-6.1937274	6.193727	
	283.15	0.88286	0.2907	0.964	8.5108E-04	0.00081957	-3.7019873	3.701987	
	283.15	0.88114	0.4111	0.936	8.2475E-04	0.000812259	-1.5141098	1.51411	5.820501
	283.15	0.87986	0.5029	0.914	8.0419E-04	0.000804195	0.00041248	0.000412	
	283.15	0.87815	0.6175	0.889	7.8068E-04	0.000790683	1.28191782	1.281918	
	283.15	0.87641	0.7339	0.863	7.5634E-04	0.00077364	2.28704348	2.287043	
	283.15	0.87534	0.8046	0.845	7.3966E-04	0.000761817	2.99519162	2.995192	
	283.15	0.8739	0.904	0.824	7.2009E-04	0.000743888	3.30428605	3.304286	4.992356
	283.15	0.87264	1	0.809	7.0588E-04	0.000725486	2.77685539	2.776855	
	288.15	0.88288	0	0.98	8.6522E-04	0.000773844	-10.561299	10.5613	
	288.15	0.88151	0.1001	0.956	8.4272E-04	0.00077344	-8.2213496	8.22135	
	288.15	0.87977	0.2081	0.929	8.1731E-04	0.000770751	-5.6961299	5.69613	
	288.15	0.87843	0.2907	0.903	7.9322E-04	0.000767232	-3.2765666	3.276567	4.992356
	288.15	0.87681	0.4111	0.876	7.6809E-04	0.000760404	-1.0001559	1.000156	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	288.15	0.87584	0.5029	0.858	7.5130E-04	0.000753139	0.2449237	0.244922	
	288.15	0.87397	0.6175	0.835	7.2976E-04	0.000740791	1.51086332	1.510883	
	288.15	0.87228	0.7339	0.813	7.0916E-04	0.0007254	2.28956992	2.28957	
	288.15	0.87113	0.8046	0.796	6.9342E-04	0.000714489	3.03856614	3.038566	
	288.15	0.86955	0.904	0.782	6.7999E-04	0.000697987	2.64697935	2.646979	
	288.15	0.86809	1	0.76	6.5975E-04	0.000681259	3.26036926	3.260369	4.638532
	293.15	0.87946	0	0.92	8.0910E-04	0.000730034	-9.7723991	9.772399	
	293.15	0.87727	0.1001	0.896	7.8603E-04	0.00072666	-7.5535978	7.553598	
	293.15	0.87571	0.2081	0.874	7.6537E-04	0.000724031	-5.4012264	5.401226	
	293.15	0.87447	0.2907	0.854	7.4680E-04	0.000720675	-3.4979825	3.497983	
	293.15	0.87253	0.4111	0.828	7.2245E-04	0.000713186	-1.2830327	1.283033	
	293.15	0.87131	0.5029	0.81	7.0576E-04	0.000708233	0.06689678	0.066897	
	293.15	0.86952	0.6175	0.787	6.8431E-04	0.000694533	1.49357239	1.493572	
	293.15	0.86793	0.7339	0.765	6.6397E-04	0.000680762	2.5295168	2.529517	
	293.15	0.86701	0.8046	0.753	6.5286E-04	0.000671449	2.84761604	2.847616	
	293.15	0.86531	0.904	0.737	6.3773E-04	0.000656274	2.90724802	2.907248	
	293.15	0.86378	1	0.719	6.2106E-04	0.000641115	3.22949676	3.229497	4.509176
	298.15	0.87558	0	0.865	7.5738E-04	0.000688587	-9.0826239	9.082624	
	298.15	0.87384	0.1001	0.843	7.3648E-04	0.000685367	-6.9400307	6.940031	
	298.15	0.87217	0.2081	0.82	7.1518E-04	0.000682562	-4.5607965	4.560797	
	298.15	0.8707	0.2907	0.804	7.0004E-04	0.000678525	-3.0737904	3.07379	
	298.15	0.86896	0.4111	0.782	6.7953E-04	0.000671744	-1.1452581	1.145258	
	298.15	0.86777	0.5029	0.767	6.6558E-04	0.000665261	-0.0477931	0.047793	
	298.15	0.86589	0.6175	0.745	6.4509E-04	0.000654201	1.41272131	1.412721	
	298.15	0.86402	0.7339	0.726	6.2728E-04	0.000640957	2.18057521	2.180575	
	298.15	0.86287	0.8046	0.716	6.1761E-04	0.000631982	2.29307944	2.293079	
	298.15	0.86142	0.904	0.698	6.0127E-04	0.000618868	2.92662916	2.926629	
	298.15	0.86006	1	0.686	5.9000E-04	0.000605674	2.65642653	2.656427	4.035525
	303.15	0.87136	0	0.814	7.0929E-04	0.000649635	-8.4101151	8.410115	
	303.15	0.86959	0.1001	0.799	6.9480E-04	0.000646402	-6.9661024	6.966102	
	303.15	0.86831	0.2081	0.778	6.7555E-04	0.000643719	-4.7112236	4.711224	
	303.15	0.86639	0.2907	0.76	6.5846E-04	0.000638575	-3.0193487	3.019349	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
303.15	0.86497	0.4111	0.74	6.4008E-04	0.000832748	-1.1450994	1.145099		
303.15	0.86353	0.5029	0.725	6.2606E-04	0.000826059	-7.786E-05	7.79E-05		
303.15	0.86115	0.6175	0.705	6.0711E-04	0.00081467	1.2451783	1.245178		
303.15	0.86014	0.7339	0.69	5.9350E-04	0.00080451	1.85571495	1.855715		
303.15	0.85906	0.8046	0.679	5.8330E-04	0.000596514	2.26515288	2.265153		
303.15	0.85751	0.904	0.666	5.7110E-04	0.000584469	2.34057746	2.340577		
303.15	0.85587	1	0.65	5.5632E-04	0.000572043	2.82703751	2.827038		
<i>Average Error for Temp.</i>									3.86507
<i>Total Error for All Temps.</i>									0.964846
<i>kij</i>									1.11046167
<i>IIj</i>									

m-XYLENE - o-XYLENE

TOLUENE (1) - o-XYLENE (2)

01810 Mamedov, A. A.; Panchenkov, G. M.; Zh. Fiz. Khim., 29(7), 1204-1220(1955)

P= 1 atm

		Toluene		(10-5 P)					
253.15	0.909418531	0.3003	1301	1.3010E-03	0.001245432	-4.2711398	4.27114		
263.15	0.901406666	0.3003	1125	1.1250E-03	0.001073429	-4.5840598	4.58406		
273.15	0.893302945	0.3003	975	9.7500E-04	0.000932217	-4.3880361	4.388036		
283.15	0.885102981	0.3003	834	8.3400E-04	0.000815282	-2.2443572	2.244357		
293.15	0.876802033	0.3003	722	7.2200E-04	0.000717685	-0.5976639	0.597664		
303.15	0.868394973	0.3003	636	6.3600E-04	0.000635631	-0.0580785	0.058079		
313.15	0.859876239	0.3003	568	5.6800E-04	0.000566173	-0.3216972	0.321697		
323.15	0.851239777	0.3003	507	5.0700E-04	0.000507	-4.391E-07	4.39E-07		
333.15	0.842478986	0.3003	459	4.5900E-04	0.000456283	-0.5920215	0.592021		
343.15	0.833586641	0.3003	419	4.1900E-04	0.00041256	-1.5370168	1.537017		
353.15	0.824554808	0.3003	384	3.8400E-04	0.000374657	-2.4331788	2.433179		
									1.911588
253.15	0.90898361	0.3607	1271	1.2710E-03	0.001237361	-2.6466479	2.646648		
263.15	0.900917104	0.3607	1082	1.0820E-03	0.001065798	-1.4974055	1.497405		
273.15	0.89275777	0.3607	951	9.5100E-04	0.000925037	-2.7300948	2.730095		
283.15	0.884501136	0.3607	813	8.1300E-04	0.000808546	-0.5478479	0.547848		
293.15	0.876142374	0.3607	708	7.0800E-04	0.000711374	0.47657612	0.476576		
303.15	0.867676253	0.3607	626	6.2600E-04	0.000629721	0.59442601	0.594426		

%AAD= 1.620632

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	313.15	0.859097096	0.3607	557	5.5700E-04	0.000560638	0.65308877	0.653089	
	323.15	0.850398724	0.3607	500	5.0000E-04	0.000501812	0.36240773	0.362408	
	333.15	0.841574389	0.3607	452	4.5200E-04	0.000451415	-0.1294372	0.129437	
	343.15	0.832616701	0.3607	414	4.1400E-04	0.000407987	-1.4524365	1.452437	
	353.15	0.823517539	0.3607	377	3.7700E-04	0.000370354	-1.7627876	1.762788	1.168469
	253.15	0.907785478	0.5223	1210	1.2100E-03	0.001201497	-0.7027151	0.702715	
	263.15	0.899568777	0.5223	1034	1.0340E-03	0.00103403	0.0029096	0.00291	
	273.15	0.891256652	0.5223	903	9.0300E-04	0.000896753	-0.6917996	0.6918	
	283.15	0.882844416	0.5223	763	7.6300E-04	0.000783244	2.65325687	2.653257	
	293.15	0.874326999	0.5223	670	6.7000E-04	0.000688639	2.78193948	2.781939	
	303.15	0.865698901	0.5223	601	6.0100E-04	0.000609206	1.36536639	1.365366	
	313.15	0.856954142	0.5223	528	5.2800E-04	0.000542051	2.66125623	2.661256	
	323.15	0.848086202	0.5223	472	4.7200E-04	0.000484909	2.73497031	2.73497	
	333.15	0.839087947	0.5223	431	4.3100E-04	0.000435987	1.1569899	1.15699	
	343.15	0.829951552	0.5223	394	3.9400E-04	0.000393855	-0.0367518	0.036752	
	353.15	0.820668396	0.5223	367	3.6700E-04	0.000357366	-2.6249319	2.624932	1.58299
	253.15	0.906652138	0.669	1154	1.1540E-03	0.001152093	-0.1652401	0.16524	
	263.15	0.898293807	0.669	950	9.5000E-04	0.00089182	4.40212109	4.402121	
	273.15	0.889837715	0.669	848	8.4800E-04	0.000860415	1.4639923	1.463992	
	283.15	0.881278981	0.669	731	7.3100E-04	0.000751746	2.83804999	2.83805	
	293.15	0.872612315	0.669	640	6.4000E-04	0.000661166	3.30722884	3.307229	
	303.15	0.863831978	0.669	567	5.6700E-04	0.000585108	3.19356274	3.193563	
	313.15	0.854931713	0.669	508	5.0800E-04	0.000520802	2.52001018	2.52001	
	323.15	0.8465904698	0.669	456	4.5600E-04	0.000466079	2.21034663	2.210347	
	333.15	0.836743453	0.669	419	4.1900E-04	0.000419224	0.0534986	0.053499	
	343.15	0.827439759	0.669	361	3.6100E-04	0.000378868	-0.5595761	0.559576	
	353.15	0.81798455	0.669	350	3.5000E-04	0.000343911	-1.7397827	1.739783	2.041219
	253.15	0.905433167	0.8205	1077	1.0770E-03	0.001086687	0.89943323	0.899433	
	263.15	0.896922986	0.8205	926	9.2600E-04	0.00093884	1.17065501	1.170655	
	273.15	0.888312659	0.8205	809	8.0900E-04	0.000813839	0.59817999	0.59818	
	283.15	0.879597102	0.8205	700	7.0000E-04	0.000712016	1.71659472	1.716595	
	293.15	0.870770806	0.8205	616	6.1600E-04	0.000627063	1.79602027	1.79602	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	303.15	0.861827781	0.8205	546	5.4600E-04	0.00055669	1.770824	1.770824	
	313.15	0.852761497	0.8205	489	4.8900E-04	0.000495257	1.27953493	1.279535	
	323.15	0.843664815	0.8205	441	4.4100E-04	0.000443807	0.63652162	0.636522	
	333.15	0.834228905	0.8205	404	4.0400E-04	0.000399718	-1.0597873	1.059787	
	343.15	0.824748149	0.8205	367	3.6700E-04	0.000361713	-1.4405877	1.440588	
	353.15	0.815110026	0.8205	339	3.3900E-04	0.000328763	-3.0198963	3.019896	
<i>Average Error for Temp.</i>									1.398912
TOLUENE - o-XYLENE									
							<i>kij</i>	<i>lij</i>	
<i>Total Error for All Temps.</i>							89.13474	0.977718	1.09784923

HEPTANE (1) - o-XYLENE (2)
 01721 Khalilov, K. M.; Zabelina, Yu. Yu.; Tr. Inst. Fiz. Mat. Akad. Nauk Az. SSR Ser. Fiz., 9, 124-127(1958)
 P= 1 atm %AAD= 5.023212

<i>Heptane (10-4 mN s/m2)</i>									
293.15	0.821767572	0.26099248	5675	5.6750E-04	0.000567462	-3.4107678	3.410768		
313.15	0.804930947	0.26099248	4679	4.6790E-04	0.000452083	-3.3803634	3.380363		
333.15	0.787555086	0.26099248	3819	3.8190E-04	0.000367618	-3.7396304	3.73963		
353.15	0.769564578	0.26099248	3230	3.2300E-04	0.000304248	-5.8055749	5.805575		
373.15	0.750864312	0.26099248	2692	2.6920E-04	0.000255597	-5.0532869	5.053287		
393.15	0.731331144	0.26099248	2313	2.3130E-04	0.000217403	-6.008102	6.008102		
413.15	0.710800194	0.26099248	1998	1.9980E-04	0.000186745	-6.5339123	6.533912		
433.15	0.68904077	0.26099248	1727	1.7270E-04	0.000161564	-6.4479368	6.447937		
453.15	0.665710012	0.26099248	1502	1.5020E-04	0.000140366	-6.5475958	6.547596		
473.15	0.640251713	0.26099248	1292	1.2920E-04	0.000122008	-5.5681282	5.568128		
493.15	0.611630278	0.26099248	1113	1.1130E-04	0.00010551	-5.2024242	5.202424		
513.15	0.577372889	0.26099248	941	9.4100E-05	8.97485E-05	-4.6243262	4.624326		
533.15	0.526224143	0.26099248	761	7.6100E-05	7.15471E-05	-5.9827478	5.982748		
									3.794711
293.15	0.770810457	0.51444493	4736	4.7360E-04	0.000475971	0.50056508	0.500565		
313.15	0.753737873	0.51444493	3797	3.7970E-04	0.000381563	0.49073689	0.490737		
333.15	0.738066554	0.51444493	3118	3.1180E-04	0.000311879	0.02537203	0.025372		
353.15	0.717705337	0.51444493	2613	2.6130E-04	0.000259146	-0.8242391	0.824239		
373.15	0.698537478	0.51444493	2233	2.2330E-04	0.000218286	-2.2454361	2.245436		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	393.15	0.678409223	0.51444493	1937	1.9370E-04	0.000185883	-4.0357427	4.035743	
	413.15	0.657110792	0.51444493	1633	1.6330E-04	0.000159578	-2.2793218	2.279322	
	433.15	0.634342524	0.51444493	1401	1.4010E-04	0.000137696	-1.7161411	1.716141	
	453.15	0.609849004	0.51444493	1197	1.1970E-04	0.000119002	-0.5833084	0.583308	
	473.15	0.58227425	0.51444493	985	9.8500E-05	0.000102528	4.08889714	4.088897	
	493.15	0.550780231	0.51444493	874	8.7400E-05	8.74E-05	-2.832E-05	2.83E-05	
	513.15	0.511683208	0.51444493	700	7.0000E-05	7.25135E-05	3.59077954	3.59078	
	533.15	0.449267324	0.51444493	589	5.8900E-05	5.45455E-05	-7.3930819	7.393062	1.735852
	293.15	0.725803965	0.76067943	3659	3.6590E-04	0.00042803	16.9800952	16.9801	
	313.15	0.708667115	0.76067943	3022	3.0220E-04	0.000346655	14.7103033	14.7103	
	333.15	0.690897285	0.76067943	2537	2.5370E-04	0.000285721	12.6215754	12.62158	
	353.15	0.672394192	0.76067943	2149	2.1490E-04	0.000238958	11.1947798	11.19478	
	373.15	0.653028691	0.76067943	1834	1.8340E-04	0.000202208	10.2553345	10.25533	
	393.15	0.632629715	0.76067943	1566	1.5660E-04	0.000172644	10.2450135	10.24501	
	413.15	0.610962505	0.76067943	1351	1.3510E-04	0.000148287	9.76128302	9.761283	
	433.15	0.587688637	0.76067943	1160	1.1600E-04	0.00012772	10.103165	10.10317	
	453.15	0.562296676	0.76067943	995	9.9500E-05	0.00010988	10.4317558	10.43176	
	473.15	0.533925106	0.76067943	851	8.5100E-05	9.39184E-05	10.3624299	10.36243	
	493.15	0.500942337	0.76067943	722	7.2200E-05	7.90468E-05	9.4830819	9.483082	
	513.15	0.459414101	0.76067943	599	5.9900E-05	6.42248E-05	7.22007257	7.220073	
	523.15	0.431897375	0.76067943	537	5.3700E-05	5.6149E-05	4.56059891	4.560599	
	533.15	0.391947571	0.76067943	457	4.5700E-05	4.62863E-05	1.28723319	1.287233	
	538.15	0.35445828	0.76067943	372	3.7200E-05	3.86394E-05	3.86935483	3.869355	
							Average Error for Temp.		
							9.539072 klj		
							Total Error for All Temps.		
							239.1645 0.940031 1.09650418 llj		
HEPTANE - o-XYLENE									
00761 Panchenkov, G. M.; Erchenkov, V. V.; Russ. J. Phys. Chem., 36(4), 455-457(1962)									
P=1 atm									
Cumene (cP)									
%AAD=									
283.15	0.876302528	0	0.75	7.5000E-04	0.000792499	5.66655615	5.666556		
293.15	0.867846481	0	0.668	6.6800E-04	0.000700988	4.93837877	4.938379		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	313.15	0.850815424	0	0.528	5.2600E-04	0.000557927	5.66798903	5.667989	
	333.15	0.832920241	0	0.43	4.3000E-04	0.000453258	5.40883845	5.408838	
	343.15	0.823882026	0	0.392	3.9200E-04	0.000411352	4.93673332	4.936733	
	353.15	0.814706622	0	0.36	3.6000E-04	0.00037488	4.13344853	4.133449	5.125324
	283.15	0.87391814	0.4675	0.809	8.0900E-04	0.000783024	-3.2108301	3.21083	
	293.15	0.865559896	0.4675	0.696	6.9600E-04	0.000696109	0.01568058	0.015681	
	313.15	0.848537652	0.4675	0.545	5.4500E-04	0.000561092	2.95260495	2.952605	
	333.15	0.83107125	0.4675	0.463	4.6300E-04	0.000463	-3.518E-06	3.52E-06	
	353.15	0.813109845	0.4675	0.391	3.9100E-04	0.00038981	-0.3044007	0.304401	1.296704
	283.15	0.871532289	1	0.908	9.0800E-04	0.001374603	51.3679801	51.36798	
	293.15	0.863271494	1	0.787	7.8700E-04	0.001173166	49.0681163	49.06812	
	313.15	0.846457426	1	0.612	6.1200E-04	0.00087387	42.7891695	42.78917	
	333.15	0.829219249	1	0.49	4.9000E-04	0.000669372	36.6064293	36.60643	
	353.15	0.811508634	1	0.405	4.0500E-04	0.000526064	29.8924615	29.89246	41.94883
<i>Average Error for Temp.</i>									
CUMENE - ETHYLBENZENE									
<i>Total Error for All Temps.</i>									
				<i>kJ</i>		<i>kJ</i>		<i>kJ</i>	
				6.48352		1.071254		0.86525554	

TOLUENE (1) - ISOPROPYLBENZENE (2)
01810 Mamedov, A. A.; Panchenkov, G. M.; Zh. Fiz. Khim., 29(7), 1204-1220(1955)

P=	1 atm	Toluene		(10-5 P)		%AAD= 4.682376	
253.15	0.897670914	0.2846	1294	1.2940E-03	0.001472058	13.7602949	13.76029
263.15	0.889511021	0.2846	1101	1.1010E-03	0.001255397	14.0233328	14.02333
273.15	0.88126299	0.2846	952	9.5200E-04	0.001079689	13.4127166	13.41272
283.15	0.872922622	0.2846	837	8.3700E-04	0.000936084	11.8379858	11.83799
293.15	0.864485368	0.2846	727	7.2700E-04	0.000817847	12.496194	12.49619
303.15	0.855946367	0.2846	638	6.3800E-04	0.000719806	12.8223136	12.82231
313.15	0.84730031	0.2846	569	5.6900E-04	0.000637953	12.1182116	12.11821
323.15	0.838541363	0.2846	507	5.0700E-04	0.000569155	12.2593627	12.25936
333.15	0.829863316	0.2846	460	4.6000E-04	0.000510949	11.0759296	11.07593

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	343.15	0.820659228	0.2846	418	4.1800E-04	0.000461383	10.3786998	10.3787	
	353.15	0.811521576	0.2846	387	3.8700E-04	0.000418899	8.24259993	8.2426	12.03888
	253.15	0.899499168	0.5253	1192	1.1920E-03	0.001177036	-1.2553321	1.255332	
	263.15	0.891182527	0.5253	1022	1.0220E-03	0.001016509	-0.5372977	0.537298	
	273.15	0.882773329	0.5253	896	8.9600E-04	0.000884983	-1.2296214	1.229621	
	283.15	0.874267033	0.5253	776	7.7600E-04	0.000776393	0.05068653	0.050687	
	293.15	0.865858734	0.5253	676	6.7600E-04	0.000686085	1.49189984	1.4919	
	303.15	0.856843111	0.5253	597	5.9700E-04	0.000610451	2.25309183	2.253092	
	313.15	0.848114383	0.5253	533	5.3300E-04	0.000546672	2.56505463	2.565055	
	323.15	0.839166247	0.5253	477	4.7700E-04	0.000492528	3.25533202	3.255332	
	333.15	0.830091816	0.5253	434	4.3400E-04	0.000446259	2.82466651	2.824667	
	343.15	0.820883534	0.5253	396	3.9600E-04	0.000406459	2.64128481	2.641285	
	353.15	0.811533086	0.5253	372	3.7200E-04	0.000372	1.2531E-07	1.25E-07	1.645842
	253.15	0.900983573	0.6998	1110	1.1100E-03	0.001066127	-3.9525574	3.952557	
	263.15	0.892539279	0.6998	957	9.5700E-04	0.00092443	-3.4033288	3.403329	
	273.15	0.883998895	0.6998	851	8.5100E-04	0.000807795	-5.0770046	5.077005	
	283.15	0.875357615	0.6998	734	7.3400E-04	0.000711053	-3.1263242	3.126324	
	293.15	0.866610234	0.6998	644	6.4400E-04	0.000630228	-2.1385846	2.138585	
	303.15	0.857751101	0.6998	570	5.7000E-04	0.000562229	-1.3633266	1.363327	
	313.15	0.848774064	0.6998	509	5.0900E-04	0.000504636	-0.85742	0.85742	
	323.15	0.839672407	0.6998	458	4.5800E-04	0.000455535	-0.5383165	0.538317	
	333.15	0.830438772	0.6998	416	4.1600E-04	0.000413403	-0.624308	0.624308	
	343.15	0.821065075	0.6998	380	3.8000E-04	0.000377021	-0.7839682	0.783968	
	353.15	0.811542398	0.6998	348	3.4800E-04	0.000345405	-0.7456998	0.7457	2.055531
	253.15	0.902445245	0.856	1082	1.0820E-03	0.001012918	-6.3846864	6.384686	
	263.15	0.893874914	0.856	909	9.0900E-04	0.000878369	-3.3697718	3.369772	
	273.15	0.885205066	0.856	806	8.0600E-04	0.000767457	-4.7819868	4.781987	
	283.15	0.876430638	0.856	694	6.9400E-04	0.000676315	-2.6923717	2.692372	
	293.15	0.867546139	0.856	612	6.1200E-04	0.000598202	-2.2545031	2.254503	
	303.15	0.858545602	0.856	544	5.4400E-04	0.000533218	-1.982073	1.982073	
	313.15	0.849422521	0.856	485	4.8500E-04	0.000478087	-1.4253909	1.425391	
	323.15	0.840169781	0.856	437	4.3700E-04	0.000431014	-1.3696893	1.369689	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	333.15	0.83077958	0.856	400	4.000E-04	0.00039057	-2.3574155	2.357416	
	343.15	0.821243329	0.856	369	3.6900E-04	0.000355608	-3.6293622	3.629362	
	353.15	0.811551537	0.856	334	3.3400E-04	0.0003252	-2.6345874	2.634587	
							Average Error for Temp.		
							2.989256		
TOLUENE - ISOPROPYL BENZENE									
							k_{ij}	l_{ij}	
							Total Error for All Temps.		
							208.0246	1.065793	0.74665133

TOLUENE (1) - ETHYLBENZENE (2)									
01810 Mamedov, A. A.; Panchenkov, G. M.; Zh. Fiz. Khim., 29(7), 1204-1220(1955)									
P= 1 atm									
			Toluene	(10-5 P)				%AAD=	1.446412
253.15	0.90154597	0.1809	1150	1.1500E-03	0.001138616	-0.989881	0.989881		
263.15	0.893290357	0.1809	979	9.7900E-04	0.000987684	0.88698518	0.886985		
273.15	0.884942193	0.1809	840	8.4000E-04	0.000862947	2.73177685	2.731777		
283.15	0.87649699	0.1809	734	7.3400E-04	0.000759038	3.41111663	3.411117		
293.15	0.867949899	0.1809	652	6.5200E-04	0.000671838	3.04264471	3.042645		
303.15	0.859295672	0.1809	581	5.8100E-04	0.000598155	2.95269221	2.952692		
313.15	0.850528609	0.1809	520	5.2000E-04	0.000535488	2.978394	2.978394		
323.15	0.841642509	0.1809	460	4.6000E-04	0.000481858	4.75180182	4.751802		
333.15	0.832630601	0.1809	418	4.1800E-04	0.000435691	4.23226292	4.232263		
343.15	0.823485471	0.1809	383	3.8300E-04	0.000395719	3.32093678	3.320937		
									2.929849
253.15	0.902043843	0.3695	1117	1.1170E-03	0.001092712	-2.1743738	2.174374		
263.15	0.893695653	0.3695	948	9.4800E-04	0.000948	-1.497E-07	1.5E-07		
273.15	0.885252673	0.3695	820	8.2000E-04	0.000828434	1.02853385	1.028534		
283.15	0.876710232	0.3695	716	7.1600E-04	0.000728856	1.79552426	1.795524		
293.15	0.868063281	0.3695	636	6.3600E-04	0.00064531	1.46380934	1.463809		
303.15	0.859306346	0.3695	565	5.6500E-04	0.000574728	1.72174273	1.721743		
313.15	0.850433475	0.3695	505	5.0500E-04	0.000514707	1.92222514	1.922225		
323.15	0.84143818	0.3695	459	4.5900E-04	0.000463349	0.94746235	0.947462		
333.15	0.832313368	0.3695	418	4.1800E-04	0.000419139	0.27250147	0.272501		
343.15	0.823051258	0.3695	381	3.8100E-04	0.000380862	-0.0361687	0.036169		
353.15	0.813643285	0.3695	349	3.4900E-04	0.000347535	-0.4197652	0.419765		

[illegible]

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
n-HEXANE (1) - ETHYLBENZENE (2)									
01385 Teja, A. S.; Rice, P.; Chem. Eng. Sci., 36, 7-10(1981)									
P= 1 atm									
n-Hexane									
				(cP)					%AAD= 3.697868
298.15	0.8635786		0	0.638	6.3800E-04	0.000660735	3.56352231	3.563522	
298.15	0.832825789		0.14	0.56	5.6000E-04	0.000581557	3.84952445	3.849524	
298.15	0.809712349		0.247	0.51	5.1000E-04	0.000529184	3.76155098	3.761551	
298.15	0.79052769		0.337	0.47	4.7000E-04	0.00048932	4.11059961	4.1106	
298.15	0.759269886		0.486	0.416	4.1600E-04	0.000430861	3.59637224	3.596372	
298.15	0.727402324		0.641	0.365	3.6500E-04	0.00038019	4.16153264	4.161533	
298.15	0.709194447		0.731	0.339	3.3900E-04	0.000355483	4.86237509	4.862375	
298.15	0.656026202		1	0.295	2.9500E-04	0.00030543	3.53563561	3.535636	4.056993
308.15	0.854964783		0	0.567	5.6700E-04	0.000589495	3.96737312	3.967373	
308.15	0.824036253		0.14	0.499	4.9900E-04	0.000517818	3.77110945	3.771109	
308.15	0.800815267		0.247	0.454	4.5400E-04	0.00047103	3.75105091	3.751051	
308.15	0.761556811		0.337	0.421	4.2100E-04	0.000435772	3.50874613	3.508746	
308.15	0.750208783		0.486	0.371	3.7100E-04	0.000384712	3.69607219	3.696072	
308.15	0.71828747		0.641	0.328	3.2800E-04	0.000340861	4.55867433	4.558674	
308.15	0.700086184		0.731	0.302	3.0200E-04	0.00031976	5.88063929	5.880639	
308.15	0.646930659		1	0.265	2.6500E-04	0.000278131	4.95495169	4.954952	4.194382
323.15	0.841829016		0	0.48	4.8000E-04	0.000501673	4.51528865	4.515289	
323.15	0.810596719		0.14	0.426	4.2600E-04	0.000439335	3.13036935	3.130369	
323.15	0.787187052		0.247	0.39	3.9000E-04	0.000399398	2.40928798	2.409288	
323.15	0.767797679		0.337	0.363	3.6300E-04	0.000369726	1.85296898	1.852969	
323.15	0.736286014		0.486	0.321	3.2100E-04	0.000327431	2.00347561	2.003476	
323.15	0.704260865		0.641	0.283	2.8300E-04	0.000291804	3.11108561	3.111086	
323.15	0.686008682		0.731	0.263	2.6300E-04	0.000274956	4.5461901	4.54619	
323.15	0.6329000249		1	0.235	2.3500E-04	0.000243135	3.46158865	3.461589	2.84223
Average Error for Temp.									

n-HEXANE - ETHYLBENZENE

Total Error for All Temps. 165.7884 0.920574 1.23284213

k/J

h/J

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
TOLUENE (1) - p-XYLENE (2)									
01810 Mamedov, A. A.; Panchenkov, G. M.; Zh. Fiz. Khim., 29(7), 1204-1220(1955)									
P= 1 atm									
<i>Toluene</i>									
(10-5 P)									
283.15	0.870256986		0.1516	711	7.1100E-04	0.000709	-0.348	0.34799604	%AAD= 0.759489
293.15	0.861892687		0.1516	636	6.3600E-04	0.000628	-1.23372	1.23372284	
303.15	0.853420285		0.1516	560	5.6000E-04	0.00056	0.035687	0.03568746	
313.15	0.844834056		0.1516	509	5.0900E-04	0.000502	-1.30322	1.30322258	
323.15	0.836127758		0.1516	459	4.5900E-04	0.000453	-1.34258	1.34258278	
333.15	0.82728458		0.1516	402	4.0200E-04	0.00041	2.031131	2.03113075	
343.15	0.818327081		0.1516	374	3.7400E-04	0.000373	-0.21746	0.21746215	
353.15	0.809217007		0.1516	351	3.5100E-04	0.000341	-2.85988	2.85985691	
									1.17147
283.15	0.871503627		0.3137	696	6.9600E-04	0.000702	0.887518	0.88751759	0.660892
293.15	0.863026773		0.3137	624	6.2400E-04	0.000623	-0.15859	0.15858753	
303.15	0.854438624		0.3137	547	5.4700E-04	0.000556	1.650241	1.6502409	
313.15	0.845736243		0.3137	500	5.0000E-04	0.000499	-0.20394	0.20393917	
323.15	0.836910161		0.3137	450	4.5000E-04	0.00045	0.020715	0.02071483	
333.15	0.827954307		0.3137	404	4.0400E-04	0.000408	0.976965	0.97696467	
343.15	0.818880926		0.3137	370	3.7000E-04	0.000371	0.378579	0.37857916	
353.15	0.809621488		0.3137	343	3.4300E-04	0.00034	-1.01139	1.01139491	
									0.660892
283.15	0.873858345		0.6003	683	6.8300E-04	0.000687	0.65521	0.65521045	0.999258
293.15	0.865169096		0.6003	600	6.0000E-04	0.00061	1.62735	1.62734964	
303.15	0.856364511		0.6003	532	5.3200E-04	0.000544	2.263478	2.26347781	
313.15	0.847438283		0.6003	491	4.9100E-04	0.000488	-0.59192	0.59191541	
323.15	0.838386524		0.6003	437	4.3700E-04	0.00044	0.724847	0.72484795	
333.15	0.829198688		0.6003	394	3.9400E-04	0.000399	1.234756	1.23475639	
343.15	0.819867485		0.6003	360	3.6000E-04	0.000363	0.850408	0.85040789	
353.15	0.810383767		0.6003	332	3.3200E-04	0.000332	-0.0461	0.04609511	
									0.999258
283.15	0.876104859		0.8519	668	6.6800E-04	0.00067	0.290835	0.29083458	0.38482565
293.15	0.867210321		0.8519	588	5.8800E-04	0.000593	0.846106	0.84610634	
303.15	0.858197742		0.8519	526	5.2600E-04	0.000528	0.384826	0.38482565	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	313.15	0.849060474	0.8519	470	4.7000E-04	0.000473	0.605897	0.60589749	
	323.15	0.839791248	0.8519	423	4.2300E-04	0.000428	0.632947	0.63294746	
	333.15	0.830382087	0.8519	388	3.8800E-04	0.000385	-0.74667	0.74666528	
	343.15	0.820824205	0.8519	350	3.5000E-04	0.00035	-0.00148	0.00147675	
	353.15	0.811107898	0.8519	322	3.2200E-04	0.000319	-0.795	0.79499973	0.537982
<i>Average Error for Temp.</i>									
0.537982									
p-XYLENE (1) - TOLUENE (2)									
02145 Ghal, R. K.; Dullien, F. A. L.; J. Phys. Chem., 78(22), 2283-2291(1974)									
P= 1 atm									
			<i>p-Xylene</i>	(cP)					
	298.15	0.863933615	0	0.5538	5.5380E-04	0.000548	-1.13406	1.13406057	
	298.15	0.863517152	0.05	0.5567	5.5670E-04	0.000552	-0.91986	0.91986062	
	298.15	0.863107325	0.1	0.5595	5.5950E-04	0.000556	-0.71349	0.71348812	
	298.15	0.862306957	0.2	0.565	5.6500E-04	0.000563	-0.36916	0.36915901	
	298.15	0.86153131	0.3	0.5703	5.7030E-04	0.00057	-0.1176	0.11760381	
	298.15	0.860779255	0.4	0.5756	5.7560E-04	0.000576	-0.00493	0.00492566	
	298.15	0.860049734	0.5	0.5807	5.8070E-04	0.000581	3.54E-06	3.5422E-06	
	298.15	0.859341748	0.6	0.5857	5.8570E-04	0.000585	-0.11575	0.11575108	
	298.15	0.858654356	0.7	0.5907	5.9070E-04	0.000589	-0.35585	0.35585077	
	298.15	0.857986675	0.8	0.5955	5.9550E-04	0.000592	-0.66505	0.66505292	
	298.15	0.857337867	0.9	0.6001	6.0010E-04	0.000594	-1.01576	1.01575947	
	298.15	0.856707144	1	0.6046	6.0460E-04	0.000596	-1.39165	1.39164899	0.427746
<i>Average Error for Temp.</i>									
0.427746									
p-XYLENE - TOLUENE									
							<i>k_{ij}</i>	<i>l_{ij}</i>	
<i>Total Error for All T_e</i>					31.2350686		1.02689	0.940809	
p-XYLENE (1) - CYCLOHEXANE (2)									
02506 Ruiz, E.; Urieta, J. S.; Santafe, J.; Gutierrez, C.; Bull. Soc.Chim.Fr., 3, 304-8(1989)									
P= 1 atm									
			<i>p-Xylene</i>	(10+3 kg/m s)				%AAD=	0.997316
	303	0.768745122	0	0.8049	8.0490E-04	0.000817	1.526599	1.52659942	
	303	0.778389049	0.1025	0.7341	7.3410E-04	0.000735	0.122693	0.12269268	

[illegible]

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
P-XYLENE - CYCLOHEXANE									
Total Error for All T ϵ									
kij 1.055787 0.753611									
lij 0.753611									

2,4-DIMETHYLPENTANE (1) - n-DODECANE (2)
00843 Trevooy, D. J.; Drickamer, H. G.; J. Chem. Phys., 17(6), 582-583(1949)

P=	1 atm	2,4-Dimethylpeni		(cP)		%AAD=		0.1757	
298	0.714640161	0.5	0.7489	7.4890E-04	0.000749	1.23E-06	1.2285E-06		
318	0.699283516	0.5	0.5809	5.8090E-04	0.000578	-0.48357	0.48357486		
335.8	0.685164734	0.5	0.4682	4.6820E-04	0.000468	0.043523	0.04352317		
298	0.668042455	1	0.3391	3.3910E-04	0.000369	8.701998	8.70199849		0.1757
318	0.651037541	1	0.2811	2.8110E-04	0.000296	5.126642	5.12664217		
335.8	0.635236885	1	0.2377	2.3770E-04	0.000247	4.1006	4.10059984		
Average Error for Temp.									
5.976413									

2,4-DIMETHYLPENTANE - n-DODECANE

Total Error for All T ϵ									
kij 0.989315 1.114853									
lij 1.114853									

2,4-DIMETHYLPENTANE (1) - HEXADECANE (2)
00843 Trevooy, D. J.; Drickamer, H. G.; J. Chem. Phys., 17(6), 582-583(1949)

P=	0.101 MPa	2,3-Dimethylpeni		(g/m s)		%AAD=		0.120734	
298	0.735410714	0.5	1.3144	1.3144E-03	0.001314	-5.3E-06	5.282E-06		
318	0.720694735	0.5	0.9631	9.6310E-04	0.000968	0.273748	0.27374751		
335.8	0.707209576	0.5	0.751	7.5100E-04	0.00075	-0.08645	0.0864478		
298	0.668042455	1	0.3391	3.3910E-04	0.000369	8.701998	8.70199849		0.120734
318	0.651037541	1	0.2811	2.8110E-04	0.000296	5.126642	5.12664217		
335.8	0.635236885	1	0.2377	2.3770E-04	0.000247	4.1006	4.10059984		
Average Error for Temp.									
5.976413									

2,4-DIMETHYLPENTANE - HEXADECANE

Total Error for All T ϵ									
kij 0.983751 1.280846									
lij 1.280846									

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%D	%AD	%AAD
m-XYLENE (1) - CYCLOHEXANE (2)									
02508 Ruiz, E.; Uribe, J. S.; Santafe, J.; Gutierrez, C.; Bull. Soc.Chim.Fr., 3, 304-8(1989)									
P= 1 atm									
m-Xylene (10+3 kg/m s)									
303	0.768745122		0	0.8049	8.0490E-04	0.000817	1.528599	1.52859942	%AAD= 0.720321
303	0.778677156		0.1017	0.7217	7.2170E-04	0.000721	-0.09258	0.09255718	
303	0.788113463		0.2009	0.6601	6.6010E-04	0.00066	-0.02453	0.02453302	
303	0.798078964		0.3085	0.6191	6.1910E-04	0.000616	-0.45009	0.45008661	
303	0.806385347		0.4005	0.5943	5.9430E-04	0.000591	-0.55535	0.55534519	
303	0.81541582		0.503	0.5759	5.7590E-04	0.000572	-0.73497	0.73496523	
303	0.822459011		0.5648	0.5648	5.6480E-04	0.000562	-0.5824	0.58239803	
303	0.832215329		0.7009	0.562	5.6200E-04	0.000554	0.403842	0.40384164	
303	0.840659563		0.8041	0.5484	5.4840E-04	0.000555	1.140092	1.14009228	
303	0.848518675		0.9025	0.5445	5.4450E-04	0.000561	3.057185	3.05718529	
303	0.856127178		1	0.5455	5.4550E-04	0.000573	5.096921	5.09692134	0.762334
313	0.759633539		0	0.687	6.8700E-04	0.000704	2.449563	2.44956269	0.758336
313	0.769626203		0.1017	0.6251	6.2510E-04	0.000629	0.634206	0.63420627	
313	0.779124406		0.2009	0.5799	5.7990E-04	0.000582	0.323159	0.32315892	
313	0.789159818		0.3085	0.548	5.4800E-04	0.000548	-4.6E-09	4.6215E-09	
313	0.797528042		0.4005	0.5296	5.2960E-04	0.000528	-0.25955	0.25955259	
313	0.80662943		0.503	0.5178	5.1780E-04	0.000513	-0.95807	0.9580682	
313	0.819730597		0.5648	0.508	5.0800E-04	0.000505	-0.68111	0.68110692	
313	0.823571084		0.7009	0.5009	5.0090E-04	0.000498	-0.51259	0.51259225	
313	0.83209179		0.8041	0.493	4.9300E-04	0.000498	1.099018	1.09901789	
313	0.840025099		0.9025	0.492	4.9200E-04	0.000504	2.357321	2.35732112	
313	0.84770821		1	0.492	4.9200E-04	0.000514	4.384211	4.38421071	
323	0.750359947		0	0.6023	6.0230E-04	0.000611	1.472502	1.47250206	0.758336
323	0.760416945		0.1017	0.5481	5.4810E-04	0.000553	0.932128	0.93212831	
323	0.769980869		0.2009	0.5125	5.1250E-04	0.000517	0.833982	0.83398157	
323	0.780090565		0.3085	0.4884	4.8840E-04	0.000491	0.48024	0.48023998	
323	0.788524538		0.4005	0.4736	4.7360E-04	0.000475	0.362608	0.36260802	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	323	0.797701372	0.503	0.4625	4.6250E-04	0.000463	0.109533	0.10953276	
	323	0.804864251	0.5848	0.4562	4.5620E-04	0.000456	-0.01578	0.01578031	
	323	0.814794387	0.7009	0.45	4.5000E-04	0.000451	0.149328	0.14932803	
	323	0.823396596	0.8041	0.4466	4.4660E-04	0.00045	0.844482	0.84448216	
	323	0.831408027	0.9025	0.4461	4.4610E-04	0.000454	1.854568	1.85456769	
	323	0.839171743	1	0.4487	4.4870E-04	0.000462	3.068335	3.06833525	0.620294
<i>Average Error for Temp.</i>									
m-XYLENE - CYCLOHEXANE									
							<i>k_{ij}</i>	<i>l_{ij}</i>	
<i>Total Error for All T_e</i>								1.06249	0.70277
n-OCTANE (1) - METHYLCYCLOHEXANE (2)									
01100 Robinson, R. L.; Edmister, W. C.; Dullien, F. A. L.; Ind. Eng. Chem. Fundam., 5(1), 74-79(1966)									
P=	1 atm							%AAD=	1.303492
			<i>n-Octane</i>	(cP)					
	298.15	0.765947525	0	0.68	6.8000E-04	0.000641	-5.77217	5.77217281	
	298.15	0.758780581	0.08611932	0.655	6.5500E-04	0.000631	-3.59242	3.59242265	
	298.15	0.751695714	0.17580623	0.633	6.3300E-04	0.000621	-1.88856	1.88858478	
	298.15	0.740593951	0.32458445	0.602	6.0200E-04	0.000602	-6E-07	6.0158E-07	
	298.15	0.730705995	0.46741228	0.577	5.7700E-04	0.000582	0.848982	0.84898177	
	298.15	0.721162854	0.61536034	0.559	5.5900E-04	0.000559	0.068616	0.06861596	
	298.15	0.71191039	0.77970702	0.535	5.3500E-04	0.000533	-0.43868	0.43868075	
	298.15	0.705127764	0.88947567	0.526	5.2600E-04	0.000514	-2.28718	2.28717996	
	298.15	0.699197897	1	0.517	5.1700E-04	0.000495	-4.32818	4.3281754	1.303492
<i>Average Error for Temp.</i>									
n-OCTANE - METHYLCYCLOHEXANE									
							<i>k_{ij}</i>	<i>l_{ij}</i>	
<i>Total Error for All T_e</i>								1.006896	1.01365
n-HEXANE (1) - TOLUENE (2)									
01461 Singh, R. P.; Sinha, C. P.; J. Chem. Eng. Data, 29(2), 132-135(1984)									
P=	1 atm							%AAD=	1.626291
			<i>n-Hexane</i>	(cP)					
	303.15	0.859346482	0	0.5372	5.3720E-04	0.000517	-3.84354	3.84353607	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	303.15	0.838568251	0.0826	0.4983	4.9830E-04	0.000485	-2.60748	2.60748037	
	303.15	0.817778413	0.1685	0.4637	4.6370E-04	0.000457	-1.45944	1.45944455	
	303.15	0.797000174	0.2578	0.4362	4.3620E-04	0.000431	-1.17773	1.1777314	
	303.15	0.776191021	0.3509	0.4117	4.1170E-04	0.000407	-1.07752	1.07752002	
	303.15	0.755423971	0.4477	0.3884	3.8840E-04	0.000385	-0.80926	0.80926039	
	303.15	0.734843506	0.5487	0.3671	3.6710E-04	0.000365	-0.66764	0.66763605	
	303.15	0.713864931	0.6541	0.3492	3.4920E-04	0.000345	-1.15486	1.15485748	
	303.15	0.693068668	0.7643	0.3299	3.2990E-04	0.000327	-1.01433	1.01433356	
	303.15	0.672278605	0.8795	0.3136	3.1360E-04	0.000309	-1.57908	1.57908387	
	303.15	0.651502859	1	0.2977	2.9770E-04	0.000291	-2.13797	2.13796885	1.283039
	313.15	0.850075971	0	0.4851	4.8510E-04	0.000462	-4.81577	4.81576969	
	313.15	0.829242217	0.0826	0.4542	4.5420E-04	0.000435	-4.18797	4.18797158	
	313.15	0.808410879	0.1685	0.4265	4.2650E-04	0.000411	-3.645	3.64500323	
	313.15	0.787605198	0.2578	0.4033	4.0330E-04	0.000389	-3.60585	3.60585429	
	313.15	0.766782607	0.3509	0.3782	3.7820E-04	0.000368	-2.63871	2.63870839	
	313.15	0.746016148	0.4477	0.3592	3.5920E-04	0.000349	-2.81016	2.81016265	
	313.15	0.725250259	0.5487	0.3375	3.3750E-04	0.000331	-1.9026	1.9025975	
	313.15	0.704500233	0.6541	0.3202	3.2020E-04	0.000314	-1.96533	1.9653342	
	313.15	0.68374652	0.7643	0.3043	3.0430E-04	0.000297	-2.27624	2.2762419	
	313.15	0.663012957	0.8795	0.2896	2.8960E-04	0.000281	-2.84966	2.84966349	
	313.15	0.642307604	1	0.2768	2.7680E-04	0.000266	-3.99557	3.99557066	2.875726
	323.15	0.840670813	0	0.4272	4.2720E-04	0.000415	-2.86361	2.86361017	
	323.15	0.819768716	0.0826	0.4006	4.0060E-04	0.000392	-2.08793	2.08793282	
	323.15	0.79888427	0.1685	0.3747	3.7470E-04	0.000371	-0.87745	0.87745152	
	323.15	0.778040725	0.2578	0.3545	3.5450E-04	0.000352	-0.63945	0.63945063	
	323.15	0.757195413	0.3509	0.3354	3.3540E-04	0.000334	-0.30336	0.30335976	
	323.15	0.738421395	0.4477	0.3184	3.1840E-04	0.000318	-0.23305	0.23305477	
	323.15	0.715663011	0.5487	0.3022	3.0220E-04	0.000302	-0.14196	0.1419632	
	323.15	0.694935515	0.6541	0.2867	2.8670E-04	0.000287	-0.0614	0.06139872	
	323.15	0.674219347	0.7643	0.2736	2.7360E-04	0.000272	-0.6824	0.68240055	
	323.15	0.653538268	0.8795	0.262	2.6200E-04	0.000257	-1.79685	1.79685149	
	323.15	0.632900249	1	0.2524	2.5240E-04	0.000243	-3.67087	3.67086635	0.758207

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
308.15	0.682078707		0.799	0.302	3.0200E-04	0.000306	1.405411	1.40541126	
308.15	0.646930659		1	0.265	2.6500E-04	0.000278	4.954952	4.95495169	1.156423
323.15	0.840670813		0	0.418	4.1800E-04	0.000415	-0.72568	0.72568006	
323.15	0.810328315		0.121	0.382	3.8200E-04	0.000383	0.158613	0.15861347	
323.15	0.78857305		0.211	0.36	3.6000E-04	0.000362	0.556376	0.55637564	
323.15	0.76870771		0.299	0.341	3.4100E-04	0.000344	0.908869	0.90886914	
323.15	0.736358379		0.448	0.314	3.1400E-04	0.000318	1.149233	1.14923284	
323.15	0.705459116		0.6	0.292	2.9200E-04	0.000294	0.753268	0.75326801	
323.15	0.683933424		0.712	0.278	2.7800E-04	0.000279	0.223666	0.223666594	
323.15	0.667888086		0.799	0.255	2.5500E-04	0.000267	4.816419	4.81641877	
323.15	0.632900249		1	0.235	2.3500E-04	0.000243	3.461589	3.46158865	1.223492
<i>Average Error for Temp.</i>									

n-HEXANE (1) - TOLUENE (2)

02145 Ghai, R. K.; Dullien, F. A. L.; J. Phys. Chem., 78(22), 2283-2291(1974)

P= 1 atm

		<i>n</i> -Hexane		(cP)	
298.15	0.863933615	0	0.553	5.5300E-04	0.000548
298.15	0.851276381	0.05	0.5263	5.2630E-04	0.000526
298.15	0.838905759	0.1	0.5021	5.0210E-04	0.000507
298.15	0.814986278	0.2	0.4602	4.6020E-04	0.000472
298.15	0.79210314	0.3	0.4254	4.2540E-04	0.000443
298.15	0.770190421	0.4	0.3964	3.9640E-04	0.000417
298.15	0.749187673	0.5	0.372	3.7200E-04	0.000394
298.15	0.729039367	0.6	0.3513	3.5130E-04	0.000373
298.15	0.709694401	0.7	0.3336	3.3360E-04	0.000354
298.15	0.691105668	0.8	0.3186	3.1860E-04	0.000337
298.15	0.673229676	0.9	0.3059	3.0590E-04	0.00032
298.15	0.656026202	1	0.2958	2.9580E-04	0.000305
<i>Average Error for Temp.</i>					
				4.137144	

n-HEXANE - TOLUENE

Total Error for All T_e 115.300932 1.027895 0.903637

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
CYCLOHEXANE (1) - TOLUENE (2)									
00872 Linke, R.; Z. Phys. Chem., A188, 17-26(1941)									
P= 1 atm									
Cyclohexane (cP)									
286.15	0.865552739		0.1	0.6766	6.7660E-04	0.000649	-4.05649	4.05649162	%AAD= 3.156216
293.95	0.85850702		0.1	0.6126	6.1260E-04	0.00059	-3.71143	3.71143215	
303.45	0.8498238		0.1	0.5477	5.4770E-04	0.000528	-3.6687	3.66870036	
312.45	0.841489091		0.1	0.4994	4.9940E-04	0.000477	-4.47955	4.47954808	
323.25	0.831339867		0.1	0.4496	4.4960E-04	0.000425	-5.4282	5.42820018	
4.268874									
286.45	0.856054078		0.2	0.67602	6.7602E-04	0.000665	-1.57957	1.57956506	2.076562
294.25	0.849016462		0.2	0.61226	6.1226E-04	0.000604	-1.28462	1.28461619	
303.15	0.840892165		0.2	0.5546	5.5460E-04	0.000544	-1.86905	1.86904648	
313.15	0.831637613		0.2	0.4976	4.9760E-04	0.000487	-2.22297	2.22297148	
323.25	0.822146959		0.2	0.4525	4.5250E-04	0.000437	-3.42661	3.42661214	
0.641253									
286.15	0.847129617		0.3	0.6902	6.9020E-04	0.00069	0.006466	0.00646635	0.892028
294.45	0.839654441		0.3	0.6228	6.2280E-04	0.000622	-0.05202	0.05202194	
303.45	0.831448118		0.3	0.5618	5.6180E-04	0.000559	-0.4281	0.42809901	
312.45	0.823131457		0.3	0.51	5.1000E-04	0.000505	-0.92291	0.92291236	
323.95	0.8123341		0.3	0.455	4.5500E-04	0.000447	-1.79677	1.7967671	
0.641253									
285.55	0.838507515		0.4	0.7143	7.1430E-04	0.000722	1.139912	1.13991247	0.892028
294.75	0.830239564		0.4	0.6357	6.3570E-04	0.000643	1.134978	1.1349783	
303.95	0.821860013		0.4	0.5688	5.6880E-04	0.000576	1.185043	1.18504337	
313.15	0.813362544		0.4	0.5137	5.1370E-04	0.000518	0.860159	0.8601594	
323.95	0.803227415		0.4	0.4617	4.6170E-04	0.000461	-0.14005	0.14004742	
0.892028									
285.55	0.82938369		0.5	0.7603	7.6030E-04	0.000754	-0.78263	0.78262531	0.892028
294.15	0.821674832		0.5	0.6762	6.7620E-04	0.000674	-0.25463	0.2546269	
303.75	0.812952581		0.5	0.5991	5.9910E-04	0.000599	2.16E-05	2.1647E-05	
313.45	0.804006815		0.5	0.5412	5.4120E-04	0.000535	-1.15328	1.15328141	
323.65	0.794446914		0.5	0.4842	4.8420E-04	0.000478	-1.26946	1.26945917	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	294.75	0.812063821	0.6	0.6922	6.9220E-04	0.000701	1.201059	1.20105868	0.692003
	304.25	0.803443079	0.6	0.6143	6.1430E-04	0.000621	1.072307	1.07230716	
	313.65	0.794784711	0.6	0.5482	5.4820E-04	0.000555	1.165069	1.16506886	
	323.45	0.785613391	0.6	0.4938	4.9380E-04	0.000496	0.481476	0.48147608	
	285.85	0.80195686	0.8	0.914	9.1400E-04	0.000895	-2.11245	2.11244938	0.979978
	296.15	0.792777447	0.8	0.778	7.7800E-04	0.00077	-1.05865	1.05864589	
	303.45	0.78618127	0.8	0.7003	7.0030E-04	0.000696	-0.66378	0.66378452	
	312.95	0.777478387	0.8	0.6059	6.0590E-04	0.000614	1.284059	1.28405898	
	322.75	0.76835149	0.8	0.5481	5.4810E-04	0.000543	-0.90877	0.90877113	1.205542
<i>Average Error for Temp.</i>									

TOLUENE (1) - CYCLOHEXANE (2)

02055 Jain, D. V. S.; North, A. M.; Pelthrick, R. A.; J. Chem. Soc. Faraday Trans. 1, 70, 1292-1298(1974)

P= 1 atm

		Toluene		(10 ⁻⁴ N s/m ²)					
303	0.768745122	0	8.227	8.2270E-04	0.000817	-0.67004	0.67003783		
303	0.77230225	0.04	7.881	7.8810E-04	0.000788	-0.06507	0.06506945		
303	0.775954453	0.081	7.486	7.4860E-04	0.000761	1.652017	1.6520172		
303	0.783188129	0.162	6.926	6.9260E-04	0.000717	3.554912	3.55491157		
303	0.797729012	0.324	6.161	6.1610E-04	0.000654	6.079598	6.07959804		
303	0.812167426	0.484	5.705	5.7050E-04	0.000608	6.649589	6.64958905		
303	0.826743264	0.644	5.419	5.4190E-04	0.000573	5.742056	5.74205647		
303	0.841305616	0.803	5.252	5.2520E-04	0.000545	3.712333	3.71233335		
303	0.848577442	0.882	5.268	5.2680E-04	0.000533	1.148484	1.14848375		
303	0.855781114	0.96	5.298	5.2980E-04	0.000522	-1.39635	1.39635427		
303	0.859484553	1	5.2	5.2000E-04	0.000517	-0.49142	0.49142355		3.333379
<i>Average Error for Temp.</i>									

TOLUENE (1) - CYCLOHEXANE (2)

02129 Alms, G. R.; Bauer, D. R.; Brauman, J. I.; Pecora, R.; J. Chem. Phys., 58(12), 5570-5578(1973)

P= 1 atm

Toluene (cP)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
298.75	0.819325018	0.5	0.571	5.7100E-04	0.000553	14.31632	14.3163195		
298.75	0.865212439	1	0.552	5.5200E-04	0.000557	0.845176	0.84517586		
<i>Average Error for Temp.</i>									14.31632
CYCLOHEXANE - TOLUENE									
<i>Total Error for All T_i</i>									<i>kij</i> <i>lij</i>
									1.055492 0.791984

CYCLOHEXANE (1) - n-HEXANE (2)									
01213 Lutskil, A. E.; Obukhova, E. M.; J. Gen. Chem. USSR, 31(8), 2522-2527(1961)									
P=	1 atm								
%AAD= 1.258329									

The viscosity units were assumed from the units of the pure values. The value for the viscosity of hexane is 0.4% higher than those of DIPPR 801 and TRC TABLE DATABASE. The value for the viscosity of cyclohexane is about 5% lower than those of DIPPR 801 and TRC TABLE DATABASE.

CYCLOHEXANE (1) - n-HEXANE (2)									
00397 Awwad, A. M.; Salman, M. A.; Fluid Phase Equilib., 25, 195-208(1986)									
P=	1 atm								
	Cyclohexane			(cP)					
	298.15	0.656026202	0	0.3092	3.0920E-04	0.000305	-1.21924	1.21923511	
	298.15	0.664965456	0.0907	0.3272	3.2720E-04	0.000323	-1.16132	1.16132095	
	298.15	0.674491255	0.1843	0.3489	3.4890E-04	0.000344	-1.34533	1.34533404	
	298.15	0.683920891	0.274	0.3631	3.6310E-04	0.000367	-4.20052	4.20051893	
	298.15	0.693747845	0.3645	0.4001	4.0010E-04	0.000394	-1.58993	1.58993058	
	298.15	0.702988222	0.4469	0.4276	4.2760E-04	0.000422	-1.23799	1.2379903	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
298.15	0.712937727	0.533	0.533	0.4643	4.6430E-04	0.000458	-1.40279	1.4027935	
298.15	0.721659359	0.6062	0.6062	0.5023	5.0230E-04	0.000494	-1.68585	1.68585176	
298.15	0.730491847	0.6783	0.6783	0.5445	5.4450E-04	0.000536	-1.5227	1.52270159	
298.15	0.740080537	0.7542	0.7542	0.5997	5.9970E-04	0.00059	-1.54669	1.54669297	
298.15	0.749866538	0.8297	0.8297	0.6872	6.8720E-04	0.000657	-4.35456	4.35456244	
298.15	0.759483818	0.9016	0.9016	0.7533	7.5330E-04	0.000737	-2.17277	2.17277248	
298.15	0.769189807	0.9721	0.9721	0.8499	8.4990E-04	0.000836	-1.71532	1.71532227	
298.15	0.773109026	1	1	0.9062	9.0620E-04	0.000881	-2.75366	2.75366345	
Average Error for Temp.									1.994649

CYCLOHEXANE (1) - n-HEXANE (2)

01330 Ridgway, K.; Buller, P. A.; J. Chem. Eng. Data, 12(4), 509-515(1967)

P= 1 atm

Cyclohexane		(cP)					
298,15	0.656026202	0	0.3008	3,0080E-04	0.000305	1.53927	1.53927029
298,15	0.673159707	0.1714	0.3405	3,4050E-04	0.000341	0.198495	0.19849522
298,15	0.683942256	0.2742	0.367	3,6700E-04	0.000367	0.017001	0.01700108
298,15	0.703312381	0.4498	0.4234	4,2340E-04	0.000423	-0.00016	0.00016177
298,15	0.719384174	0.5873	0.4846	4,8460E-04	0.000484	-0.13991	0.13990792
298,15	0.739779164	0.752	0.5887	5,8870E-04	0.000589	-0.00208	0.00208193
298,15	0.75972818	0.9034	0.7347	7,3470E-04	0.000739	0.608364	0.60836395
298,15	0.773109026	1	0.869	8,6900E-04	0.000881	1.409241	1.40924071
Average Error for Temp.							0.161002

CYCLOHEXANE - n-HEXANE

Total Error for All T_e 32.9984858 1.027169 0.84144

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
DODECANE (1) - HEXANE (2)									
00918 Bidlack, D. L.; Anderson, D. K.; J. Phys. Chem., 68(12), 3790-3794(1964)									
P= 1 atm									
Dodecane (cP)									
298.15	0.656026202		0	0.2958	2.9580E-04	0.000305	3.25562	3.25562036	
298.15	0.682136552		0.1924	0.4343	4.3430E-04	0.000433	-0.35645	0.35644983	
298.15	0.706130142		0.4248	0.6351	6.3510E-04	0.000649	2.231329	2.23132915	
298.15	0.720809801		0.605	0.8243	8.2430E-04	0.000846	2.580935	2.58093523	
298.15	0.734314301		0.8064	1.0673	1.0673E-03	0.001049	-1.71265	1.71265307	
298.15	0.745114601		1	1.3379	1.3379E-03	0.001173	-12.2981	12.2980679	
Average Error for Temp.								1.720342	
%AAD= 1.322638									

DODECANE (1) - HEXANE (2)									
(From Irving, NEL Report, 1977 - Melassen, 1966)									
P= 1 atm									
Dodecane (cP)									
298.15	0.656026202		0	0.299	2.9900E-04	0.000305	2.150543	2.15054349	
298.15	0.665640984		0.065	0.345	3.4500E-04	0.000343	-0.61194	0.61193598	
298.15	0.675310556		0.137	0.398	3.9800E-04	0.000391	-1.76319	1.76318549	
298.15	0.683737981		0.206	0.453	4.5300E-04	0.000444	-2.06771	2.06771239	
298.15	0.691877164		0.279	0.506	5.0600E-04	0.000506	0.026877	0.02687733	
298.15	0.701151819		0.371	0.601	6.0100E-04	0.000594	-1.16916	1.16916377	
298.15	0.709313479		0.461	0.69	6.9000E-04	0.000688	-0.32719	0.32719317	
298.15	0.718403789		0.573	0.813	8.1300E-04	0.00081	-0.32287	0.32287079	
298.15	0.726445649		0.714	0.966	9.6600E-04	0.000961	-0.47449	0.47449438	
298.15	0.735495118		0.826	1.112	1.1120E-03	0.001066	-4.16279	4.16278597	
298.15	0.745114601		1	1.363	1.3630E-03	0.001173	-13.9131	13.9131218	
								1.214024	
313.15	0.642307604		0	0.26	2.6000E-04	0.000266	2.207792	2.20779247	
313.15	0.65220641		0.065	0.296	2.9600E-04	0.000296	0.06716	0.06716002	
313.15	0.662176497		0.137	0.34	3.4000E-04	0.000335	-1.42274	1.42273546	
313.15	0.670878025		0.206	0.386	3.8600E-04	0.000378	-2.16202	2.16201622	
313.15	0.679292734		0.279	0.43	4.3000E-04	0.000428	-0.48708	0.48707977	
313.15	0.688894316		0.371	0.506	5.0600E-04	0.000498	-1.53528	1.53528048	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
313.15	0.697355113		0.461	0.575	5.7500E-04	0.000573	-0.34746	0.34745714	
313.15	0.708791234		0.573	0.668	6.6800E-04	0.00067	0.364107	0.36410705	
313.15	0.717230618		0.714	0.794	7.9400E-04	0.00079	-0.49168	0.49167842	
313.15	0.724568901		0.826	0.889	8.8900E-04	0.000873	-1.82834	1.82833612	
313.15	0.734595492		1	1.062	1.0620E-03	0.000959	-9.68676	9.68676442	0.967317
328.15	0.628111223		0	0.188	1.8800E-04	0.000233	23.83053	23.8305303	
328.15	0.638315607		0.065	0.257	2.5700E-04	0.000258	0.319178	0.31917835	
328.15	0.648610447		0.137	0.295	2.9500E-04	0.00029	-1.79089	1.79088565	
328.15	0.657609363		0.206	0.334	3.3400E-04	0.000324	-2.88047	2.88046818	
328.15	0.666324057		0.279	0.37	3.7000E-04	0.000365	-1.28909	1.28909287	
328.15	0.676282861		0.371	0.431	4.3100E-04	0.000422	-2.04377	2.04377332	
328.15	0.685071653		0.461	0.487	4.8700E-04	0.000483	-0.91531	0.91531352	
328.15	0.694888214		0.573	0.561	5.6100E-04	0.000561	-0.00736	0.00736244	
328.15	0.705766513		0.714	0.66	6.6000E-04	0.000657	-0.43362	0.43361985	
328.15	0.713424686		0.826	0.733	7.3300E-04	0.000724	-1.26022	1.26022057	
328.15	0.723903553		1	0.855	8.5500E-04	0.000795	-7.03824	7.03823577	1.215546

n-DODECANE (1) - n-HEXANE (2)

01902 Shieh, J. C.; Lyons, P. A.; J. Phys. Chem., 73, 3258-3264(1969)

P= 1 atm

		<i>Dodecane</i> (cP)			
298.15	0.656026202	0	0.2979	2.9790E-04	0.000305
298.15	0.659562335	0.0232	0.3154	3.1540E-04	0.000318
298.15	0.667500532	0.0783	0.3506	3.5060E-04	0.000351
298.15	0.678390949	0.1615	0.4067	4.0670E-04	0.000409
298.15	0.679875762	0.1736	0.4183	4.1830E-04	0.000418
298.15	0.68622775	0.3209	0.5387	5.3870E-04	0.000545
298.15	0.704882165	0.411	0.6213	6.2130E-04	0.000635
298.15	0.720476223	0.6005	0.8244	8.2440E-04	0.000841
298.15	0.727051406	0.6932	0.9294	9.2940E-04	0.00094
298.15	0.73724444	0.8557	1.1368	1.1368E-03	0.001089
					-4.1634
					4.16340186

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	298.15	0.741263237	0.9271	1.2408	1.2408E-03	0.001138	-8.28135	8.28134529	
	298.15	0.745114801	1	1.3793	1.3793E-03	0.001173	-14.9305	14.9304611	2.056539
	308.15	0.646930659	0	0.2709	2.7090E-04	0.000278	2.669111	2.6691111	
	308.15	0.650534486	0.0232	0.2875	2.8750E-04	0.000289	0.596798	0.59679819	
	308.15	0.658629363	0.0783	0.3133	3.1330E-04	0.000318	1.496572	1.49657241	
	308.15	0.669745351	0.1615	0.3656	3.6560E-04	0.000368	0.666873	0.66687278	
	308.15	0.671261671	0.1736	0.3742	3.7420E-04	0.000376	0.475278	0.47527814	
	308.15	0.687978194	0.3209	0.4799	4.7990E-04	0.000486	1.167361	1.16736065	
	308.15	0.696836689	0.411	0.5504	5.5040E-04	0.000583	2.252137	2.25213674	
	308.15	0.712818175	0.6005	0.7191	7.1910E-04	0.000739	2.783668	2.78366817	
	308.15	0.730031327	0.8557	0.9709	9.7090E-04	0.000952	-1.98409	1.98409284	
	308.15	0.734161131	0.9271	1.0543	1.0543E-03	0.000994	-5.76261	5.76260805	
	308.15	0.738120464	1	1.1652	1.1652E-03	0.001024	-12.1017	12.101682	1.98345
<i>Average Error for Temp.</i>									

n-DODECANE (1) - n-HEXANE (2)

02428 Knapstad, B.; Skjolsvik, P. A.; Oye, H. A.; J. Chem. Eng. Data, 36, 84-8(1991)

P= 1 atm

<i>Dodecane</i>									
				(mPa s)					
288.8	0.751589271	1	1.6149	1.6149E-03	0.00134	-17.0055	17.0055297		
296.22	0.745065895	1	1.3528	1.3528E-03	0.001172	-13.3485	13.3484779		
296.39	0.744947594	1	1.3503	1.3503E-03	0.001169	-13.393	13.3930483		
307.52	0.738563272	1	1.1589	1.1589E-03	0.001033	-10.8802	10.8801689		
307.57	0.738528139	1	1.159	1.1590E-03	0.001032	-10.9472	10.9471839		
322.6	0.727880508	1	0.9255	9.2550E-04	0.000851	-8.07809	8.07808616		
322.6	0.727880508	1	0.9257	9.2570E-04	0.000851	-8.09795	8.09794614		
342.64	0.713398797	1	0.7157	7.1570E-04	0.000671	-6.24519	6.24516742		10.99945
286.72	0.737552739	0.7481	1.1695	1.1695E-03	0.001134	-3.00146	3.00146286		
296.47	0.730436633	0.7481	1.0016	1.0016E-03	0.000991	-1.06422	1.06421825		
303.57	0.72667806	0.7481	0.9319	9.3190E-04	0.000925	-0.70275	0.70274833		
308.12	0.723302918	0.7481	0.8716	8.7160E-04	0.000872	-0.00013	0.00012597		
323.72	0.711565347	0.7481	0.7124	7.1240E-04	0.000716	0.508176	0.50817569		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
283.15	0.669321271		1	0.3437	3.4370E-04	0.000354	2.98135	2.98135038	2.588125
288.15	0.765112329		0.1996	2.784	2.7840E-03	0.002566	-7.84004	7.84003876	
288.15	0.752523038		0.3784	1.848	1.8480E-03	0.001887	-3.1209	3.12090444	
288.15	0.731789217		0.5993	1.172	1.1720E-03	0.001128	-3.78075	3.78074644	
288.15	0.705196515		0.7988	0.674	6.7400E-04	0.00064	-5.06199	5.06198868	
288.15	0.6649337		1	0.3261	3.2610E-04	0.000337	3.231196	3.23119595	4.95082
298.19	0.769636041		0	3.065	3.0650E-03	0.002687	-12.3381	12.3380667	
298.19	0.758307606		0.1987	2.235	2.2350E-03	0.002186	-2.18373	2.18372518	
298.19	0.745445445		0.3772	1.607	1.6070E-03	0.001633	1.647284	1.64726371	
298.19	0.724245133		0.5983	1.001	1.0010E-03	0.000994	-0.65738	0.65737569	
298.19	0.697075853		0.7982	0.5933	5.9330E-04	0.000573	-3.42928	3.42927917	
298.19	0.655990204		1	0.295	2.9500E-04	0.000305	3.496142	3.49614161	1.979411
313.23	0.759691419		0	2.219	2.2190E-03	0.002088	-5.89741	5.8974114	
313.23	0.64223321		1	0.2561	2.5610E-04	0.000266	3.689281	3.68928133	4.793346
318.26	0.75633886		0	2.017	2.0170E-03	0.001926	-4.49521	4.49521352	
318.26	0.744450756		0.1976	1.534	1.5340E-03	0.001617	5.43319	5.43318989	
318.26	0.730946076		0.3758	1.155	1.1550E-03	0.001243	7.628398	7.62839797	
318.26	0.708710257		0.5971	0.7591	7.5910E-04	0.000783	3.209831	3.20983123	
318.26	0.680295235		0.7975	0.4712	4.7120E-04	0.000465	-1.38726	1.3872607	
318.26	0.637528076		1	0.2448	2.4480E-04	0.000254	3.695813	3.69581345	4.41467
333.36	0.746190284		0	1.549	1.5490E-03	0.001528	-1.328	1.32799987	
333.36	0.6230566821		1	0.2146	2.1460E-04	0.000223	3.749661	3.74966087	0.664
338.36	0.742800981		0	1.432	1.4320E-03	0.001421	-0.79241	0.79240608	
338.36	0.730311634		0.1958	1.128	1.1280E-03	0.001227	8.791371	8.79137066	
338.36	0.716104219		0.3734	0.8753	8.7530E-04	0.000968	10.60868	10.6086819	
338.36	0.692717497		0.5949	0.5993	5.9930E-04	0.00063	5.080289	5.08028678	
338.36	0.662658884		0.7963	0.3845	3.8450E-04	0.000383	-0.43149	0.4314864	
338.36	0.618141572		1	0.2064	2.0640E-04	0.000213	3.411619	3.41161937	6.227957

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
Average Error for Temp.									
#REF!									

HEXADECANE (1) - HEXANE (2)

00620 Heric, E. L.; Brewer, J. G.; J. Chem. Eng. Data, 12(4), 574-583(1967)

P= 0.101 MPa

Hexadecane									
				(g/m s)					
298.15	0.7698682334	1	3.062	3.0620E-03	0.002689	-12.1914	12.191386		
298.15	0.756023312	0.766	2.0988	2.0988E-03	0.002082	-0.80028	0.80027931		
298.15	0.754968285	0.7504	2.0385	2.0385E-03	0.002034	-0.20253	0.2026325		
298.15	0.75437067	0.7417	2.0076	2.0076E-03	0.002008	-0.00038	0.00038243		
298.15	0.75228613	0.7121	1.91	1.9100E-03	0.001916	0.29105	0.29104982		
298.15	0.747175152	0.6441	1.6795	1.6795E-03	0.001701	1.304638	1.30463816		
298.15	0.746167034	0.6314	1.6288	1.6288E-03	0.001661	2.002931	2.00293118		
298.15	0.745902161	0.6281	1.6231	1.6231E-03	0.001651	1.722017	1.72201689		
298.15	0.745441771	0.6224	1.5961	1.5961E-03	0.001633	2.321421	2.32142077		
298.15	0.736975014	0.5251	1.3155	1.3155E-03	0.001335	1.49656	1.49656013		
298.15	0.736909617	0.5244	1.3147	1.3147E-03	0.001333	1.400891	1.40089058		
298.15	0.736147851	0.5163	1.2918	1.2918E-03	0.001309	1.352052	1.35205235		
298.15	0.726331493	0.4201	1.0422	1.0422E-03	0.001042	-0.00537	0.00537322		
298.15	0.725989495	0.417	1.0391	1.0391E-03	0.001034	-0.48181	0.48180611		
298.15	0.724060029	0.3998	0.9987	9.9870E-04	0.00099	-0.85927	0.85927381		
298.15	0.716876099	0.3398	0.8626	8.6260E-04	0.000846	-1.89748	1.89747555		
298.15	0.708649241	0.264	0.7058	7.0580E-04	0.000686	-2.75964	2.75963881		
298.15	0.698609482	0.2111	0.6071	6.0710E-04	0.000589	-2.96321	2.9632053		
298.15	0.689367315	0.1564	0.5139	5.1390E-04	0.0005	-2.61758	2.61758155		
298.15	0.679472498	0.104	0.433	4.3300E-04	0.000426	-1.60377	1.60377257		
298.15	0.669197715	0.0553	0.365	3.6500E-04	0.000365	0.106596	0.10659577		
298.15	0.656026202	0	0.2961	2.9610E-04	0.000305	3.151005	3.15100474		

Average Error for Temp.

1.309474

n-HEXADECANE - n-HEXANE

Total Error for All T _e	#REF!	k _{ij}	l _{ij}
		1.107867	1.066494

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
CYCLOHEXANE (1) - n-OCTANE (2)									
00397 Awwad, A. M.; Salman, M. A.; Fluid Phase Equilib., 25, 195-208(1986)									
P=	1 atm								
			Cyclohexane						%AAD= 2.234859
			0						
298.15	0.699197897			0.5184	5.1840E-04	0.000495	-4.58655	4.58654839	
298.15	0.704736835		0.1084	0.5318	5.3180E-04	0.000514	-3.42994	3.42993554	
298.15	0.711023094		0.2223	0.549	5.4900E-04	0.000537	-2.18201	2.18200561	
298.15	0.71683531		0.3199	0.569	5.6900E-04	0.00056	-1.64106	1.64105703	
298.15	0.722722494		0.412	0.5851	5.8510E-04	0.000583	-0.38197	0.38197467	
298.15	0.728817202		0.5009	0.607	6.0700E-04	0.000607	-1.2E-06	1.208E-06	
298.15	0.734337247		0.5783	0.628	6.2800E-04	0.000629	0.207418	0.20741764	
298.15	0.740857814		0.6597	0.6568	6.5880E-04	0.000657	0.058895	0.05889464	
298.15	0.746177499		0.7236	0.6788	6.7880E-04	0.000682	0.507155	0.50715501	
298.15	0.75226808		0.7926	0.7148	7.1480E-04	0.000715	0.014964	0.01498447	
298.15	0.758460682		0.85869	0.8162	8.1620E-04	0.000754	-7.80588	7.60588163	
298.15	0.764300475		0.9173	0.8737	8.7370E-04	0.000798	-8.63681	8.63680672	
298.15	0.770554326		0.9767	0.8737	8.7370E-04	0.000855	-2.15221	2.15220827	
298.15	0.773109026		1	0.9062	9.0620E-04	0.000881	-2.75366	2.75366345	
Average Error for Temp.								2.234859	
CYCLOHEXANE - n-OCTANE									
								k_{ij}	l_{ij}
Total Error for All T_e								26.8183024	1.080035 0.721949
CYCLOHEXANE (1) - n-NONANE (2)									
00397 Awwad, A. M.; Salman, M. A.; Fluid Phase Equilib., 25, 195-208(1986)									
P=	1 atm								
			Cyclohexane						%AAD= 1.659196
			0						
298.15	0.714287079			0.6651	6.6510E-04	0.000622	-6.53125	6.53124766	
298.15	0.71911778		0.1286	0.7077	7.0770E-04	0.000639	-9.71685	9.71685042	
298.15	0.723800007		0.2414	0.6821	6.8210E-04	0.000657	-3.64694	3.64694179	
298.15	0.728381284		0.342	0.686	6.8600E-04	0.000675	-1.62295	1.62294732	
298.15	0.733115169		0.4371	0.7041	7.0410E-04	0.000692	-1.72108	1.72107537	
298.15	0.738132264		0.5293	0.7089	7.0890E-04	0.000709	6.46E-05	6.463E-05	
298.15	0.742664305		0.6059	0.7214	7.2140E-04	0.000724	0.324322	0.32432226	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
298.15	0.747603527	0.683	0.7381	7.3810E-04	0.000741	0.32749	0.32748963		
298.15	0.75169071	0.7423	0.7545	7.5450E-04	0.000756	0.168454	0.16845354		
298.15	0.756453879	0.8068	0.7761	7.7610E-04	0.000776	0.001717	0.00171747		
298.15	0.761725934	0.873	0.8053	8.0530E-04	0.000803	-0.28852	0.28851952		
298.15	0.767461033	0.9395	0.8376	8.3760E-04	0.000839	0.121017	0.12101742		
298.15	0.770900915	0.9769	0.881	8.8100E-04	0.000864	-1.97096	1.97095699		
298.15	0.773109026	1	0.9062	9.0620E-04	0.000881	-2.75366	2.75366345		1.659196
Average Error for Temp.									
CYCLOHEXANE - n-NONANE									
Total Error for All T_e									
kij									
ljj									
1.084002 0.750957									

CYCLOHEXANE (1) - n-DODECANE (2)
00397 Awwad, A. M.; Salman, M. A.; Fluid Phase Equilib., 25, 195-208(1986)

P=	1 atm	Cyclohexane	(cP)				%AAD=	1.717446
298.15	0.745114601	0	1.3669	1.3669E-03	0.001173	-14.1587	14.1587424	
298.15	0.747361886	0.1549	1.29911	1.2991E-03	0.001193	-8.15131	8.15131211	
298.15	0.749647049	0.2886	1.2368	1.2368E-03	0.001189	-3.8642	3.86419775	
298.15	0.751743393	0.3945	1.187	1.1870E-03	0.001169	-1.54828	1.54828253	
298.15	0.754221156	0.5031	1.1381	1.1381E-03	0.001133	-0.46023	0.46022648	
298.15	0.75643912	0.5879	1.098	1.0980E-03	0.001096	-0.21979	0.21978822	
298.15	0.758674214	0.6636	1.0476	1.0476E-03	0.001057	0.891392	0.89139231	
298.15	0.761950451	0.7601	1.0111	1.0111E-03	0.001003	-0.77807	0.77806687	
298.15	0.763404632	0.7983	0.9774	9.7740E-04	0.000982	0.421595	0.4215951	
298.15	0.765696248	0.8536	0.9573	9.5730E-04	0.000951	-0.69629	0.69629252	
298.15	0.767542394	0.8943	0.9433	9.4330E-04	0.000929	-1.52228	1.52227993	
298.15	0.769851938	0.941	0.9223	9.2230E-04	0.000906	-1.77472	1.7747193	
298.15	0.772133648	0.9831	0.9114	9.1140E-04	0.000888	-2.60058	2.60058125	
298.15	0.773109026	1	0.9062	9.0620E-04	0.000881	-2.75366	2.75366345	1.912395
Average Error for Temp								

n-DODECANE (1) - CYCLOHEXANE (2)
02428 Knapstad, B.; Skjolsvik, P. A.; Oye, H. A.; J. Chem. Eng. Data, 36, 84-8(1991)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
1 atm									
<i>n</i>-Dodecane									
				(mPa s)					
	288.8	0.751589271	1	1.6149	1.6149E-03	0.00134	-17.0055	17.0055297	
	298.22	0.745065895	1	1.3528	1.3528E-03	0.001172	-13.3485	13.3484779	
	298.39	0.744947594	1	1.3503	1.3503E-03	0.001169	-13.393	13.3930483	
	307.52	0.738563272	1	1.1589	1.1589E-03	0.001033	-10.8802	10.8801689	
	307.57	0.738528139	1	1.159	1.1590E-03	0.001032	-10.9472	10.9471839	
	322.6	0.727880506	1	0.9255	9.2550E-04	0.000851	-8.07809	8.07808616	
	322.6	0.727880506	1	0.9257	9.2570E-04	0.000851	-8.09795	8.09794614	
	342.64	0.713398797	1	0.7157	7.1570E-04	0.000671	-6.24519	6.24518742	10.99945
	288.65	0.755797147	0.7489	1.4746	1.4746E-03	0.001379	-6.48032	6.48031545	
	298.13	0.748983374	0.7489	1.2469	1.2469E-03	0.001193	-4.34946	4.34945517	
	298.61	0.748636429	0.7489	1.2319	1.2319E-03	0.001184	-3.87795	3.87795084	
	298.62	0.748629199	0.7489	1.2321	1.2321E-03	0.001184	-3.90792	3.90792339	
	323.75	0.730186855	0.7489	0.8447	8.4470E-04	0.00083	-1.70604	1.70603576	4.064336
	289.15	0.760935288	0.5001	1.3101	1.3101E-03	0.00131	-0.0105	0.01049532	
	298.31	0.754021229	0.5001	1.1213	1.1213E-03	0.001131	0.889893	0.88989325	
	298.35	0.753990861	0.5001	1.1163	1.1163E-03	0.001131	1.278287	1.27828719	
	308.76	0.746033711	0.5001	0.9475	9.4750E-04	0.000964	1.759865	1.75986452	
	308.86	0.745956743	0.5001	0.948	9.4800E-04	0.000963	1.554561	1.55456075	
	337.68	0.723318878	0.5001	0.644	6.4400E-04	0.000644	0.020434	0.02043371	
	337.69	0.723310856	0.5001	0.6442	6.4420E-04	0.000644	-0.02363	0.02362611	0.791023
	288.37	0.761533475	0.4986	1.3266	1.3266E-03	0.001327	-0.00049	0.0004877	
	297.78	0.754435729	0.4986	1.1307	1.1307E-03	0.001141	0.869277	0.86927738	
	298.43	0.753942333	0.4986	1.1141	1.1141E-03	0.001129	1.333667	1.33366668	
	324.2	0.734033757	0.4986	0.7657	7.6570E-04	0.000772	0.808775	0.80877464	0.753052
	288.27	0.769545898	0.2501	1.1752	1.1752E-03	0.001186	0.921439	0.92143918	
	298.38	0.761391558	0.2501	0.9923	9.9230E-04	0.001005	1.313212	1.31321238	
	298.43	0.761350938	0.2501	0.9883	9.8830E-04	0.001005	1.642192	1.64219158	
	324.65	0.739622824	0.2501	0.6762	6.7620E-04	0.000679	0.388859	0.38885927	1.066426

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
288.69	288.69	0.781522366	0	1.0568	1.0568E-03	0.001027	-2.81748	2.817485	
288.7	288.7	0.781513539	0	1.0536	1.0536E-03	0.001027	-2.5385	2.53850093	
288.72	288.72	0.781495885	0	1.054	1.0540E-03	0.001027	-2.60782	2.60782374	
298.23	298.23	0.773037328	0	0.8938	8.9380E-04	0.00088	-1.52881	1.52880566	
298.37	298.37	0.772911833	0	0.8899	8.8990E-04	0.000878	-1.31518	1.31517811	
298.41	298.41	0.772875971	0	0.8894	8.8940E-04	0.000878	-1.32188	1.3218798	
298.47	298.47	0.772822176	0	0.8889	8.8890E-04	0.000877	-1.3596	1.35959749	
298.49	298.49	0.772804242	0	0.8903	8.9030E-04	0.000877	-1.54571	1.54570916	
308.99	308.99	0.763308136	0	0.7494	7.4940E-04	0.000747	-0.38484	0.3848426	
308.07	308.07	0.763233117	0	0.7493	7.4930E-04	0.000746	-0.48981	0.48980692	
323.75	323.75	0.749857583	0	0.6033	6.0330E-04	0.000605	0.269481	0.26948109	
333.83	333.83	0.740120499	0	0.5277	5.2770E-04	0.000529	0.276558	0.27655755	
333.85	333.85	0.740101391	0	0.5278	5.2780E-04	0.000529	0.231703	0.23170309	
Average Error for Temp.									1.283644
CYCLOHEXANE - n-DODECANE									
Total Error for All T _e									0.988414
k _{ij}									1.162368
l _{ij}									1.162368

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%D	%AD	%AAD
298.15	0.77164022	0.9822	0.8968	8.9680E-04	0.000876	-2.26588	2.26588098		
298.15	0.773109026	1	0.9062	9.0620E-04	0.000881	-2.75366	2.75366345		
Average Error for Temp.								1.763209	
CYCLOHEXANE - n-DECANE									
Total Error for All T_e							k/lj	l/lj	
									1.061204 0.8786932

CYCLOHEXANE - n-DECANE

CYCLOHEXANE (1) - HEPTANE (2)
00397 Awwad, A. M.; Salman, M. A.; Fluid Phase Equilib., 25, 195-208(1986)
P= 0.101 MPa
%AAD= 0.702696

Cyclohexane		(g/m³)	Average Error for Temp.				
298,15	0.681549127	0	0.4022	4.0220E-04	0.000395	-1.87801	1.87801261
298,15	0.68876664	0.1036	0.4183	4.1830E-04	0.000414	-0.95417	0.9541706
298,15	0.69602387	0.2023	0.4381	4.3810E-04	0.000435	-0.65813	0.65812984
298,15	0.70330208	0.2962	0.46	4.6000E-04	0.000458	-0.48434	0.48434059
298,15	0.710865989	0.3888	0.484	4.8400E-04	0.000483	-0.13139	0.13138765
298,15	0.718297509	0.4752	0.512	5.1200E-04	0.000511	-0.16342	0.16341732
298,15	0.725562823	0.5556	0.5415	5.4150E-04	0.000541	-0.00412	0.00411786
298,15	0.733473633	0.6389	0.5789	5.7890E-04	0.000579	-0.01033	0.01033183
298,15	0.740038804	0.7049	0.6136	6.1360E-04	0.000614	0.07429	0.07428986
298,15	0.747330809	0.7751	0.6582	6.5820E-04	0.000659	0.062286	0.06228623
298,15	0.755130237	0.8468	0.7195	7.1950E-04	0.000714	-0.77584	0.77584064
298,15	0.762273745	0.9096	0.7778	7.7780E-04	0.000773	-0.62529	0.62528726
298,15	0.769862257	0.9735	0.8588	8.5880E-04	0.000846	-1.47508	1.47507691
298,15	0.773109026	1	0.9062	9.0620E-04	0.000881	-2.75366	2.75366345

n-HEPTANE (1) - CYCLOHEXANE (2)

P=	1 atm			(cP)	0.8984	8.9840E-04	0.000881	-1.90936	1.90936089
	298.15	0.773109026	0						
02483 Papaloannou, D.; Evangelou, T.; Panayiotou, C.; J. Chem. Eng. Data, 36, 43-6(1991)	298.15	0.761089754	0.1008	0.776	7.7600E-04	0.000762	-1.75722	1.75721984	
	298.15	0.749987071	0.2001	0.68	6.8000E-04	0.000676	-0.51743	0.51742808	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
CYCLOHEXANE - n-HEXADECANE									
								<i>kij</i>	<i>lij</i>
								1.093187	1.055383
								Total Error for All T_e 35.0116579	

CYCLOHEXANE (1) - n-TETRADECANE (2)
00397 Awwad, A. M.; Salman, M. A.; Fluid Phase Equilib., 25, 195-208(1986)
P= 1 atm

%AAD= 1.667609

Cyclohexane (cP)									
298.15	0.759330572	0	2.0913	2.0913E-03	0.001789	-14.4516	14.4515556		
298.15	0.76044447	0.1743	1.9068	1.9068E-03	0.001809	-5.11697	5.11696922		
298.15	0.761480929	0.3074	1.7564	1.7564E-03	0.001747	-0.55096	0.55095617		
298.15	0.762577805	0.4253	1.6211	1.6211E-03	0.001641	1.198641	1.19864119		
298.15	0.763739781	0.5304	1.486	1.4860E-03	0.001515	1.958046	1.95804571		
298.15	0.764801695	0.6125	1.3837	1.3837E-03	0.001404	1.466555	1.46655503		
298.15	0.765865973	0.6841	1.2915	1.2915E-03	0.001302	0.835903	0.83590346		
298.15	0.766994282	0.7505	1.2072	1.2072E-03	0.001207	-0.00729	0.00728639		
298.15	0.768076224	0.8066	1.1313	1.1313E-03	0.001128	-0.29857	0.29857125		
298.15	0.769356715	0.8651	1.0637	1.0637E-03	0.001048	-1.47064	1.47064166		
298.15	0.770434621	0.9088	1.0102	1.0102E-03	0.000991	-1.90279	1.90279363		
298.15	0.77151476	0.9483	0.9646	9.6460E-04	0.000942	-2.36986	2.36986245		
298.15	0.772642245	0.9856	0.9238	9.2380E-04	0.000898	-2.83508	2.83507716		
298.15	0.773109028	1	0.9062	9.0620E-04	0.000881	-2.75366	2.75366345		
						Average Error for Temp.		1.667609	

CYCLOHEXANE - n-TETRADECANE									
								<i>kij</i>	<i>lij</i>
								1.070463	1.037446
								Total Error for All T_e 20.0113033	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
n-DECANE (1) - n-OCTANE (2)									
02079 Volkov, O. I.; Kashtan, V. S.; Sov. Prog. Chem., 40, 86-88(1974)									
P= 1 atm									
n-Decane (10-6 Ns/m2)									
290	0.732564669		1	1048.5	1.0485E-03	0.000853	-18.66	18.65962	%AAD= 1.646703
300	0.725219672		1	875.5	8.7550E-04	0.000753	-14.0389	14.0388777	
310	0.717784592		1	763	7.6300E-04	0.000668	-12.4595	12.4594973	
320	0.71025461		1	673	6.7300E-04	0.000596	-11.4384	11.4383839	
330	0.702624483		1	599	5.9900E-04	0.000535	-10.7564	10.7564327	
340	0.694888485		1	536	5.3600E-04	0.000482	-10.1198	10.1197841	
350	0.687040347		1	483	4.8300E-04	0.000436	-9.70678	9.70677987	
360	0.679073181		1	436.8	4.3680E-04	0.000396	-9.23722	9.23722178	
370	0.670979393		1	398	3.9800E-04	0.000362	-8.09738	9.09738403	
380	0.662750579		1	365.5	3.6550E-04	0.000331	-9.3458	9.34579785	
390	0.654377399		1	336.2	3.3620E-04	0.000304	-9.44634	9.44634433	
400	0.645849426		1	310.7	3.1070E-04	0.000281	-9.70394	9.70393531	
410	0.637154964		1	286.2	2.8620E-04	0.000259	-10.0573	10.0573241	
420	0.628280825		1	267.5	2.6750E-04	0.00024	-10.2583	10.2583461	
430	0.619212044		1	249	2.4900E-04	0.000223	-10.5358	10.5357618	
									10.99079
290	0.729695078		0.875	833.5	8.3350E-04	0.000805	-3.41123	3.41123398	
300	0.7222922		0.875	725.5	7.2550E-04	0.000711	-2.00205	2.00205017	
310	0.714795488		0.875	637.5	6.3750E-04	0.000631	-0.94884	0.94883747	
320	0.707199767		0.875	566.5	5.6650E-04	0.000564	-0.47174	0.47173755	
330	0.699499383		0.875	508.8	5.0880E-04	0.000506	-0.55368	0.55368363	
340	0.691688141		0.875	459.7	4.5970E-04	0.000456	-0.75754	0.7575383	
350	0.68375923		0.875	417.5	4.1750E-04	0.000413	-1.03911	1.0391132	
360	0.675705135		0.875	381.5	3.8150E-04	0.000376	-1.51935	1.51935325	
370	0.667517528		0.875	350.5	3.5050E-04	0.000343	-2.15789	2.15789012	
380	0.65918714		0.875	323.3	3.2330E-04	0.000314	-2.84054	2.84053734	
390	0.650703607		0.875	298.5	2.9850E-04	0.000289	-3.30649	3.30648847	
400	0.642055277		0.875	276.7	2.7670E-04	0.000266	-3.5295	3.52949522	
410	0.633228974		0.875	255	2.5500E-04	0.000246	-3.64286	3.64286208	
420	0.6242097		0.875	236	2.3600E-04	0.000228	-3.60127	3.6012689	

[illegible]

n-DECANE - n-OCTANE

	kij	lij
Total Error for All Tests	46.107695	0.981099
	1.084971	

n-HEXADECANE (1) - n-OCTANE (2)

00118 Wakefield, D. L.; Marsh, K. N.; Int. J. Thermophys., 8(6), 649-662(1987)

$P = 1 \text{ atm}$

<i>n</i> -Hexadecane		(10-3 Pa s)					
318.16	0.683140425	0	0.4138	4.1380E-04	0.000403	-2.69823	2.698232395
318.16	0.700734693	0.15004	0.5758	5.7580E-04	0.000559	-2.94288	2.94288208
318.16	0.719097223	0.34994	0.8378	8.3780E-04	0.000828	-1.20406	1.2040625
318.16	0.730156262	0.50011	1.0728	1.0728E-03	0.001069	-0.34393	0.34392948
318.16	0.738879465	0.63982	1.3173	1.3173E-03	0.001311	-0.46851	0.46850558
318.16	0.747408868	0.78956	1.6266	1.6266E-03	0.001591	-2.20155	2.20154762
318.16	0.756405645	1	2.0392	2.0392E-03	0.001929	-5.38501	5.38501108
328.16	0.674914381	0	0.3706	3.7060E-04	0.000366	-1.33897	1.33897186
							1.432185

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%D	%AD	%AAD
n-HEPTANE (1) - n-HEXADECANE (2)									
00843 Trevo, D. J.; Drickamer, H. G.; J. Chem. Phys., 17(6), 582-583(1949)									
P=		1 atm							%AAD= 2.55627
<i>n-Heptane</i> (cP)									
298	0.740411473	0.5	1.3768	1.3768E-03	0.001355	-1.5685	1.56849933		
318	0.725667541	0.5	1.0046	1.0046E-03	0.001033	2.848463	2.84846251		
335.8	0.712201684	0.5	0.7765	7.7650E-04	0.000826	6.433559	6.43355908		
<i>Average Error for Temp.</i>									
									3.61684
n-HEXADECANE (1) - n-HEPTANE (2)									
00918 Bldack, D. L.; Anderson, D. K.; J. Phys. Chem., 68(12), 3790-3794(1964)									
P=		1 atm							
<i>n-Hexadecane</i> (cP)									
298.15	0.661549127	0	0.3893	3.8930E-04	0.000395	1.373397	1.37339668		
298.15	0.712265411	0.211	0.7064	7.0640E-04	0.000689	-2.4347	2.43447127		
298.15	0.732511172	0.4067	1.102	1.1020E-03	0.001105	0.300714	0.30071372		
298.15	0.746214223	0.5795	1.552	1.5520E-03	0.001582	1.905722	1.90572158		
298.15	0.759148411	0.7667	2.202	2.2020E-03	0.002202	0.007184	0.00718358		
298.15	0.769662334	1	3.0306	3.0306E-03	0.002689	-11.2816	11.2816023		
<i>Average Error for Temp.</i>									
									1.162023
n-HEXADECANE (1) - n-HEPTANE (2)									
00998 Bak, T. A.; Anderson, K.; Acta Chem. Scand., 12, 1367-1372(1958)									
P=		1 atm							
<i>n-Hexadecane</i> (1/cP)									
293.17	0.665748469	0	2.445	4.0900E-04	0.000415	1.544527	1.5445274		
293.17	0.701195784	0.097	1.808	5.5310E-04	0.000541	-2.18618	2.18617687		
293.17	0.714246843	0.195	1.37	7.2983E-04	0.000702	-3.83828	3.8382751		
293.17	0.743293538	0.492	0.678	1.4749E-03	0.001427	-3.22271	3.22271346		
293.17	0.762451314	0.785	0.385	2.5974E-03	0.002382	-8.29032	8.29031541		
293.17	0.772929601	1	0.291	3.4364E-03	0.002934	-14.6333	14.6332798		
									4.38437
303.15	0.677298453	0	2.747	3.6403E-04	0.000375	3.104346	3.10434601		
303.15	0.693032069	0.097	2.062	4.8497E-04	0.000485	-0.00011	0.00010724		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
BENZENE (1) - TOLUENE (2)									
00322 Konobeev, B. I.; Lyapin, V. V.; J. Appl. Chem. USSR, 43(4), 806-813(1970)									
P=	0.101 MPa								
Benzene									
(g/m s)									
293.15	0.868489849		0	0.586	5.8600E-04	0.000581	-0.81809	0.81809011	%AAD= 3.80381
293.15	0.870411346		0.232	0.585	5.8500E-04	0.000593	1.371308	1.37130844	
293.15	0.872219824		0.435	0.598	5.9600E-04	0.000604	1.331667	1.33166746	
293.15	0.872265772		0.44	0.598	5.9800E-04	0.000604	1.040002	1.04000188	
293.15	0.87416001		0.638	0.613	6.1300E-04	0.000616	0.531655	0.53165479	
293.15	0.876066659		0.824	0.628	6.2800E-04	0.00063	0.288415	0.28841484	
293.15	0.87799651		1	0.649	6.4900E-04	0.000646	-0.4912	0.49119932	
333.15	0.83112277		0	0.382	3.8200E-04	0.000375	-1.88252	1.8825239	
333.15	0.83229653		0.232	0.381	3.8100E-04	0.000378	-0.68541	0.68541221	
333.15	0.833399419		0.435	0.382	3.8200E-04	0.000381	-0.33884	0.33883571	
333.15	0.833427544		0.44	0.385	3.8500E-04	0.000381	-1.10247	1.10246762	
333.15	0.834581042		0.638	0.383	3.8300E-04	0.000383	-0.1118	0.11179862	
333.15	0.835740268		0.824	0.388	3.8800E-04	0.000384	-0.95834	0.9583434	
333.15	0.836911736		1	0.389	3.8900E-04	0.000386	-0.67361	0.67361368	
Average Error for Temp.									
0.639372									

BENZENE (1) - TOLUENE (2)
00045 Mathews, J. H.; Cooke, R. D.; J. Phys. Chem., 18, 559-573(1914)

P=	0.101 MPa									
	Benzene									
	(g/m s)									
273.15	0.891967815	0.5412	0.8039	8.0390E-04	0.000803	-0.14615	0.14615435			
298.15	0.868446875	0.5412	0.5571	5.5710E-04	0.000572	2.716011	2.71601104			
313.15	0.853920491	0.5412	0.4817	4.6170E-04	0.000477	3.255051	3.2550512			
328.15	0.839047714	0.5412	0.4011	4.0110E-04	0.000403	0.390953	0.3909526			
343.15	0.823793445	0.5412	0.3517	3.5170E-04	0.000344	-2.08104	2.08104167			
						Average Error for Temp.				1.717842

BENZENE (1) - TOLUENE (2)
00655 Linebarger, C. E.; Am. J. Sci., [4]2(11), 331-340(1896)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
P= 0.101 MPa									
<i>Benzene</i>									
	298.15	0.863933615	0	0.541	5.4100E-04	0.000548	1.205097	1.20509659	
	298.15	0.864922099	0.12719	0.555	5.5500E-04	0.000553	-0.3344	0.33440296	
	298.15	0.86669132	0.34229	0.558	5.5800E-04	0.000563	0.846871	0.84687101	
	298.15	0.86996264	0.7024	0.579	5.7900E-04	0.000581	0.341328	0.34132777	
	298.15	0.872234058	0.9275	0.594	5.9400E-04	0.000596	0.340687	0.34068677	
	298.15	0.873007427	1	0.599	5.9900E-04	0.000602	0.48328	0.48328045	
Average Error for Temp.									
									0.465822

TOLUENE (1) - BENZENE (2)

00872 Linke, R.; Z. Phys. Chem., A188, 17-26(1941)

P= 0.101 MPa									
<i>Toluene</i>									
	286.05	0.88501591	0	0.7509	7.5090E-04	0.000716	-4.63418	4.63418203	
	294.35	0.876802643	0	0.6559	6.5590E-04	0.000635	-3.20503	3.20502908	
	304.85	0.866260349	0	0.5927	5.9270E-04	0.000549	-7.32309	7.32308551	
	312.95	0.85800509	0	0.5173	5.1730E-04	0.000494	-4.51637	4.51636969	
	322.75	0.84786554	0	0.4749	4.7490E-04	0.000437	-7.98064	7.980642	
									5.531862
	285.95	0.883848856	0.107	0.7495	7.4950E-04	0.000704	-6.06028	6.06028145	
	295.65	0.874345418	0.107	0.6473	6.4730E-04	0.000614	-5.13944	5.13944002	
	305.55	0.86449987	0.107	0.5782	5.7820E-04	0.000538	-6.98079	6.98078591	
	312.85	0.857140099	0.107	0.5215	5.2150E-04	0.00049	-6.05177	6.05177158	
	323.75	0.845983274	0.107	0.4713	4.7130E-04	0.000429	-8.95824	8.95823697	
									6.638103
	286.15	0.882574809	0.202	0.7486	7.4860E-04	0.000692	-7.57107	7.57107133	
	294.75	0.874232068	0.202	0.6571	6.5710E-04	0.000614	-6.52258	6.52258469	
	305.65	0.863501841	0.202	0.57	5.7000E-04	0.000532	-6.62079	6.62079179	
	312.95	0.856212397	0.202	0.5201	5.2010E-04	0.000486	-6.59732	6.59732014	
	322.95	0.846084359	0.202	0.4648	4.6480E-04	0.000431	-7.25809	7.25809349	
									6.913972
	285.55	0.882377803	0.272	0.7402	7.4020E-04	0.000691	-6.65396	6.65395683	
	295.85	0.872449272	0.272	0.6379	6.3790E-04	0.0006	-5.87526	5.87525799	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	312.95	0.855621742	0.272	0.5187	5.1870E-04	0.000483	-6.79909	6.79908649	
	323.85	0.844652844	0.272	0.4627	4.6270E-04	0.000425	-8.09048	8.09048216	6.854686
	285.75	0.880967804	0.386	0.7256	7.2560E-04	0.000679	-6.43279	6.43279345	
	296.05	0.871142001	0.386	0.6282	6.2820E-04	0.000592	-5.78847	5.78847049	
	305.75	0.861751804	0.386	0.5579	5.5790E-04	0.000524	-6.15558	6.15557508	
	313.25	0.854395271	0.386	0.51	5.1000E-04	0.000478	-6.22952	6.22951716	
	323.55	0.844147765	0.386	0.4641	4.6410E-04	0.000425	-8.4876	8.48760052	6.618791
	285.75	0.879717825	0.508	0.7109	7.1090E-04	0.000669	-5.85661	5.85661466	
	295.55	0.870475144	0.508	0.6234	6.2340E-04	0.000589	-5.54656	5.54655531	
	305.35	0.861101144	0.508	0.5535	5.5350E-04	0.000521	-5.79914	5.7991365	
	313.35	0.85334611	0.508	0.5084	5.0840E-04	0.000474	-6.34453	6.34453493	
	323.75	0.84311825	0.508	0.4568	4.5680E-04	0.000422	-7.67822	7.67821654	6.245012
	285.75	0.878616837	0.62	0.7197	7.1970E-04	0.000661	-8.13288	8.13288475	
	294.95	0.870028235	0.62	0.6245	6.2450E-04	0.000587	-5.9416	5.94160076	
	305.55	0.859983262	0.62	0.5525	5.5250E-04	0.000516	-6.59253	6.59253025	
	313.45	0.852411745	0.62	0.5057	5.0570E-04	0.000471	-6.91319	6.91318515	
	323.05	0.843073937	0.62	0.4581	4.5810E-04	0.000423	-7.65295	7.65294656	7.046629
	285.45	0.877954034	0.719	0.7558	7.5580E-04	0.000657	-13.0708	13.0707768	
	297.35	0.866922291	0.719	0.6086	6.0860E-04	0.000565	-6.78387	6.78386617	
	305.35	0.85940213	0.719	0.554	5.5400E-04	0.000514	-7.25919	7.25919091	
	313.05	0.852080805	0.719	0.5077	5.0770E-04	0.00047	-7.38062	7.38061775	
	322.55	0.842929795	0.719	0.464	4.6400E-04	0.000424	-8.72528	8.72527682	8.643946
	286.35	0.876115436	0.83	0.6949	6.9490E-04	0.000642	-7.56506	7.56505571	
	294.65	0.868500922	0.83	0.6216	6.2160E-04	0.000579	-6.8414	6.84139828	
	305.15	0.85874309	0.83	0.5517	5.5170E-04	0.000511	-7.36963	7.36963184	
	313.45	0.850925719	0.83	0.5068	5.0680E-04	0.000465	-8.22697	8.22696782	
	322.85	0.841955076	0.83	0.4607	4.6070E-04	0.00042	-8.83806	8.8380641	7.768224
	286.25	0.874728247	1	0.6747	6.7470E-04	0.000633	-6.22148	6.22148099	
	295.85	0.866033269	1	0.5984	5.9840E-04	0.000563	-5.97256	5.97255744	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
305.45	0.857225784		1	0.5375	5.3750E-04	0.000503	-6.39141	6.39140968	
312.65	0.850542629		1	0.4982	4.9820E-04	0.000464	-6.80949	6.80949035	
322.65	0.841144393		1	0.44998	4.4998E-04	0.000417	-7.29864	7.29863931	
<i>Average Error for Temp.</i>									6.538716

BENZENE (1) - TOLUENE (2)

01571 Asfour, A. F. A.; Dullien, F. A. L.; J. Chem. Eng. Data, 26(3), 312-316(1981)

P= 0.101 MPa

<i>Benzene</i>		<i>(g/m s)</i>							
298.15	0.863933615	0	0.5526	5.5260E-04	0.000548	-0.91937	0.91936798		
298.15	0.864437551	0.0655	0.5543	5.5430E-04	0.000555	-0.69931	0.69930935		
298.15	0.864700251	0.0991	0.5554	5.5540E-04	0.000552	-0.62904	0.6290415		
298.15	0.865971189	0.2566	0.5591	5.5910E-04	0.000559	-0.04177	0.04176837		
298.15	0.867161336	0.3969	0.5652	5.6520E-04	0.000565	0.007303	0.00730343		
298.15	0.868509988	0.5481	0.572	5.7200E-04	0.000573	0.10166	0.10165978		
298.15	0.869572579	0.6618	0.5783	5.7830E-04	0.000579	0.060693	0.06069336		
298.15	0.870953385	0.8029	0.5874	5.8740E-04	0.000587	-0.03615	0.03614582		
298.15	0.87203697	0.9087	0.5951	5.9510E-04	0.000595	-0.08472	0.08471885		
298.15	0.873007427	1	0.6026	6.0260E-04	0.000602	-0.11702	0.11701794		
<i>Average Error for Temp.</i>									0.20758

BENZENE (1) - TOLUENE (2)

01810 Mamedov, A. A.; Panchenkov, G. M.; Zh. Fiz. Khim., 29(7), 1204-1220(1955)

P= 0.101 MPa

<i>Benzene</i>		<i>(g/m s)</i>							
293.15	0.869873242	0.1688	0.575	5.7500E-04	0.00059	2.568934	2.56893388		
303.15	0.860603646	0.1688	0.509	5.0900E-04	0.000523	2.758225	2.75822518		
313.15	0.851201707	0.1688	0.456	4.5600E-04	0.000467	2.330395	2.33039466		
323.15	0.84165943	0.1688	0.411	4.1100E-04	0.000419	1.855401	1.85540105		
333.15	0.831968015	0.1688	0.374	3.7400E-04	0.000378	0.94241	0.9424098		
343.15	0.822117734	0.1688	0.342	3.4200E-04	0.000342	0.033743	0.03374341		
									1.748185
293.15	0.872250073	0.4383	0.592	5.9200E-04	0.000604	2.047817	2.04781685		
303.15	0.86276284	0.4383	0.523	5.2300E-04	0.000533	1.985158	1.98515811		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	313.15	0.853134443	0.4383	0.463	4.6300E-04	0.000474	2.358188	2.35818754	
	323.15	0.843356068	0.4383	0.416	4.1600E-04	0.000424	1.826528	1.82652826	
	333.15	0.833417976	0.4383	0.38	3.8000E-04	0.000381	0.194363	0.1943635	
	343.15	0.823309384	0.4383	0.344	3.4400E-04	0.000344	-3.7E-05	3.6602E-05	1.402015
	293.15	0.872966801	0.5149	0.599	5.9900E-04	0.000609	1.596176	1.59617557	
	303.15	0.863413751	0.5149	0.526	5.2600E-04	0.000536	1.992439	1.99243928	
	313.15	0.853716906	0.5149	0.47	4.7000E-04	0.000476	1.276753	1.27675307	
	323.15	0.843867209	0.5149	0.42	4.2000E-04	0.000425	1.169577	1.16957671	
	333.15	0.833854648	0.5149	0.38	3.8000E-04	0.000381	0.387478	0.38747792	
	343.15	0.823668099	0.5149	0.342	3.4200E-04	0.000344	0.671806	0.67180627	1.182371
	293.15	0.874361874	0.6583	0.606	6.0600E-04	0.000618	1.916092	1.91609172	
	303.15	0.864680464	0.6583	0.529	5.2900E-04	0.000543	2.592561	2.59256058	
	313.15	0.854850175	0.6583	0.471	4.7100E-04	0.00048	1.932918	1.93291794	
	323.15	0.844861488	0.6583	0.423	4.2300E-04	0.000427	1.041263	1.04126285	
	333.15	0.83470386	0.6583	0.38	3.8000E-04	0.000383	0.723653	0.72365261	
	343.15	0.824365565	0.6583	0.346	3.4600E-04	0.000345	-0.38658	0.3865764	1.432177
	293.15	0.875623628	0.7819	0.617	6.1700E-04	0.000626	1.538277	1.53827682	
	303.15	0.86582584	0.7819	0.54	5.4000E-04	0.000549	1.626255	1.62625475	
	313.15	0.855874618	0.7819	0.479	4.7900E-04	0.000484	1.053021	1.05302135	
	323.15	0.845760032	0.7819	0.424	4.2400E-04	0.00043	1.352987	1.35298709	
	333.15	0.835471073	0.7819	0.383	3.8300E-04	0.000384	0.226962	0.22696203	
	343.15	0.824995479	0.7819	0.347	3.4700E-04	0.000345	-0.61372	0.61371679	1.068536
<i>Average Error for Temp.</i>									

BENZENE (1) - TOLUENE (2)

02145 Ghal, R. K.; Dullien, F. A. L.; J. Phys. Chem., 78(22), 2283-2291(1974)

P= 0.101 MPa

<i>Benzene</i>		<i>(cP)</i>	
298.15	0.863933615	0	0.5535
298.15	0.864317331	0.05	0.5539
298.15	0.864707327	0.1	0.5546
			5.5350E-04
			5.5390E-04
			5.5460E-04
			0.000548
			0.00055
			-1.08047
			-0.75131
			-0.47855
			1.0804747
			0.75130821
			0.47854726

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	298.15	0.865506789	0.2	0.5566	5.5660E-04	0.000556	-0.044	0.04399801	
	298.15	0.866333308	0.3	0.5595	5.5950E-04	0.000561	0.234144	0.23414426	
	298.15	0.867188282	0.4	0.5632	5.6320E-04	0.000565	0.388102	0.38810153	
	298.15	0.868073205	0.5	0.5678	5.6780E-04	0.00057	0.41786	0.41785973	
	298.15	0.868989679	0.6	0.5732	5.7320E-04	0.000575	0.362747	0.362747	
	298.15	0.869939422	0.7	0.5794	5.7940E-04	0.000581	0.24787	0.24786996	
	298.15	0.87092428	0.8	0.5864	5.8640E-04	0.000587	0.10201	0.10200975	
	298.15	0.871846236	0.9	0.594	5.9400E-04	0.000594	-0.00887	0.00886799	
	298.15	0.873007427	1	0.6023	6.0230E-04	0.000602	-0.06727	0.06726716	
Average Error for Temp.									0.303545

BENZENE - TOLUENE

k_{ij}	l_{ij}
Total Error for All T_i	
340.700377	1.016652
0.954563	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
2,2,4-TRIMETHYLPENTANE (1) - TOLUENE (2)									
02446 Mamagakis, N.; Panayiotou, C.; Z. Phys. Chem. Neue Folge, Bd. 162, 57-72(1989)									
P=		0.101 MPa						%AAD=	3.181867
		2,2,4-Trimethylpent		(g/m s)					
	298.15	0.863933615	0	0.553	5.5300E-04	0.000548	-0.99104	0.99103571	
	298.15	0.835109465	0.1138	0.519	5.1900E-04	0.00051	-1.81587	1.81588944	
	298.15	0.814746745	0.2032	0.498	4.9800E-04	0.00049	-1.64305	1.64304584	
	298.15	0.798723268	0.2796	0.485	4.8500E-04	0.000479	-1.25741	1.25741209	
	298.15	0.788412233	0.3319	0.447	4.4700E-04	0.000474	5.994279	5.99427843	
	298.15	0.774922904	0.4044	0.47	4.7000E-04	0.000469	-0.26315	0.26314591	
	298.15	0.769228003	0.4365	0.467	4.6700E-04	0.000467	-0.00063	0.00062506	
	298.15	0.758709259	0.4983	0.464	4.6400E-04	0.000464	5.8E-07	5.7957E-07	
	298.15	0.739856173	0.618	0.459	4.5900E-04	0.000459	0.101686	0.10168643	
	298.15	0.728904573	0.6934	0.458	4.5800E-04	0.000459	0.23904	0.23903971	
	298.15	0.723617439	0.7315	0.461	4.6100E-04	0.000461	-0.07981	0.07981461	
	298.15	0.714033377	0.8036	0.463	4.6300E-04	0.000469	1.316927	1.3169267	
	298.15	0.702424154	0.8966	0.467	4.6700E-04	0.000498	6.621105	6.62110467	
	298.15	0.698541022	0.9292	0.47	4.7000E-04	0.000515	9.628903	9.62890323	
	298.15	0.693318668	0.9743	0.474	4.7400E-04	0.000548	15.58456	15.5845619	
	298.15	0.690417615	1	0.477	4.7700E-04	0.000572	19.90239	19.9023913	
				Average Error for Temp.				3.181867	
2,2,4-TRIMETHYLPENTANE - TOLUENE									
				<i>kij</i>				<i>ljj</i>	
				Total Error for All T _e				1.12585	0.500002
								72.8164099	1.127908
									0.449556
2,2,4-TRIMETHYLPENTANE (1) - HEXANE (2)									
00401 Awwad, A. M.; Allos, E. I.; Fluid Phase Equilib., 22, 353-365(1985)									
P=		0.101 MPa						%AAD=	2.320156
		2,2,4-Trimethylpent		(g/m s)					
	298.15	0.656026202	0	0.3023	3.0230E-04	0.000305	1.035437	1.03543666	
	298.15	0.656454192	0.05688	0.3093	3.0930E-04	0.000313	1.078614	1.07881356	
	298.15	0.662728412	0.1612	0.3276	3.2780E-04	0.000327	-0.19719	0.19719192	
	298.15	0.667114131	0.27419	0.3441	3.4410E-04	0.000345	0.197962	0.19796168	
	298.15	0.669605711	0.34126	0.3538	3.5380E-04	0.000356	0.48939	0.48938968	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
298.15	0.673775928		0.45853	0.373	3.7300E-04	0.000373	0.000972	0.0009718	
298.15	0.677059014		0.55557	0.3897	3.8970E-04	0.000386	-1.11212	1.11211593	
298.15	0.678889007		0.61158	0.3995	3.9950E-04	0.000392	-1.84905	1.84905229	
298.15	0.682758578		0.73483	0.4226	4.2260E-04	0.000411	-2.72709	2.72708762	
298.15	0.684346841		0.78741	0.4329	4.3290E-04	0.000424	-2.01905	2.01904908	
298.15	0.686248722		0.85198	0.4445	4.4450E-04	0.000449	0.906652	0.9066521	
298.15	0.687993586		0.91282	0.4582	4.5820E-04	0.000485	5.746007	5.74600726	
298.15	0.689203794		0.95595	0.4674	4.6740E-04	0.000521	11.51758	11.5175779	
298.15	0.690417615		1	0.4788	4.7880E-04	0.000572	19.45163	19.4516304	2.320156
<i>Average Error for Temp.</i>									

2,2,4-TRIMETHYLPENTANE - HEXANE

<i>kij</i>	<i>lij</i>
1.110436	0.5
1.124789	0.447591

Total Error for All T_e

TETRADECANE (1) - HEXANE (2)

00620 Heric, E. L.; Brewer, J. G.; J. Chem. Eng. Data, 12(4), 574-583(1967)

P= 0.101 MPa

%AAD= 0.845456

Tetradecane	(g/m s)	%AAD=
298.15	0.759330572	
298.15	0.747448695	
298.15	0.738078322	
298.15	0.728274571	
298.15	0.719318985	
298.15	0.710919515	
298.15	0.702640922	
298.15	0.693040478	
298.15	0.685126563	
298.15	0.676142206	
298.15	0.666651399	
298.15	0.656026202	
<i>Average Error for Temp.</i>		0.845456

TETRADECANE - HEXANE

<i>kij</i>	<i>lij</i>
1.089671	1.099848

Total Error for All T_e

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
2,2,4-TRIMETHYLPENTANE (1) - NONANE (2)									
00401 Awwad, A. M.; Allos, E. I.; Fluid Phase Equilib., 22, 353-365(1985)									
P= 0.101 MPa									
2,2,4-Trimethylpent (g/m s)									
298.15	0.714287079		0	0.6626	6.6260E-04	0.000622	-6.17859	6.17858862	%AAD= 4.068464
298.15	0.712579217		0.07718	0.6409	6.4090E-04	0.000604	-5.70915	5.70915329	
298.15	0.709527605		0.21278	0.6118	6.1180E-04	0.00059	-3.54924	3.54924276	
298.15	0.70684974		0.3294	0.5969	5.9690E-04	0.000585	-1.94266	1.94266033	
298.15	0.704975685		0.40973	0.5806	5.8060E-04	0.000581	-0.00023	0.00023365	
298.15	0.702239328		0.52517	0.5564	5.5640E-04	0.000567	1.825116	1.82511587	
298.15	0.698097863		0.69583	0.5351	5.3510E-04	0.000533	-0.41835	0.41834737	
298.15	0.697642342		0.71431	0.5219	5.2190E-04	0.000529	1.439639	1.43963862	
298.15	0.695045909		0.81857	0.5071	5.0710E-04	0.000518	2.113651	2.11365095	
298.15	0.693435543		0.88233	0.4985	4.9850E-04	0.000522	4.762311	4.76231101	
298.15	0.692449117		0.92105	0.4877	4.8770E-04	0.000532	8.986967	8.98696675	4.068464
298.15	0.691283254		0.9661	0.4829	4.8280E-04	0.000551	14.00579	14.0057875	
Average Error for Temp.									
2,2,4-TRIMETHYLPENTANE - NONANE									
Total Error for All T _e									
							k _{ij}	l _{ij}	
							1.124915	0.5	
							39.9498208	1.14174	0.413301
2,2,4-TRIMETHYLPENTANE (1) - DODECANE (2)									
00401 Awwad, A. M.; Allos, E. I.; Fluid Phase Equilib., 22, 353-365(1985)									
P= 0.101 MPa									
2,2,4-Trimethylpent (g/m s)									
298.15	0.745114601		0	1.3531	1.3531E-03	0.001173	-13.2833	13.2832644	%AAD= 6.960042
298.15	0.741365142		0.0923	1.2359	1.2359E-03	0.001067	-13.6564	13.6563846	
298.15	0.738622461		0.15689	1.1689	1.1689E-03	0.001017	-13.0131	13.0131135	
298.15	0.734471379		0.25027	1.0846	1.0846E-03	0.000964	-11.1099	11.1099307	
298.15	0.728570725		0.37466	0.9632	9.6320E-04	0.000905	-6.01134	6.01133645	
298.15	0.723279659		0.47864	0.8653	8.6530E-04	0.000847	-2.09207	2.09206969	
298.15	0.717272451		0.5889	0.7696	7.6960E-04	0.00077	2.98E-05	2.9805E-05	
298.15	0.712198737		0.67617	0.7013	7.0130E-04	0.000702	0.094601	0.09460099	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
2,2,4-Trimethylpent									
				(g/m s)					
			0	0.3942	3.9420E-04	0.000395	0.113301	0.11330118	
298.15	0.681549127			0.3997	3.9970E-04	0.000397	-0.67274	0.6727373	
298.15	0.682198088	0.06556		0.4055	4.0550E-04	0.000405	-0.18512	0.1851193	
298.15	0.683307337	0.18015		0.4133	4.1330E-04	0.000416	0.562105	0.56210455	
298.15	0.684381494	0.29427		0.4193	4.1930E-04	0.000423	0.952897	0.95289744	
298.15	0.685113627	0.3739		0.4269	4.2690E-04	0.000432	1.131268	1.1312676	
298.15	0.686141424	0.48831		0.4357	4.3570E-04	0.000436	-4.8E-06	4.8034E-06	
298.15	0.686950051	0.58055		0.4399	4.3990E-04	0.000437	-0.60173	0.60172711	
298.15	0.687338709	0.62537		0.4491	4.4910E-04	0.000443	-1.33048	1.33048088	
298.15	0.688177161	0.72443		0.4562	4.5620E-04	0.000454	-0.3992	0.39919696	
298.15	0.688797565	0.79903		0.461	4.6100E-04	0.000474	2.892304	2.89230355	
298.15	0.689336666	0.8649		0.4665	4.6650E-04	0.000504	7.945894	7.94589425	
298.15	0.689795207	0.92171		0.4743	4.7430E-04	0.000536	12.94394	12.9439391	
298.15	0.690133721	0.96412							2.468139
Average Error for Temp.									
2,2,4-TRIMETHYLPENTANE - HEPTANE									
Total Error for All T_i									
							kij	lij	0.5
							1.111228	29.6176728	1.111228

2,2,4-TRIMETHYLPENTANE (1) - HEXADECANE (2)
 00401 Awwad, A. M.; Allos, E. I.; Fluid Phase Equilib., 22, 353-365(1985)
 P= 0.101 MPa

2,2,4-Trimethylpent									
				(g/m s)					
			0	3.0022	3.0022E-03	0.002689	-10.4424	10.4423503	
298.15	0.769662334			2.82	2.8200E-03	0.002438	-13.5568	13.5568249	
298.15	0.767121869	0.05562		2.5501	2.5501E-03	0.0022	-13.7109	13.710872	
298.15	0.763463943	0.13111		2.3712	2.3712E-03	0.002052	-13.4528	13.4527928	
298.15	0.760048084	0.19713		1.9502	1.9502E-03	0.001856	-4.81115	4.81115001	
298.15	0.753860252	0.30696		1.6511	1.6511E-03	0.001636	-0.93576	0.93576062	
298.15	0.746300897	0.4264		1.3366	1.3366E-03	0.001362	1.927869	1.92786844	
298.15	0.737595422	0.54724		1.077	1.0770E-03	0.001098	1.951626	1.95162638	
298.15	0.728722444	0.65524		0.9214	9.2140E-04	0.00092	-0.10428	0.10428442	
298.15	0.72146676	0.73406		0.7819	7.8190E-04	0.000787	0.662905	0.6629045	
298.15	0.714345722	0.80434		0.7495	7.4950E-04	0.000749	-2.5E-05	2.4894E-05	
298.15	0.711851899	0.82747							
							%AAD= 4.932304		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
298.15	0.706261916	0.87678		0.6682	6.6820E-04	0.00068	1.834093	1.83409343	
298.15	0.699898778	0.929		0.5871	5.8710E-04	0.000624	6.23945	6.23945004	
298.15	0.6970571	0.95109		0.5441	5.4410E-04	0.000605	11.1246	11.1245956	
Average Error for Temp.									4.932304
2,2,4-TRIMETHYLPENTANE - HEXADECANE									
Total Error for All T _c									
							k _{ij}	l _{ij}	
							1.187941	0.511492	
2,2,4-TRIMETHYLPENTANE (1) - TETRADECANE (2)									
00401 Anwrad, A. M.; Allos, E. I.; Fluid Phase Equilib., 22, 353-365(1985)									
P= 0.101 MPa									
2,2,4-Trimethylpent									
298.15	0.759330572	0		2.0282	2.0282E-03	0.001789	-11.79	11.7900297	
298.15	0.754406545	0.10835		1.8135	1.8135E-03	0.001548	-14.6459	14.6458903	
298.15	0.752152846	0.15512		1.7241	1.7241E-03	0.001479	-14.2417	14.2417345	
298.15	0.750917225	0.18006		1.7019	1.7019E-03	0.001447	-14.9743	14.9743408	
298.15	0.745677867	0.28065		1.483	1.4830E-03	0.001342	-9.49664	9.49663867	
298.15	0.739620957	0.40421		1.2652	1.2652E-03	0.001221	-3.49902	3.4990176	
298.15	0.73154594	0.51616		1.086	1.0860E-03	0.001086	-2.8E-05	2.823E-05	
298.15	0.723547938	0.63039		0.8193	9.1930E-04	0.000924	0.509193	0.50919257	
298.15	0.71748202	0.70945		0.8085	8.0850E-04	0.000812	0.398987	0.39898724	
298.15	0.711069686	0.78679		0.7168	7.1680E-04	0.000715	-0.29913	0.29913008	
298.15	0.709943603	0.81114		0.6841	6.8410E-04	0.000688	0.599236	0.59923644	
298.15	0.704362955	0.86158		0.6216	6.2160E-04	0.000641	3.129134	3.12913364	
298.15	0.699078244	0.91657		0.5603	5.6030E-04	0.000603	7.551534	7.551534	
298.15	0.695537939	0.95163		0.5263	5.2630E-04	0.000586	11.26769	11.2676908	
298.15	0.69291307	0.97676		0.5023	5.0230E-04	0.000577	14.88785	14.8878546	
Average Error for Temp.									6.821458
2,2,4-TRIMETHYLPENTANE - TETRADECANE									
Total Error for All T _c									
							k _{ij}	l _{ij}	
							1.169017	0.5	
HEXADECANE (1) - TETRADECANE (2)									
00620 Heilic, E. L.; Brewer, J. G.; J. Chem. Eng. Data, 12(4), 574-583(1967)									
P= 0.101 MPa									
%AAD= 4.362978									

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
Hexadecane									
298.15	0.768662334	1	3.062	3.0620E-03	0.002689	-12.1914	12.191386		
298.15	0.76841386	0.973	2.9882	2.9882E-03	0.002707	-9.39484	9.39484219		
298.15	0.768104395	0.9366	2.9538	2.9538E-03	0.002727	-7.68438	7.68437789		
298.15	0.768659312	0.892	2.9059	2.9059E-03	0.002747	-5.47031	5.47030766		
298.15	0.76776707	0.7981	2.8126	2.8126E-03	0.002761	-1.84561	1.84561093		
298.15	0.766733551	0.6918	2.7091	2.7091E-03	0.002735	0.964394	0.96439446		
298.15	0.765806208	0.5986	2.6195	2.6195E-03	0.002679	2.261762	2.26176201		
298.15	0.764432663	0.4642	2.4934	2.4934E-03	0.002547	2.136941	2.13694128		
298.15	0.76315469	0.3429	2.3842	2.3842E-03	0.002384	-5.5E-05	5.543E-05		
298.15	0.762162328	0.2511	2.3013	2.3013E-03	0.00224	-2.66934	2.66934202		
298.15	0.761211132	0.165	2.2274	2.2274E-03	0.002092	-6.07349	6.07348861		
298.15	0.76032154	0.0861	2.1591	2.1591E-03	0.001949	-9.71163	9.71163495		
298.15	0.759330572	0	2.0847	2.0847E-03	0.001789	-14.1807	14.1807158		
HEXADECANE - TETRADECANE							Average Error for Temp.	4.382978	kJ
							Total Error for All T_k	48.2127575	1.00653
									1.064252

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
FORMIC ACID (1) - WATER (2)									
AC - OI									
00550 Traube, J.; Ber. Dtsch. Chem. Ges., 19, 871-892(1886)									
P= 1 atm									
Formic Acid (P)									
293.15	1.015066408	0.0416777	0.01098	1.0980E-03	0.000857	-21.9643	21.96427		4.4612
293.15	1.054379269	0.143651	0.01216	1.2160E-03	0.001037	-14.7255	14.72554		
293.15	1.096859941	0.2813059	0.01344	1.3440E-03	0.001253	-6.78022	6.780224		
293.15	1.219714951	1	0.01959	1.9590E-03	0.001785	-8.89146	8.891457		
313.15	1.00621002	0.0416777	0.00729	7.2900E-04	0.000641	-12.1366	12.13656		14.49001
313.15	1.042838766	0.143651	0.00809	8.0900E-04	0.000768	-5.0603	5.060304		
313.15	1.082235025	0.2813059	0.0092	9.2000E-04	0.000918	-0.18688	0.186882		
313.15	1.19510657	1	0.01291	1.2910E-03	0.00121	-6.25595	6.255947		
333.15	0.995889053	0.0416777	0.00523	5.2300E-04	0.000493	-5.78593	5.785926		5.794581
333.15	1.029887748	0.143651	0.00597	5.9700E-04	0.000585	-1.93152	1.931521		
333.15	1.066289859	0.2813059	0.00681	6.8100E-04	0.000693	1.769029	1.769029		
333.15	1.169644653	1	0.00909	9.0900E-04	0.000853	-6.10628	6.10628		3.162159

FORMIC ACID (1) - WATER (2)

AC - OI
01799 Glagoleva, A. A.; Zh. Obshch. Khim., 16(1), 21-26(1946)
P= 0.101 MPa

Formic Acid (g/m s)									
293.15	1.21329609	0.9418	1.68	1.6800E-03	0.001763	4.915075	4.915075		
293.15	1.164838149	0.5951	1.601	1.6010E-03	0.001601	0.016207	0.016207		
293.15	1.148481132	0.5055	1.525	1.5250E-03	0.001525	-0.02721	0.02721		
293.15	1.144085424	0.4832	1.519	1.5190E-03	0.001503	-1.08248	1.082481		
293.15	1.134818288	0.4384	1.577	1.5770E-03	0.001455	-7.74839	7.748395		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	293.15	1.128330132	0.4087	1.48	1.4800E-03	0.001421	-4.01083	4.010826	
	293.15	1.12725421	0.4039	1.478	1.4780E-03	0.001415	-4.26697	4.266974	
	293.15	1.1201131	0.3729	1.414	1.4140E-03	0.001377	-2.62495	2.624948	
	293.15	1.11597697	0.3556	1.4	1.4000E-03	0.001355	-3.23133	3.231326	
	293.15	1.111652355	0.338	1.4	1.4000E-03	0.001332	-4.88425	4.884246	
	293.15	1.110953164	0.3352	1.394	1.3940E-03	0.001328	-4.74313	4.743126	
	293.15	1.099943919	0.2927	1.347	1.3470E-03	0.001269	-5.7756	5.7756	
	293.15	1.093964047	0.2708	1.328	1.3280E-03	0.001238	-6.80729	6.807287	
	293.15	1.091526974	0.2621	1.323	1.3230E-03	0.001225	-7.42303	7.423029	
	293.15	1.059110316	0.1574	1.215	1.2150E-03	0.00106	-12.7585	12.75847	
	293.15	1.049880935	0.1309	1.195	1.1950E-03	0.001015	-15.0388	15.03883	
	293.15	0.996489202	0	1.006	1.0060E-03	0.000779	-22.5434	22.54338	5.334627
	298.15	1.207361997	0.9418	1.598	1.5980E-03	0.001597	-0.05385	0.053854	
	298.15	1.161685481	0.6055	1.427	1.4270E-03	0.001474	3.267749	3.267749	
	298.15	1.146377572	0.5185	1.362	1.3620E-03	0.001411	3.57836	3.57836	
	298.15	1.141066933	0.4906	1.36	1.3600E-03	0.001387	1.983607	1.983607	
	298.15	1.138242552	0.4762	1.356	1.3560E-03	0.001374	1.329865	1.329865	
	298.15	1.126743908	0.4205	1.305	1.3050E-03	0.00132	1.124727	1.124727	
	298.15	1.116128686	0.3729	1.268	1.2680E-03	0.001268	8.41E-07	8.41E-07	
	298.15	1.107220811	0.3355	1.228	1.2280E-03	0.001224	-0.31136	0.311362	
	298.15	1.106704799	0.3334	1.227	1.2270E-03	0.001222	-0.43728	0.437283	
	298.15	1.105146285	0.3271	1.219	1.2190E-03	0.001214	-0.41363	0.413631	
	298.15	1.099009579	0.3029	1.174	1.1740E-03	0.001184	0.83207	0.83207	
	298.15	1.075823508	0.2194	1.076	1.0760E-03	0.001071	-0.4255	0.425501	
	298.15	1.062143605	0.1753	1.039	1.0390E-03	0.001007	-3.05665	3.05665	
	298.15	1.053648276	0.1496	1.029	1.0290E-03	0.000968	-5.89129	5.891289	
	298.15	1.037445284	0.1038	0.979	9.7900E-04	0.000897	-8.41834	8.418339	
	298.15	0.994713268	0	0.891	8.9100E-04	0.000723	-18.8223	18.82225	2.074953

Press. Temp. Pred. Density Mole Frac. Exp. Viscosity Exp. Viscosity η_{pred} %AD %AAD
(DIPPR) (K) (g/cm3) (DIPPR units) (Pa s) (Pa s) (P a s)

FORMIC ACID (1) - WATER (2)

AC - OI

01493 Rao, K. C.; Rao, S. B.; Indian J. Chem., Sect. A (21), 71-72(1982)

P= 1 atm

Formic Acid (cP)

303.15	0.992847701	0	0.801	8.0100E-04	0.000673	-16.0167	16.01674
303.15	1.014258917	0.0501	0.849	8.4900E-04	0.000751	-11.5428	11.54284
303.15	1.035689	0.1061	0.897	8.9700E-04	0.000835	-6.90393	6.903927
303.15	1.057103538	0.169	0.95	9.5000E-04	0.000924	-2.69873	2.69873
303.15	1.078570522	0.2404	0.994	9.9400E-04	0.001018	2.455225	2.455225
303.15	1.100029227	0.3219	1.062	1.0620E-03	0.001115	5.028776	5.028776
303.15	1.121499568	0.4159	1.156	1.1560E-03	0.001212	4.864388	4.864388
303.15	1.142978908	0.5255	1.159	1.1590E-03	0.001303	12.3945	12.3945
303.15	1.16447718	0.655	1.234	1.2340E-03	0.001377	11.58192	11.58192
303.15	1.185986723	0.8103	1.288	1.2880E-03	0.001426	10.73404	10.73404
303.15	1.207511313	1	1.434	1.4340E-03	0.001462	1.981853	1.981853

7.57826

WATER (1) - FORMIC ACID (2)

OI - AC

Bingham, E. C.; White, G. F.; Thomas, A.; Cadwell, J. L.; Z. Phys. Chem. Stoechiom. Verwandtschaftsl., 83, 641-673(1913)

P= 1 atm

Water (P-1)

298.15	1.213637564	0	61.75	1.6194E-03	0.001614	-0.36173	0.361726
298.15	1.156835112	0.4231883	68.72	1.4552E-03	0.001455	-0.0295	0.029497
298.15	1.099734401	0.6942909	81.07	1.2335E-03	0.001187	-3.74322	3.743218
298.15	1.048683091	0.8648668	93.56	1.0688E-03	0.000946	-11.488	11.48801
298.15	0.994713268	1	111.7	8.9526E-04	0.000723	-19.2081	19.20809
308.15	1.201334802	0	74.96	1.3340E-03	0.001329	-0.39889	0.39889
308.15	1.146988802	0.4231883	83.16	1.2025E-03	0.00123	2.283798	2.283798

5.086908

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	308,15	1.092177227	0.6942909	98.23	1.0180E-03	0.001016	-0.2382	0.238202	
	308,15	1.043018818	0.8648668	114.93	8.7009E-04	0.000815	-6.38625	6.386246	
	308,15	0.990891567	1	138.5	7.2202E-04	0.000627	-13.1817	13.18173	2.969415
	318,15	1.188825086	0	89.01	1.1235E-03	0.001105	-1.64189	1.641886	
	318,15	1.136869115	0.4231883	98.33	1.0170E-03	0.001049	3.105985	3.105985	
	318,15	1.084298624	0.6942909	116.22	8.6044E-04	0.000875	1.720774	1.720774	
	318,15	1.037004749	0.8648668	137.08	7.2950E-04	0.000706	-3.15778	3.157784	
	318,15	0.986703734	1	166.3	6.0132E-04	0.000547	-8.98682	8.986819	2.661514
	328,15	1.176095856	0	103.97	9.6182E-04	0.000928	-3.51665	3.516648	
	328,15	1.126466061	0.4231883	114.57	8.7283E-04	0.000901	3.249262	3.249262	
	328,15	1.076090023	0.6942909	135.34	7.3888E-04	0.00076	2.825241	2.825241	
	328,15	1.030632848	0.8648668	160.52	6.2298E-04	0.000617	-0.95363	0.953628	
	328,15	0.982141751	1	196.9	5.0787E-04	0.000481	-5.26089	5.260891	2.34271
	338,15	1.115768505	0.4231883	131.64	7.5965E-04	0.000781	2.764099	2.764099	
	338,15	1.067541924	0.6942909	155.54	6.4292E-04	0.000664	3.295102	3.295102	
	338,15	1.023894351	0.8648668	185.2	5.3996E-04	0.000543	0.475883	0.475883	
	338,15	0.9771971	1	228.9	4.3687E-04	0.000426	-2.53314	2.533143	2.178361
	348,15	1.104764019	0.4231883	149.34	6.6961E-04	0.000681	1.761487	1.761487	
	348,15	1.058643767	0.6942909	177.4	5.6370E-04	0.000584	3.671592	3.671592	
	348,15	1.016779683	0.8648668	210.9	4.7416E-04	0.00048	1.243879	1.243879	
	348,15	0.971860716	1	262.7	3.8066E-04	0.000379	-0.3898	0.389802	2.225653
	358,15	1.093438687	0.4231883	168.1	5.9488E-04	0.000599	0.722913	0.722913	
	358,15	1.049383788	0.6942909	200	5.0000E-04	0.000518	3.512381	3.512381	
	358,15	1.009278346	0.8648668	238.8	4.1876E-04	0.000427	2.054045	2.054045	
	358,15	0.966122927	1	297.9	3.3568E-04	0.00034	1.183698	1.183698	2.096446
							Average Error for Temp.		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
<i>Total Error for All Test Cases</i>									

ACETIC ACID (1) - WATER (2)

AC - OI

00077 Wilson, B. H.; Sidgwick, N. V.; J. Chem. Soc., 103, 1959-1973(1913)

P=		1 atm							
		Acetic Acid	(g/m s)						
298.15	1.009664887	0.12683	1.7042	1.7042E-03	0.00111	-34.8577	34.85771		
298.15	1.000025628	0.03824	1.2366	1.2366E-03	0.000829	-32.9304	32.93042		
									33.89406

ACETIC ACID (1) - WATER (2)

AC - OI

01989 Bhagwat, W. V.; Mandloi, K.; J. Indian Chem. Soc., 23, 349-352(1946)

P=		1 atm							
		Acetic Acid	(10 ⁻³ P)						
298.15	1.013143691	0.1671	15.72	1.5720E-03	0.001249	-20.5625	20.56247		
298.15	1.01030087	0.1338	11.92	1.1920E-03	0.001134	-4.8814	4.881402		
298.15	1.00846336	0.1141	13.52	1.3520E-03	0.001067	-21.0498	21.04979		
298.15	1.004745743	0.078	12.02	1.2020E-03	0.00095	-20.9543	20.95433		
298.15	1.003142522	0.0638	11.51	1.1510E-03	0.000906	-21.2955	21.2955		
298.15	1.042012521	1	9.605	9.6050E-04	0.001108	15.3853	15.3853		17.7487
303.15	1.007400114	0.1338	13.33	1.3330E-03	0.001046	-21.4965	21.49649		
313.15	1.001361573	0.1338	10.57	1.0570E-03	0.000896	-15.2032	15.20323		
323.15	0.995000994	0.1338	8.332	8.3320E-04	0.000773	-7.2202	7.220196		
370.15	0.964136418	1	4.527	4.5270E-04	0.000453	0.094346	0.094346		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	370.15	0.962314141	0.3748	5.573	5.5730E-04	0.00065	16.64748	16.64748	
	370.15	0.960981135	0.1795	4.684	4.6840E-04	0.000465	-0.77583	0.775833	
	370.15	0.959740065	0.06703	3.681	3.6810E-04	0.000355	-3.42682	3.42682	6.950045

ACETIC ACID (1) - WATER (2)

AC - Oi

01799 Glagoleva, A. A.; Zh. Obshch. Khim., 16(1), 21-26(1946)

P= 0.101 MPa

		Acetic Acid		(g/m s)					
293.15	1.046750521	0.9803	1.33	1.3300E-03	0.001269	-4.58105	4.581048		
293.15	1.042834928	0.7753	2.541	2.5410E-03	0.002016	-20.6622	20.66222		
293.15	1.037590495	0.5775	2.681	2.6810E-03	0.002372	-11.5178	11.51777		
293.15	1.035505406	0.5154	2.682	2.6820E-03	0.002357	-12.1078	12.10775		
293.15	1.034208934	0.4804	2.658	2.6580E-03	0.00232	-12.6989	12.69892		
293.15	1.031777332	0.4211	2.568	2.5680E-03	0.002214	-13.7748	13.77482		
293.15	1.028179314	0.3459	2.446	2.4460E-03	0.002011	-17.7755	17.77546		
293.15	1.026706834	0.3187	2.344	2.3440E-03	0.001923	-17.9695	17.96949		
293.15	1.024653697	0.2837	2.315	2.3150E-03	0.0018	-22.2303	22.23025		
293.15	1.024024812	0.2736	2.284	2.2840E-03	0.001764	-22.7849	22.78494		
293.15	1.022370786	0.2483	2.15	2.1500E-03	0.001669	-22.3571	22.35706		
293.15	1.020448216	0.221	2.126	2.1260E-03	0.001565	-26.3791	26.37914		
293.15	1.010850301	0.1111	1.66	1.6600E-03	0.001147	-30.9178	30.91777		
293.15	1.004257204	0.0541	1.342	1.3420E-03	0.000948	-29.3916	29.39164		
293.15	0.996489202	0	1.006	1.0060E-03	0.000779	-22.5434	22.54338		18.93916
303.15	1.036640601	0.9803	1.139	1.1390E-03	0.001091	-4.23513	4.235129		
303.15	1.033247895	0.7753	2.001	2.0010E-03	0.001707	-14.6898	14.68978		
303.15	1.028698805	0.5775	2.083	2.0830E-03	0.001996	-4.1538	4.153802		
303.15	1.02688858	0.5154	2.073	2.0730E-03	0.001982	-4.37558	4.375578		
303.15	1.025762556	0.4804	2.04	2.0400E-03	0.001951	-4.36687	4.366874		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	303.15	1.023649694	0.4211	1.995	1.9950E-03	0.001862	-6.67961	6.679611	
	303.15	1.020521047	0.3459	1.909	1.9090E-03	0.001693	-11.3332	11.33319	
	303.15	1.019239876	0.3187	1.801	1.8010E-03	0.001619	-10.0913	10.0913	
	303.15	1.017452731	0.2837	1.76	1.7600E-03	0.001518	-13.7635	13.76349	
	303.15	1.016905143	0.2736	1.711	1.7110E-03	0.001487	-13.0745	13.0745	
	303.15	1.015464644	0.2483	1.665	1.6650E-03	0.001409	-15.3612	15.36121	
	303.15	1.013789331	0.221	1.638	1.6380E-03	0.001323	-19.2281	19.22812	
	303.15	1.005414679	0.1111	1.262	1.2620E-03	0.000977	-22.5893	22.58932	
	303.15	0.992847701	0	0.8121	8.1210E-04	0.000673	-17.1646	17.16465	11.07245

ACETIC ACID (1) - WATER (2)

AC - OI

00066 Tsakalotos, D. E.; C. R. Acad. Sci., 146, 1146-1149(1908)

P= 1 atm

		Acetic Acid (g/m s)							
293.1	0.996506511	0	1.002	1.0020E-03	0.00078	-22.1755	22.17545		
293.1	1.020626954	0.223	1.502	1.5020E-03	0.001574	4.808178	4.808178		
293.1	1.031189857	0.407	1.93	1.9300E-03	0.002183	13.13262	13.13262		
293.1	1.03513572	0.504	2.188	2.1880E-03	0.00235	7.384097	7.384097		
293.1	1.03898232	0.622	2.404	2.4040E-03	0.002345	-2.45116	2.451161		
293.1	1.041395631	0.712	2.617	2.6170E-03	0.002191	-16.2841	16.28406		
293.1	1.042964615	0.779	2.716	2.7160E-03	0.002006	-26.1331	26.13314		
293.1	1.044570518	0.856	2.344	2.3440E-03	0.001743	-25.6503	25.65031		
293.1	1.047119268	1	1.286	1.2860E-03	0.001196	-6.98834	6.988344		13.69194

ACETIC ACID (1) - WATER (2)

AC - OI

00009 D'Arcy, R. F.; Philos. Mag., V, 28(173), 221-231(1889)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac. 1 atm	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
Acetic Acid									
				(g/m s)					
				1.25					
	294.15	1.045536392	0.9674	1.25	1.2500E-03	0.001298	3.808453	3.808453	
	302.85	1.036760738	0.9674	1.095	1.0950E-03	0.001136	3.776043	3.776043	
	312.55	1.026827566	0.9674	0.952	9.5200E-04	0.000986	3.62232	3.62232	
	330.45	1.008056334	0.9674	0.765	7.6500E-04	0.000773	1.055426	1.055426	
	322.55	1.016414044	0.9674	0.837	8.3700E-04	0.000859	2.578599	2.578599	
	340.45	0.997301633	0.9674	0.684	6.8400E-04	0.000681	-0.45385	0.453853	
	355.65	0.980552492	0.9674	0.585	5.8500E-04	0.000568	-2.89193	2.891934	2.59809
	293.15	1.043785242	0.8195	1.973	1.9730E-03	0.001871	-5.15205	5.152045	
	303.05	1.034169618	0.8195	1.591	1.5910E-03	0.001591	-0.01969	0.019694	
	312.55	1.024775264	0.8195	1.323	1.3230E-03	0.00137	3.515213	3.515213	
	322.65	1.014599118	0.8195	1.106	1.1060E-03	0.001175	6.280674	6.280674	
	331.25	1.005773647	0.8195	0.945	9.4500E-04	0.001037	9.759334	9.759334	
	342.65	0.993834435	0.8195	0.82	8.2000E-04	0.000885	7.888603	7.888603	
	355.35	0.98019056	0.8195	0.701	7.0100E-04	0.000747	6.631873	6.631873	5.606777
	293.25	1.040763734	0.6924	2.49	2.4900E-03	0.002229	-10.495	10.49504	
	303	1.031673335	0.6924	1.953	1.9530E-03	0.001889	-3.27636	3.276362	
	312.65	1.022491866	0.6924	1.57	1.5700E-03	0.001614	2.787748	2.787748	
	323.05	1.012382541	0.6924	1.281	1.2810E-03	0.001371	7.007502	7.007502	
	332.65	1.002844464	0.6924	1.085	1.0850E-03	0.001186	9.29272	9.29272	
	349.35	0.98575096	0.6924	0.839	8.3900E-04	0.000933	11.20792	11.20792	
	338.85	0.996574653	0.6924	0.985	9.8500E-04	0.001083	9.938753	9.938753	7.715149
	295.85	1.035677474	0.5999	2.48	2.4800E-03	0.002253	-9.1563	9.156296	
	303.35	1.029117747	0.5999	2.077	2.0770E-03	0.001982	-4.5878	4.587802	
	313.45	1.019827182	0.5999	1.632	1.6320E-03	0.001677	2.764056	2.764056	
	323.25	1.010599388	0.5999	1.333	1.3330E-03	0.001435	7.657839	7.657839	
	332.95	1.001250306	0.5999	1.126	1.1260E-03	0.001237	9.842535	9.842535	
	345.05	0.989273163	0.5999	0.924	9.2400E-04	0.001035	12.02289	12.02289	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	362.15	0.982074946	0.5999	0.834	8.3400E-04	0.000936	12.20773	12.20773	8.319878
	293.15	1.037110043	0.5625	2.717	2.7170E-03	0.002375	-12.6031	12.60307	
	303.15	1.028281768	0.5625	2.087	2.0870E-03	0.001998	-4.26546	4.265455	
	313.15	1.019237618	0.5625	1.643	1.6430E-03	0.001692	3.002916	3.002916	
	321.65	1.011374227	0.5625	1.385	1.3850E-03	0.001477	6.633574	6.633574	
	334.45	0.999214962	0.5625	1.095	1.0950E-03	0.001213	10.7582	10.7582	
	345.65	0.988247237	0.5625	0.919	9.1900E-04	0.001028	11.91464	11.91464	
	351.25	0.982643169	0.5625	0.842	8.4200E-04	0.00095	12.7685	12.7685	8.84948
	293.35	1.035826805	0.5294	2.707	2.7070E-03	0.002358	-12.8932	12.89324	
	303.05	1.027404497	0.5294	2.097	2.0970E-03	0.001994	-4.93288	4.932879	
	312.65	1.018864119	0.5294	1.674	1.6740E-03	0.001699	1.486767	1.486767	
	322.85	1.009558569	0.5294	1.354	1.3540E-03	0.001443	6.538191	6.538191	
	332.55	1.000479474	0.5294	1.147	1.1470E-03	0.001242	8.267945	8.267945	
	340.85	0.992525997	0.5294	0.992	9.9200E-04	0.001097	10.59106	10.59106	
	351.45	0.982110222	0.5294	0.842	8.4200E-04	0.000942	11.82061	11.82061	8.075813
	293.25	1.034862264	0.5	2.707	2.7070E-03	0.002339	-13.5794	13.57944	
	302.75	1.026749312	0.5	2.097	2.0970E-03	0.001984	-5.39008	5.390079	
	313.25	1.017544774	0.5	1.643	1.6430E-03	0.001665	1.359883	1.359883	
	322.65	1.009085546	0.5	1.354	1.3540E-03	0.001432	5.77705	5.77705	
	332.75	0.999757071	0.5	1.126	1.1260E-03	0.001225	8.806981	8.806981	
	342.85	0.990170737	0.5	0.951	9.5100E-04	0.001054	10.8435	10.8435	
	354.35	0.978927111	0.5	0.798	7.9800E-04	0.000894	12.05452	12.05452	8.258779
	293.85	1.033368175	0.4737	2.655	2.6550E-03	0.002283	-14.0213	14.02134	
	303.45	1.025281436	0.4737	2.056	2.0560E-03	0.001933	-5.97418	5.974178	
	312.55	1.01741922	0.4737	1.653	1.6530E-03	0.001661	0.478378	0.478378	
	322.95	1.008191659	0.4737	1.333	1.3330E-03	0.001405	5.432398	5.432398	
	330.95	1.000911856	0.4737	1.147	1.1470E-03	0.001241	8.234596	8.234596	
	341.15	0.991392411	0.4737	0.965	9.6500E-04	0.001065	10.41227	10.41227	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	357.15	0.975897025	0.4737	0.76	7.6000E-04	0.000848	11.56042	11.56042	8.016224
	292.95	1.033165362	0.45	2.697	2.6970E-03	0.002281	-15.4364	15.43635	
	303.05	1.024797977	0.45	2.056	2.0560E-03	0.001914	-6.91319	6.913186	
	313.25	1.016104021	0.45	1.612	1.6120E-03	0.001615	0.161951	0.161951	
	322.45	1.008045461	0.45	1.333	1.3330E-03	0.001393	4.499054	4.499054	
	331.65	0.999774135	0.45	1.126	1.1260E-03	0.001208	7.275352	7.275352	
	341.55	0.990627221	0.45	0.956	9.5600E-04	0.001042	8.973582	8.973582	
	354.85	0.977919133	0.45	0.78	7.8000E-04	0.000861	10.40565	10.40565	7.666447
	292.75	1.030745253	0.3914	2.655	2.6550E-03	0.002157	-18.7392	18.73921	
	302.65	1.022883774	0.3914	2.046	2.0460E-03	0.001817	-11.1916	11.19163	
	313.15	1.014281364	0.3914	1.591	1.5910E-03	0.001526	-4.10324	4.103243	
	323.35	1.005655822	0.3914	1.292	1.2920E-03	0.001296	0.33771	0.33771	
	332.15	0.997994263	0.3914	1.095	1.0950E-03	0.001132	3.393164	3.393164	
	343.25	0.988029239	0.3914	0.909	9.0900E-04	0.00096	5.661332	5.661332	
	358.05	0.974196447	0.3914	0.735	7.3500E-04	0.000779	6.043104	6.043104	7.067056
	293.05	1.027584181	0.3333	2.48	2.4800E-03	0.001975	-20.3809	20.38092	
	303.65	1.019553212	0.3333	1.87	1.8700E-03	0.001645	-12.01	12.00996	
	313.15	1.012107373	0.3333	1.498	1.4980E-03	0.001407	-6.09386	6.093865	
	323.65	1.00359672	0.3333	1.209	1.2090E-03	0.001191	-1.47774	1.477742	
	330.75	0.997670005	0.3333	1.054	1.0540E-03	0.001069	1.380038	1.380038	
	341.75	0.988205213	0.3333	0.876	8.7600E-04	0.000908	3.694288	3.694288	
	351.85	0.979202189	0.3333	0.757	7.5700E-04	0.000787	3.989473	3.989473	7.003755
	294.55	0.996000923	0	0.998	9.9800E-04	0.000763	-23.5491	23.54908	
	303.45	0.992732896	0	0.826	8.2600E-04	0.00067	-18.9072	18.9072	
	313.85	0.988549875	0	0.678	6.7800E-04	0.00058	-14.5031	14.50315	
	326.45	0.982944044	0	0.558	5.5800E-04	0.000492	-11.905	11.90497	
	333.25	0.97966835	0	0.514	5.1400E-04	0.000452	-12.1167	12.11668	
	346.75	0.972631747	0	0.441	4.4100E-04	0.000385	-12.6427	12.64272	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	351.45	0.970012114	0	0.422	4.2200E-04	0.000365	-13.4077	13.40769	
									15.29021

ACETIC ACID (1) - WATER (2)

AC - OI *Temp. may be questionable (Field Unit version said 50 C)

00014 Dunstan, A. E.; J. Chem. Soc., 85, 817-827(1904)

P= 1 atm

	Acetic Acid	(g/m s)							
298.1	0.99473147	0	0.891	8.9100E-04	0.000724	-18.7626	18.76257		
298.1	1.009448973	0.1242	1.437	1.4370E-03	0.001102	-23.3012	23.30119		
298.1	1.017581955	0.2268	1.824	1.8240E-03	0.001459	-20.0025	20.00247		
298.1	1.017723057	0.2289	1.867	1.8670E-03	0.001466	-21.4527	21.45274		
298.1	1.021162956	0.2844	1.986	1.9860E-03	0.001655	-16.6551	16.65505		
298.1	1.023488852	0.3273	2.103	2.1030E-03	0.001791	-14.858	14.85803		
298.1	1.026843618	0.3987	2.227	2.2270E-03	0.001982	-11.0161	11.01607		
298.1	1.028343557	0.435	2.301	2.3010E-03	0.002057	-10.5875	10.5875		
298.1	1.028383154	0.436	2.333	2.3330E-03	0.002059	-11.7346	11.7346		
298.1	1.031347437	0.5178	2.374	2.3740E-03	0.002163	-8.87425	8.874254		
298.1	1.033049298	0.5719	2.321	2.3210E-03	0.002177	-6.18804	6.188038		
298.1	1.041369445	0.9548	1.223	1.2230E-03	0.001265	3.40843	3.40843		
298.1	1.04206328	1	1.15	1.1500E-03	0.001109	-3.5563	3.556305		13.46167

ACETIC ACID (1) - WATER (2)

AC - OI

00058 Swearingen, L. E.; Heck, L. B.; J. Phys. Chem., 38, 395-400(1934)

P= 1 atm

	Acetic Acid	(mP)							
308.15	1.031779191	1	10.12	1.0120E-03	0.000958	-5.30019	5.300188		
318.15	1.021377362	1	8.53	8.5300E-04	0.000835	-2.12831	2.128312		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	328.15	1.010796956	1	7.46	7.4600E-04	0.000732	-1.8237	1.823698	
	338.15	1.000026881	1	6.6	6.6000E-04	0.000647	-1.99033	1.990334	
	348.15	0.989054881	1	5.82	5.8200E-04	0.000575	-1.2028	1.202802	
	353.15	0.98348897	1	5.4	5.4000E-04	0.000543	0.623788	0.623788	2.178187
	308.15	1.028817503	0.8	15.24	1.5240E-03	0.001516	-0.527	0.526999	
	318.15	1.018879487	0.8	12.26	1.2260E-03	0.001298	5.875129	5.875129	
	328.15	1.008743689	0.8	10.3	1.0300E-03	0.001118	8.581773	8.581773	
	338.15	0.998399612	0.8	8.77	8.7700E-04	0.000969	10.53678	10.53678	
	348.15	0.987835619	0.8	7.47	7.4700E-04	0.000845	13.13445	13.13445	
	353.15	0.982467164	0.8	6.92	6.9200E-04	0.000791	14.26634	14.26634	8.820245
	308.15	1.024732112	0.6	18.1	1.8100E-03	0.001829	1.053447	1.053447	
	318.15	1.015430392	0.6	14.33	1.4330E-03	0.001555	8.524559	8.524559	
	328.15	1.005905708	0.6	11.63	1.1630E-03	0.00133	14.3869	14.3869	
	338.15	0.996148266	0.6	9.74	9.7400E-04	0.001145	17.51203	17.51203	
	348.15	0.986147166	0.6	8.2	8.2000E-04	0.00099	20.75272	20.75272	
	353.15	0.981051496	0.6	7.52	7.5200E-04	0.000923	22.71216	22.71216	14.15697
	308.15	1.02345651	0.55	18.48	1.8480E-03	0.001836	-0.64257	0.642565	
	318.15	1.014352633	0.55	14.5	1.4500E-03	0.00156	7.582195	7.582195	
	328.15	1.005018239	0.55	11.82	1.1820E-03	0.001333	12.80927	12.80927	
	338.15	0.995443727	0.55	9.82	9.8200E-04	0.001146	16.73819	16.73819	
	348.15	0.9856184	0.55	8.28	8.2800E-04	0.000991	19.68537	19.68537	
	353.15	0.980608001	0.55	7.6	7.6000E-04	0.000923	21.47595	21.47595	13.15559
	308.15	1.022047235	0.5	18.47	1.8470E-03	0.001812	-1.92094	1.920938	
	318.15	1.013161472	0.5	14.49	1.4490E-03	0.001538	6.1698	6.1698	
	328.15	1.004037021	0.5	11.8	1.1800E-03	0.001315	11.39862	11.39862	
	338.15	0.994664476	0.5	9.8	9.8000E-04	0.00113	15.27889	15.27889	
	348.15	0.98503335	0.5	8.27	8.2700E-04	0.000976	18.05336	18.05336	
	353.15	0.980117211	0.5	7.59	7.5900E-04	0.000909	19.81399	19.81399	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	308.15	1.018733773	0.4	17.68	1.7680E-03	0.001673	-5.35193	5.351933	12.10593
	318.15	1.010358931	0.4	14.03	1.4030E-03	0.001422	1.325098	1.325098	
	328.15	1.001726895	0.4	11.32	1.1320E-03	0.001215	7.356841	7.356841	
	338.15	0.992828656	0.4	9.32	9.3200E-04	0.001045	12.13202	12.13202	
	348.15	0.983654169	0.4	7.83	7.8300E-04	0.000904	15.42149	15.42149	
	353.15	0.978959875	0.4	7.24	7.2400E-04	0.000842	16.31501	16.31501	9.650399
	308.15	1.00906819	0.2	13.03	1.3030E-03	0.001159	-11.078	11.07803	
	318.15	1.002168429	0.2	10.95	1.0950E-03	0.000991	-9.48731	9.487309	
	328.15	0.994963112	0.2	9	9.0000E-04	0.000853	-5.17525	5.175251	
	338.15	0.987443943	0.2	7.6	7.6000E-04	0.000739	-2.70241	2.702415	
	348.15	0.97960173	0.2	6.48	6.4800E-04	0.000645	-0.53701	0.537008	5.054206
	353.15	0.975556336	0.2	5.95	5.9500E-04	0.000603	1.345227	1.345227	
	308.15	0.990891567	0	7.18	7.1800E-04	0.000627	-12.6954	12.69544	
	318.15	0.986703734	0	5.97	5.9700E-04	0.000547	-8.32779	8.327787	
	328.15	0.982141751	0	5.07	5.0700E-04	0.000481	-5.09794	5.097944	
	338.15	0.9771971	0	4.36	4.3600E-04	0.000426	-2.33821	2.33821	4.854715
	348.15	0.971860716	0	3.8	3.8000E-04	0.000379	-0.21618	0.216178	
	353.15	0.969042628	0	3.57	3.5700E-04	0.000359	0.452728	0.452728	

ACETIC ACID (1) - WATER (2)

AC - OI Units for concentration were assumed and verified.

00032 Herz, W.; Z. Anorg. Chem., 102, 173-176(1918)

P= 1 atm

	Acetic Acid		(P)				
293.15	0.997501092	0.0063937	0.0164	1.6400E-03	0.000798	-51.3474	51.34744
293.15	0.999240552	0.0178099	0.0222	2.2200E-03	0.000832	-62.5178	62.51781
293.15	1.001715197	0.0350483	0.0255	2.5500E-03	0.000886	-65.2662	65.26617

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	293.15	1.006014117	0.0681475	0.0273	2.7300E-03	0.000995	-63.5602	63.56023	60.67291

ACETIC ACID (1) - WATER (2)

AC - OI

00365 Noda, K.; Aono, Y.; Ishida, K.; Kagaku Kogaku Ronbunshu, 9(3), 237-240(1983)

P= 1 atm

		<i>Acetic Acid</i> (mPa s)							
298.15	1.003671342	0.0684	1.232	1.2320E-03	0.00092	-25.3173	25.31727		
298.15	1.012957109	0.1648	1.633	1.6330E-03	0.001241	-24.0208	24.02085		
298.15	1.023167514	0.3218	2.091	2.0910E-03	0.001772	-15.238	15.238		
298.15	1.027644826	0.4187	2.248	2.2480E-03	0.002024	-9.97998	9.97998		
298.15	1.029633065	0.4699	2.305	2.3050E-03	0.002112	-8.36718	8.367183		
298.15	1.031919451	0.5367	2.254	2.2540E-03	0.002171	-3.66202	3.662019		
298.15	1.037243162	0.737	2.06	2.0600E-03	0.001953	-5.18245	5.182454		
298.15	1.039666851	0.8576	1.689	1.6890E-03	0.001599	-5.31943	5.319427		
298.15	1.042012521	1	1.126	1.1260E-03	0.001108	-1.57409	1.574087		12.1359

WATER (1) - ACETIC ACID (2)

OI - AC

Bingham, E. C.; While, G. F.; Thomas, A.; Cadwell, J. L.; Z. Phys. Chem. Stoehiom. Verwandtschaftsl., 83, 641-673(1913)

P= 1 atm

		<i>Water</i> (P-1)							
298.15	1.042012521	0	87.1	1.1481E-03	0.001108	-3.46918	3.469179		
298.15	1.029770954	0.5263266	42.12	2.3742E-03	0.002117	-10.822	10.822		
298.15	1.017813675	0.7692385	52.81	1.8936E-03	0.001472	-22.2785	22.27845		
298.15	1.006130895	0.9090945	73.58	1.3591E-03	0.000991	-27.0592	27.05924		
298.15	0.994713268	1	111.7	8.9526E-04	0.000723	-19.2081	19.20809		20.05323

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	308.15	1.031779191	0	100.9	9.9108E-04	0.000958	-3.30126	3.301265	
	308.15	1.021244172	0.5263266	64.07	1.8495E-03	0.001786	-3.42252	3.422518	
	308.15	1.010922114	0.7692385	67.7	1.4771E-03	0.001248	-15.5107	15.51067	
	308.15	1.000806626	0.9090945	93.13	1.0738E-03	0.000849	-20.8993	20.89932	
	308.15	0.990891567	1	138.5	7.2202E-04	0.000627	-13.1817	13.18173	13.2775
	318.15	1.021377362	0	115.6	8.6505E-04	0.000835	-3.49186	3.49186	
	318.15	1.012482483	0.5263266	67.43	1.4830E-03	0.001517	2.275198	2.275198	
	318.15	1.003741193	0.7692385	84.18	1.1879E-03	0.001066	-10.2905	10.29053	
	318.15	0.995149546	0.9090945	114.7	8.7184E-04	0.000733	-15.9232	15.92322	
	318.15	0.986703734	1	166.3	6.0132E-04	0.000547	-8.98682	8.986819	9.496316
	328.15	1.010796956	0	131.5	7.6046E-04	0.000732	-3.69003	3.690029	
	328.15	1.00347753	0.5263266	82.6	1.2107E-03	0.001296	7.046744	7.046744	
	328.15	0.986263346	0.7692385	102.4	9.7656E-04	0.000916	-6.20258	6.202579	
	328.15	0.989152149	0.9090945	137.7	7.2622E-04	0.000637	-12.2942	12.29417	
	328.15	0.982141751	1	196.9	5.0787E-04	0.000481	-5.26089	5.260891	8.514499
	338.15	1.00026881	0	147.9	6.7613E-04	0.000647	-4.32884	4.328845	
	338.15	0.994220011	0.5263266	98.9	1.0111E-03	0.001114	10.1533	10.1533	
	338.15	0.98848019	0.7692385	121.7	8.2169E-04	0.000792	-3.58843	3.588426	
	338.15	0.982806262	0.9090945	162.6	6.1501E-04	0.000557	-9.42758	9.427576	
	338.15	0.9771971	1	228.9	4.3687E-04	0.000426	-2.53314	2.533143	7.7231
	348.15	0.989054881	0	164.6	6.0753E-04	0.000575	-5.35505	5.355051	
	348.15	0.984699554	0.5263266	116.7	8.5690E-04	0.000963	12.32636	12.32636	
	348.15	0.980382416	0.7692385	142.7	7.0077E-04	0.000689	-1.65427	1.654265	
	348.15	0.976102967	0.9090945	188.8	5.2966E-04	0.00049	-7.46347	7.463474	
	348.15	0.971860716	1	262.7	3.8066E-04	0.000379	-0.3898	0.389802	7.148033
	358.15	0.977867364	0	183	5.4645E-04	0.000514	-5.8949	5.894898	
	358.15	0.974904567	0.5263266	134.8	7.4184E-04	0.000836	12.71863	12.71863	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
368.15	0.971959669	0.7692385		165.8	6.0314E-04	0.000603	-0.03962	0.039616	
368.15	0.969032509	0.9090945		216.6	4.6168E-04	0.000434	-6.04321	6.043206	
368.15	0.966122927	1	1	297.9	3.3568E-04	0.00034	1.183698	1.183698	6.26715
368.15	0.966449189	0	0	204.3	4.8948E-04	0.000463	-5.50498	5.504982	
368.15	0.964822206	0.5263266		155.7	6.4226E-04	0.00073	13.67579	13.67579	
368.15	0.963200401	0.7692385		188.6	5.3022E-04	0.00053	-4.3E-06	4.31E-06	
368.15	0.961584184	0.9090945		246.5	4.0568E-04	0.000386	-4.84214	4.842142	
368.15	0.959973382	1	1	333.7	2.9967E-04	0.000306	2.099062	2.099062	6.172646

ACETIC ACID (1) - WATER (2)

AC - OI

00045 Mathews, J. H.; Cooke, R. D.; J. Phys. Chem., 18, 559-573(1914)

P=
1 atm

		Acetic Acid (P-1)							
273.15	1.06209683	0.5154077	19.75	5.0633E-03	0.003408	-32.6919	32.69193		
298.15	1.031224734	0.5154077	42.87	2.3326E-03	0.00216	-7.40943	7.409431		
313.15	1.0180483	0.5154077	63.73	1.5691E-03	0.001678	6.951667	6.951667		
328.15	1.00435026	0.5154077	85.05	1.1758E-03	0.001323	12.49066	12.49066		
343.15	0.99009944	0.5154077	109	9.1743E-04	0.001056	15.11548	15.11548		14.93184

ACETIC ACID (1) - WATER (2)

AC - OI based on vis water @ 20 C = 0.01002

00016 Dunstan, A. E.; Thole, F. B.; J. Chem. Soc., 95, 1556-1561(1909)

P=
1 atm

		Acetic Acid (Polse)							
283.15	1.046617347	0.9722165	0.01338	1.3380E-03	0.0013	-2.86212	2.862123		
293.15	1.036546318	0.5454438	0.02675	2.6750E-03	0.002373	-11.3033	11.30331		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	293.15	1.046856357	0.9867894	0.01455	1.4550E-03	0.001245	-14.46	14.46001	21.56112
	313.15	0.992494077	0.0322567	0.00802	8.0200E-04	0.000653	-18.6381	18.63814	
	313.15	0.999875863	0.1139197	0.01053	1.0530E-03	0.000846	-19.7012	19.7012	
	313.15	1.007368278	0.2307615	0.01335	1.3350E-03	0.001152	-13.6875	13.68753	
	313.15	1.014973827	0.4117542	0.01623	1.6230E-03	0.001561	-3.8134	3.813398	
	313.15	1.018819831	0.5454438	0.01679	1.6790E-03	0.00169	0.665583	0.665583	
	313.15	1.02644318	0.9867894	0.01035	1.0350E-03	0.000928	-10.3732	10.37319	11.14651
	333.15	0.982230307	0.0322567	0.00565	5.6500E-04	0.0005	-11.5721	11.57214	
	333.15	0.987294157	0.1139197	0.00728	7.2800E-04	0.000635	-12.7187	12.7187	
	333.15	0.99241049	0.2307615	0.00911	9.1100E-04	0.000851	-6.5628	6.562801	
	333.15	0.997580127	0.4117542	0.01093	1.0930E-03	0.00114	4.339741	4.339741	
	333.15	1.000185196	0.5454438	0.01136	1.1360E-03	0.001235	8.688319	8.688319	
	333.15	1.00533308	0.9867894	0.00797	7.9700E-04	0.000711	-10.7403	10.74031	9.103668

ACETIC ACID (1) - WATER (2)

AC - OI Units not published and were surmised from values for pure components.

01238 Subnls, S. W.; Bhagwat, W. V.; Kanugo, R. B.; J. Indian Chem. Soc. 25(12), 575-578(1948)

P= 0.101 MPa

	Acetic Acid (10-3 P)	
303.15	0.992847701	0
303.15	0.998562429	0.0446
303.15	1.013147972	0.2111
303.15	1.01449267	0.2322
303.15	1.023801156	0.4251
303.15	1.030439707	0.6452
303.15	1.032013219	0.7145
303.15	1.036916325	1

9.749882

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	313.15	0.988843907	0	6.536	6.536E-04	0.000585	-10.4664	10.46639	
	313.15	0.993765477	0.0446	7.993	7.993E-04	0.00068	-14.9557	14.9557	
	313.15	1.006292181	0.2111	12.21	1.2210E-03	0.0011	-9.89227	9.892269	
	313.15	1.007444579	0.2322	12.56	1.2550E-03	0.001156	-7.88353	7.883528	
	313.15	1.01541042	0.4251	15.17	1.5170E-03	0.001582	4.304093	4.304093	
	313.15	1.021079211	0.6452	15.33	1.5330E-03	0.001655	7.987414	7.987414	
	313.15	1.022421376	0.7145	13.81	1.3810E-03	0.001568	13.52704	13.52704	
	313.15	1.026599947	1	9.076	9.0760E-04	0.000894	-1.53492	1.534919	9.75834
	323.15	0.984470031	0	5.492	5.4920E-04	0.000513	-6.64226	6.642256	
	323.15	0.988615363	0.0446	6.488	6.4880E-04	0.000592	-8.77757	8.777567	
	323.15	0.999137862	0.2111	9.57	9.5700E-04	0.000944	-1.39452	1.394521	
	323.15	1.000103836	0.2322	9.904	9.9040E-04	0.00099	-0.00052	0.000522	
	323.15	1.006771631	0.4251	11.87	1.1870E-03	0.001348	13.57473	13.57473	
	323.15	1.011506702	0.6452	11.98	1.1980E-03	0.001413	17.97215	17.97215	
	323.15	1.012626583	0.7145	11.7	1.1700E-03	0.001341	14.65029	14.65029	
	323.15	1.016110149	1	7.644	7.6440E-04	0.000781	2.206988	2.206988	9.394964
<i>Average Error for Temp.</i>									
				<i>Total Error for All Temp</i>		<i>kij</i>	<i>ljj</i>		
						1.074398	1.368272		

BENZENE (1) - ACETIC ACID (2)

AR - AC

01985 Silawat, H. G.; Sabnis, M. V.; Bhagwat, W. V.; J. Indian Chem. Soc., 27(7), 345-348(1950)

P= 1 atm

		Benzene	(10-3 P)				
303.15	1.140830554	0.1603	8.519	8.5190E-04	0.001077	26.38651	26.38651
303.15	1.037014151	0.39	6.887	6.8870E-04	0.000662	-3.86347	3.863466
303.15	0.93139502	0.7224	5.822	5.8220E-04	0.000533	-8.38591	8.38591
313.15	1.137301988	0.1603	7.841	7.8410E-04	0.000934	19.11647	19.11647
							12.87863

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	313.15	1.03038136	0.39	6.245	6.2450E-04	0.000563	-9.78607	9.786066	
	313.15	0.922328743	0.7224	5.111	5.1110E-04	0.000454	-11.1962	11.19621	13.36625
	323.15	1.1336498	0.1603	7.112	7.1120E-04	0.000817	14.85255	14.85255	
	323.15	1.023562324	0.39	5.776	5.7760E-04	0.000484	-16.2533	16.25332	
	323.15	0.913071178	0.7224	4.939	4.9390E-04	0.00039	-21.1245	21.12452	17.41013

BENZENE (1) - ACETIC ACID (2)

AR - AC

01780 Udovenko, V. V.; Airapetova, R. P.; Zh. Obshch. Khim., 9, 1796-1800(1939)

P= 0.101 MPa

		Benzene	(g/m s)						
298.15	1.237422079	0	1.1158	1.1158E-03	0.002242	100.8949	100.8949		
298.15	1.175461947	0.1	0.9008	9.0080E-04	0.001374	52.52753	52.52753		
298.15	1.098710844	0.25	0.7374	7.3740E-04	0.000939	27.30422	27.30422		
298.15	1.00115463	0.5	0.6298	6.2980E-04	0.00063	-7E-05	7.02E-05		
298.15	0.928803763	0.75	0.5983	5.9830E-04	0.00058	-3.02309	3.023091		
298.15	0.873007427	1	0.5899	5.8990E-04	0.000602	2.03337	2.03337		20.71373

ACETIC ACID (1) - BENZENE (2)

AC - AR Vis units not stated; assumed from pure values.

01213 Luiskij, A. E.; Obukhova, E. M.; J. Gen. Chem. USSR, 31(8), 2522-2527(1961)

P= 1 atm

		Acetic Acid	(10 ⁻⁴ Pa s)						
298.15	1.080912799	0	6.02	6.0200E-04	0.001392	131.1732	131.1732		
298.15	1.074446409	0.2	5.98	5.9800E-04	0.000945	58.07195	58.07195		
298.15	1.067410032	0.4	6.17	6.1700E-04	0.000792	28.29132	28.29132		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	298.15	1.063654017	0.5	6.36	6.3600E-04	0.000757	18.98605	18.98605	
	298.15	1.05972483	0.6	6.72	6.7200E-04	0.000759	12.91876	12.91876	
	298.15	1.051296724	0.8	8.02	8.0200E-04	0.000862	7.440451	7.440451	
	298.15	1.042012521	1	11.33	1.1330E-03	0.001108	-2.18219	2.18219	25.1417
BENZENE (1) - ACETIC ACID (2)									
AR - AC based on viscosity of water at 25 C equal to 0.00891p									
00015 Dunstan, A. E.; J. Chem. Soc., 87, 11-17(1905)									
P= 1 atm									
			Benzene	(Poise)					
	298.15	1.042012521	0	0.01174	1.1740E-03	0.001108	-5.59831	5.598315	
	298.15	1.009304117	0.1338764	0.00893	8.9300E-04	0.000815	-8.78809	8.788094	
	298.15	0.976013675	0.2921301	0.00734	7.3400E-04	0.000633	-13.8207	13.82066	
	298.15	0.952928582	0.4179073	0.00666	6.6600E-04	0.000547	-17.8581	17.85814	
	298.15	0.906438928	0.7231433	0.00597	5.9700E-04	0.000527	-11.6851	11.68507	
	298.15	0.900133022	0.7711104	0.00596	5.9600E-04	0.000537	-9.87041	9.87041	
	298.15	0.887795454	0.8704152	0.00591	5.9100E-04	0.000557	-5.68565	5.685655	
	298.15	0.876918707	0.9645227	0.00594	5.9400E-04	0.000582	-2.02637	2.026371	
	298.15	0.873007427	1	0.00598	5.9800E-04	0.000602	0.651313	0.651313	9.962057
Average Error for Temp.									
Total Error for All Tei									
kij lij									
409.2628 0.549213 1.811896									

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	283.15	1.172873049	0.2052	7.538	7.538E-04	0.000754	6.28E-08	6.28E-08	
	283.15	1.078483427	0.7929	5.53	5.5300E-04	0.000588	6.245445	6.245445	22.80301
	313.15	1.207780936	0.0642	9.448	9.448E-04	0.001115	17.99325	17.99325	
	313.15	1.116932311	0.5052	6.513	6.5130E-04	0.000313	-51.9701	51.97015	
	313.15	1.078483427	0.7929	4.859	4.8590E-04	0.000449	-7.49693	7.49693	25.82011
	323.15	1.207780936	0.0642	8.122	8.1220E-04	0.001015	24.92372	24.92372	
	323.15	1.1208983	0.48	4.846	4.8460E-04	0.000291	-39.976	39.97597	
	323.15	1.078483427	0.7929	4.171	4.1710E-04	0.000417	-0.01161	0.01161	21.6371
<i>Average Error for Temp.</i>									
<i>Total Error for All Tei</i>									
							<i>kij</i>	<i>lij</i>	
							0.696271	0.992623	

NAPHTHALENE (1) - ACETIC ACID (2)

DR - AC

01235 Chatterji, A. C.; Bose, A. N.; J. Indian Chem. Soc., 25, 39-42(1948)

P= 0.101 MPa

%AAD= 13.62941

		<i>Naphthalene</i>		<i>(g/m s)</i>					
303.15	1.168973125	0.067745	1.187	1.1870E-03	0.001061	-10.5786	10.57865		
308.15	1.168310975	0.067745	1.093	1.0930E-03	0.001005	-8.06905	8.069048		
313.15	1.167641671	0.067745	1.01	1.0100E-03	0.000953	-5.63422	5.634216		
318.15	1.166965059	0.067745	0.9386	9.3860E-04	0.000906	-3.4946	3.494601		
323.15	1.166280981	0.067745	0.8751	8.7510E-04	0.000862	-1.44206	1.44206		5.843714
308.15	1.151060259	0.115973	1.108	1.1080E-03	0.00076	-31.3776	31.3776		
313.15	1.150002198	0.115973	1.024	1.0240E-03	0.00072	-29.6404	29.64045		
318.15	1.148933329	0.115973	0.951	9.5100E-04	0.000684	-28.0681	28.06808		
323.15	1.147853428	0.115973	0.8838	8.8380E-04	0.000651	-26.3682	26.36818		28.86358

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
0.6	293.15	0.994431611	0.2672801	2.55	2.5500E-03	0.00255	8.82E-06	8.82E-06	
0.7	293.15	0.994089505	0.362014	2.76	2.7600E-03	0.003172	14.93401	14.93401	
0.8	293.15	0.993747634	0.4930912	2.94	2.9400E-03	0.003683	25.26282	25.26282	
0.9	293.15	0.993405999	0.6863894	2.58	2.5800E-03	0.003287	27.41877	27.41877	
1	293.15	0.993064598	1	1.114	1.1140E-03	0.001251	12.28966	12.28966	21.09181

PROPIONIC ACID (1) - WATER (2)

AC - OI
00550 Traube, J.; Ber. Dtsch. Chem. Ges., 19, 871-892(1886)
P=
1 atm

Wt. Frac.	Propionic Aci (P)								
0.1	293.15	0.996145679	0.0263097	0.01322	1.3220E-03	0.000914	-30.8699	30.86993	
0.3	293.15	0.995459343	0.0943852	0.01977	1.9770E-03	0.001319	-33.2651	33.26505	
0.5	293.15	0.994773952	0.1956147	0.02601	2.6010E-03	0.002028	-22.0482	22.04817	
1	293.15	0.993064598	1	0.01156	1.1560E-03	0.001251	8.209928	8.209928	28.72772
0.1	313.15	0.98724327	0.0263097	0.00858	8.5800E-04	0.000681	-20.5803	20.58029	
0.3	313.15	0.984057491	0.0943852	0.01188	1.1880E-03	0.000972	-18.1869	18.18687	
0.5	313.15	0.980892206	0.1956147	0.01552	1.5520E-03	0.001483	-4.44894	4.448942	
1	313.15	0.973067371	1	0.00901	9.0100E-04	0.000945	4.844146	4.844146	14.40537
0.1	333.15	0.976922087	0.0263097	0.00619	6.1900E-04	0.000522	-15.59	15.59002	
0.3	333.15	0.971378232	0.0943852	0.0084	8.4000E-04	0.000735	-12.5171	12.51714	
0.5	333.15	0.965896944	0.1956147	0.01035	1.0350E-03	0.00111	7.238579	7.238579	
1	333.15	0.952460593	1	0.00736	7.3600E-04	0.000732	-0.53113	0.531128	11.78191

PROPIONIC ACID (1) - WATER (2)

AC - OI

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
00077 Wilsdon, B. H.; Sidgwick, N. V.; J. Chem. Soc., 103, 1959-1973(1913)									
P= 0.1013 MPa									
<i>Propionic Aci</i> (g/m s)									
298.15	0.992319834	0.12098	1.3542	1.3542E-03	0.001382	2.033485	2.033485		
298.15	0.992739465	0.09354	1.2668	1.2668E-03	0.001214	-4.16105	4.161051		
298.15	0.993164164	0.06905	1.1877	1.1877E-03	0.001072	-9.70203	9.702032		
298.15	0.993610608	0.04626	1.1244	1.1244E-03	0.000949	-15.6424	15.64236		
298.15	0.993916551	0.03213	1.0862	1.0862E-03	0.000876	-19.3683	19.36831		
298.15	0.994226236	0.0189	1.05	1.0500E-03	0.000811	-22.7797	22.77972		12.28116
291.15	0.996399707	0.12098	1.3861	1.3861E-03	0.001545	11.49751	11.49751		
291.15	0.996535763	0.09354	1.2786	1.2786E-03	0.001357	6.111663	6.111663		
291.15	0.996676074	0.0686	1.1958	1.1958E-03	0.001194	-0.12285	0.122847		
291.15	0.996817963	0.04626	1.1241	1.1241E-03	0.001057	-5.93293	5.932926		
291.15	0.996917137	0.03211	1.0852	1.0852E-03	0.000975	-10.129	10.12898		
291.15	0.99701711	0.01891	1.0503	1.0503E-03	0.000902	-14.1119	14.11192		7.984308
<i>Average Error for Temp.</i>									
<i>Total Error for All Temp</i>							<i>kij</i>	<i>lij</i>	
							1.299728	1.179305	

PROPIONIC ACID (1) - TOLUENE (2)

AC - AR

00368 Subha, M. C. S.; Rao, S. B.; J. Chem. Eng. Data, 33(4), 404-406(1988)

P= 0.101 MPa									
<i>Propionic Aci</i> (g/m s)									
308.15	0.854727572	0	0.5248	5.2480E-04	0.000488	-7.00498	7.004977	%AAD= 5.162546	
308.15	0.86580483	0.1231	0.5358	5.3580E-04	0.000499	-6.89433	6.894325		
308.15	0.876791406	0.2366	0.5532	5.5320E-04	0.000519	-6.1416	6.141599		
308.15	0.888454866	0.3487	0.5721	5.7210E-04	0.000548	-4.15107	4.15107		
308.15	0.900033015	0.4523	0.597	5.9700E-04	0.000584	-2.253	2.253001		
308.15	0.91230439	0.5546	0.6271	6.2710E-04	0.000627	-3.9E-05	3.86E-05		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	308,15	0.924888987	0.6523	0.6628	6.6280E-04	0.000678	2.364776	2.364776	
	308,15	0.937483793	0.7435	0.702	7.0200E-04	0.000737	5.04887	5.04887	
	308,15	0.950573827	0.832	0.7411	7.4110E-04	0.000809	9.109333	9.109333	
	308,15	0.964317176	0.9187	0.8128	8.1280E-04	0.000898	10.4999	10.4999	
	308,15	0.978121172	1	0.8894	8.8940E-04	0.001011	13.64944	13.64944	
<i>Average Error for Temp.</i>									5.162546
<i>Total Error for All T_{ei}</i>									$\frac{k_{ij}}{l_{ij}}$ 0.904844 1.181829

PROPANOIC ACID [propionic acid] (1) - BENZENE (2)

AC - AR

00769 Lutskil, A. E.; Obukhova, E. M.; Sidorov, I. A.; J. Gen. Chem. USSR, 28, 2423-2432(1958)

P=	1 atm	Propanoic Ac	(10-5 P)				%AAD=	12.92831
293.15	1.054251672	0.2	660	6.6000E-04	0.000887	34.33029	34.33029	
293.15	1.038757356	0.4	700	7.0000E-04	0.000757	8.140098	8.140098	
293.15	1.031060115	0.5	734	7.3400E-04	0.000744	1.307797	1.307797	
293.15	1.008165505	0.8	889	8.8900E-04	0.00089	0.078563	0.078563	
293.15	0.993064598	1	1101	1.1010E-03	0.001251	13.61551	13.61551	10.96419
303.15	1.052090367	0.2	575	5.7500E-04	0.000779	35.41569	35.41569	
303.15	1.034525212	0.4	610	6.1000E-04	0.000654	7.15116	7.15116	
303.15	1.025825687	0.5	639	6.3900E-04	0.000639	-1.9E-08	1.91E-08	
303.15	1.000053105	0.8	774	7.7400E-04	0.000763	-1.459	1.459	
303.15	0.983137984	1	944	9.4400E-04	0.001083	14.76424	14.76424	11.00646
308.15	1.069880546	0	527	5.2700E-04	0.001214	130.3089	130.3089	
308.15	1.050984814	0.2	542	5.4200E-04	0.000732	35.05338	35.05338	
308.15	1.03236701	0.4	575	5.7500E-04	0.000609	5.980774	5.980774	
308.15	1.023160422	0.5	602	6.0200E-04	0.000594	-1.27097	1.270969	
308.15	0.995941015	0.8	729	7.2900E-04	0.000708	-2.83155	2.831546	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD	k_{ij}	l_{ij}
Total Error for All T_{oi}										0.657249	1.5

PROPIONIC ACID (1) - ETHYLBENZENE (2)

AC - AR *Experimental densities from DIPMIX

00358 Subha, M. C. S.; Rao, S. B.; J. Chem. Eng. Data, 33(4), 404-406(1988)

Density*		P=	1 atm	Propionic Ac1 (10-4 kg/m s)		%AAD=		3.814728		%AD Density	
0.8538	308.15	0.854964783	0	5.797	5.7970E-04	0.000589	1.689668	1.689668	0.136		
0.8639	308.15	0.866029485	0.1393	5.916	5.9160E-04	0.000575	-2.74287	2.742866	0.246		
0.8743	308.15	0.87701566	0.2634	6.031	6.0310E-04	0.000582	-3.41772	3.41772	0.311		
0.8851	308.15	0.888610427	0.3813	6.196	6.1960E-04	0.000601	-2.97171	2.971711	0.397		
0.8963	308.15	0.90025072	0.4881	6.386	6.3860E-04	0.000628	-1.71117	1.711174	0.441		
0.9083	308.15	0.912417425	0.5891	6.621	6.6210E-04	0.000662	6.2E-05	6.2E-05	0.453		
0.9209	308.15	0.92497099	0.6835	6.861	6.8810E-04	0.000704	2.373332	2.373332	0.442		
0.934	308.15	0.937542176	0.7694	7.21	7.2100E-04	0.000754	4.632002	4.632002	0.379		
0.9477	308.15	0.95078681	0.8518	7.666	7.6660E-04	0.000818	6.660289	6.660289	0.326		
0.9618	308.15	0.964130363	0.9275	8.175	8.1750E-04	0.000898	9.823391	9.823391	0.242		
0.9782	308.15	0.978121172	1	8.894	8.8940E-04	0.001011	13.64944	13.64944	0.008		
Average Error for Temp.										3.814728	

Total Error for All T_{oi}										0.854929	1.280721
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PROPIONIC ACID (1) - PROPYLBENZENE (2)

AC - AR

00358 Subha, M. C. S.; Rao, S. B.; J. Chem. Eng. Data, 33(4), 404-406(1988)

Density*		P=	1 atm	Propionic Ac1 (10-4 kg/m s)		%AAD=		4.35965	
308.15	0.850115036	0	7.001	7.0010E-04	0.000675	-3.65573	3.655728		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	308.15	0.855804815	0.0799	6.969	6.9690E-04	0.00066	-5.23953	5.239529	
	308.15	0.861551605	0.1548	7.021	7.0210E-04	0.000662	-5.73864	5.738637	
	308.15	0.867197782	0.2233	7.031	7.0310E-04	0.000669	-4.88727	4.88727	
	308.15	0.871731857	0.275	7.037	7.0370E-04	0.000676	-3.96957	3.96957	
	308.15	0.884943686	0.411	7.084	7.0840E-04	0.000699	-1.37105	1.37105	
	308.15	0.897001507	0.519	7.218	7.2180E-04	0.000722	-0.00017	0.000168	
	308.15	0.909706377	0.6192	7.357	7.3570E-04	0.000749	1.760909	1.760909	
	308.15	0.922727323	0.7099	7.53	7.5300E-04	0.000779	3.427	3.427	
	308.15	0.935769488	0.7906	7.717	7.7170E-04	0.000812	5.26442	5.26442	
	308.15	0.949509099	0.8664	8.012	8.0120E-04	0.000855	6.658575	6.658575	
	308.15	0.963567008	0.9357	8.334	8.3340E-04	0.000914	9.639027	9.639027	
	308.15	0.978121172	1	8.894	8.8940E-04	0.001011	13.64944	13.64944	
Average Error for Temp.									
							kij	4.35965	
							ljj		1.5
Total Error for All Temp							kij	0.778639	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
BUTYRIC ACID (1) - WATER (2)									
AC - OI									
00041 Irany, E. P.; J. Am. Chem. Soc., 65, 1392-1398(1943)									
P=			1 atm						%AAD= 30.95104
			<i>Butyric Acid</i>	(cP)					
293.15	0.996489202	0	1.005	1.0050E-03	0.000779	-22.4663	22.46631		
293.15	0.993561402	0.015	1.31	1.3100E-03	0.000856	-34.656	34.65603		
293.15	0.990306446	0.034	1.64	1.6400E-03	0.000962	-41.3235	41.32352		
293.15	0.984243512	0.078	2.41	2.4100E-03	0.001246	-48.3107	48.31088		
293.15	0.976095294	0.165	3.24	3.2400E-03	0.001939	-40.1666	40.16656		
293.15	0.967963642	0.316	3.71	3.7100E-03	0.003345	-9.83673	9.836727		
293.15	0.962563698	0.497	3.6	3.6000E-03	0.004583	27.31229	27.31229		
293.15	0.959522348	0.664	3.25	3.2500E-03	0.004389	35.03184	35.03184		
293.15	0.9558535	1	1.78	1.7800E-03	0.001515	-14.9003	14.90034		33.80538

BUTYRIC ACID (1) - WATER (2)

AC - OI value for water @25C 8.95 is 0.6% high.

00006 Bury, C. R.; Grindley, J.; J. Chem. Soc., 1003-1004(1936)

P=			1 atm						
			<i>Butyric Acid</i>	(g/m s)					
273.1	1.00272819	0	1.794	1.7940E-03	0.001073	-40.2008	40.20083		
273.1	1.001796903	0.00629	2.02	2.0200E-03	0.001119	-44.6272	44.62718		
273.1	1.000861254	0.01294	2.271	2.2710E-03	0.001169	-48.5418	48.54178		
273.1	0.999920149	0.01999	2.537	2.5370E-03	0.001224	-51.7679	51.76788		
273.1	0.998979347	0.02743	2.815	2.8150E-03	0.001284	-54.3919	54.39188		
273.1	0.998102142	0.03475	3.069	3.0690E-03	0.001345	-56.1667	56.16671		
273.1	0.997328187	0.04154	3.317	3.3170E-03	0.001404	-57.6714	57.6714		
273.1	0.99652086	0.04898	3.569	3.5690E-03	0.00147	-58.798	58.79805		
273.1	0.995415568	0.05981	3.987	3.9870E-03	0.001571	-60.5977	60.5977		
273.1	0.994132371	0.07342	4.52	4.5200E-03	0.001703	-62.3155	62.31548		
273.1	0.992958604	0.08697	4.966	4.9660E-03	0.001842	-62.9152	62.9152		
273.1	0.99157569	0.10448	5.5	5.5000E-03	0.002029	-63.1011	63.1011		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	273.1	0.990520177	0.11913	5.86	5.8600E-03	0.002194	-62.5607	62.56068	
	273.1	0.989594501	0.13302	6.09	6.0900E-03	0.002356	-61.3196	61.31955	
	273.1	0.988908647	0.14401	6.24	6.2400E-03	0.002487	-60.1408	60.14084	
	273.1	0.9874128	0.17033	6.53	6.5300E-03	0.002814	-58.9093	58.90929	
	273.1	0.985940376	0.19994	6.71	6.7100E-03	0.003197	-52.3552	52.35516	
	273.1	0.98435232	0.23697	6.9	6.9000E-03	0.003691	-46.5039	46.50393	
	273.1	0.982888555	0.27698	7.03	7.0300E-03	0.004231	-39.8129	39.81293	
	273.1	0.980478582	0.35852	7.1	7.1000E-03	0.005293	-25.4511	25.45106	
	273.1	0.979351897	0.40773	7.04	7.0400E-03	0.005828	-17.22	17.21997	
	273.1	0.978080242	0.47225	6.83	6.8300E-03	0.00637	-6.73105	6.731052	
	273.1	0.977135975	0.52903	6.54	6.5400E-03	0.006628	1.338739	1.338739	
	273.1	0.976782352	0.55287	6.38	6.3800E-03	0.006664	4.448552	4.448552	
	273.1	0.975899497	0.61849	6.01	6.0100E-03	0.006532	8.693457	8.693457	
	273.1	0.975311764	0.68866	5.52	5.5200E-03	0.006211	12.52356	12.52356	
	273.1	0.973904158	0.81626	4.28	4.2800E-03	0.004492	4.958582	4.958582	
	273.1	0.972617343	1	2.527	2.5270E-03	0.002132	-15.6204	15.62038	
									41.61007
	285.1	0.99916241	0	1.239	1.2390E-03	0.000882	-28.7936	28.79355	
	285.1	0.998025427	0.00629	1.369	1.3690E-03	0.000919	-32.8955	32.89547	
	285.1	0.996883598	0.01294	1.512	1.5120E-03	0.000959	-36.6036	36.60363	
	285.1	0.995735594	0.01999	1.665	1.6650E-03	0.001002	-39.7957	39.79569	
	285.1	0.994588446	0.02743	1.818	1.8180E-03	0.00105	-42.2221	42.22213	
	285.1	0.99351928	0.03475	1.966	1.9660E-03	0.001099	-44.0823	44.08234	
	285.1	0.992576309	0.04154	2.112	2.1120E-03	0.001146	-45.7272	45.72721	
	285.1	0.991593027	0.04898	2.284	2.2840E-03	0.001199	-47.4924	47.49242	
	285.1	0.990247417	0.05981	2.521	2.5210E-03	0.001279	-49.2469	49.24686	
	285.1	0.988686058	0.07342	2.815	2.8150E-03	0.001385	-50.7908	50.79077	
	285.1	0.987258638	0.08697	3.077	3.0770E-03	0.001496	-51.3873	51.38733	
	285.1	0.98557784	0.10448	3.361	3.3610E-03	0.001646	-51.0228	51.02282	
	285.1	0.984295666	0.11913	3.572	3.5720E-03	0.001778	-50.2261	50.22611	
	285.1	0.983171711	0.13302	3.73	3.7300E-03	0.001908	-48.858	48.85796	
	285.1	0.982339248	0.14401	3.844	3.8440E-03	0.002013	-47.6273	47.62727	
	285.1	0.980524536	0.17033	4.07	4.0700E-03	0.002276	-44.0855	44.08551	
	285.1	0.978739427	0.19894	4.245	4.2450E-03	0.002584	-39.122	39.12201	
	285.1	0.976815449	0.23697	4.394	4.3940E-03	0.002983	-32.1086	32.10855	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	285.1	0.975043265	0.27698	4.528	4.5280E-03	0.00342	-24.4756	24.47561	
	285.1	0.973385556	0.32092	4.623	4.6230E-03	0.00389	-15.8565	15.85646	
	285.1	0.972128035	0.35952	4.627	4.6270E-03	0.00428	-7.50725	7.507249	
	285.1	0.970766215	0.40773	4.612	4.6120E-03	0.004712	2.176653	2.176653	
	285.1	0.969229998	0.47225	4.523	4.5230E-03	0.00515	13.86343	13.86343	
	285.1	0.967662984	0.55267	4.295	4.2950E-03	0.005384	25.35206	25.35206	
	285.1	0.966597585	0.61849	4.079	4.0790E-03	0.005275	29.30919	29.30919	
	285.1	0.965888584	0.66866	3.813	3.8130E-03	0.005013	31.48025	31.48025	
	285.1	0.964191229	0.81626	3.06	3.0600E-03	0.003626	18.51239	18.51239	
	285.1	0.962640482	1	1.946	1.9460E-03	0.001731	-11.0591	11.0591	35.4549
	298.1	0.99473147	0	0.895	8.9500E-04	0.000724	-19.1256	19.12565	
	298.1	0.993380808	0.00628	0.973	9.7300E-04	0.000753	-22.6519	22.65189	
	298.1	0.992024988	0.01284	1.065	1.0650E-03	0.000784	-26.3728	26.37279	
	298.1	0.990662441	0.01999	1.152	1.1520E-03	0.000819	-28.9234	28.92337	
	298.1	0.989301514	0.02743	1.248	1.2480E-03	0.000857	-31.3484	31.34837	
	298.1	0.988033645	0.03475	1.344	1.3440E-03	0.000895	-33.3706	33.37059	
	298.1	0.986915859	0.04154	1.44	1.4400E-03	0.000933	-35.2344	35.23438	
	298.1	0.985750723	0.04898	1.55	1.5500E-03	0.000975	-37.1214	37.12138	
	298.1	0.984156967	0.05981	1.695	1.6950E-03	0.001038	-38.7514	38.75139	
	298.1	0.982308714	0.07342	1.881	1.8810E-03	0.001122	-40.3513	40.35131	
	298.1	0.980619986	0.08697	2.038	2.0380E-03	0.00121	-40.6428	40.64283	
	298.1	0.978632689	0.10448	2.222	2.2220E-03	0.001329	-40.1879	40.18785	
	298.1	0.977117575	0.11913	2.365	2.3650E-03	0.001434	-39.3763	39.37633	
	298.1	0.975790041	0.13302	2.463	2.4630E-03	0.001537	-37.6018	37.6018	
	298.1	0.974807167	0.14401	2.538	2.5380E-03	0.001621	-36.1344	36.1344	
	298.1	0.972865865	0.17033	2.699	2.6990E-03	0.00183	-32.1959	32.19587	
	298.1	0.970560559	0.19994	2.823	2.8230E-03	0.002076	-26.4536	26.45358	
	298.1	0.968293314	0.23697	2.941	2.9410E-03	0.002395	-18.5655	18.5655	
	298.1	0.966208432	0.27698	3.039	3.0390E-03	0.002744	-9.69403	9.694029	
	298.1	0.964255644	0.32092	3.121	3.1210E-03	0.003121	-4.7E-05	4.65E-05	
	298.1	0.962776627	0.35952	3.129	3.1290E-03	0.003433	9.717053	9.717053	
	298.1	0.961175749	0.40773	3.136	3.1360E-03	0.003779	20.50754	20.50754	
	298.1	0.959370863	0.47225	3.095	3.0950E-03	0.004128	33.36996	33.36996	
	298.1	0.958032	0.52903	3.032	3.0320E-03	0.00429	41.4841	41.4841	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	298.1	0.956280557	0.61849	2.861	2.8610E-03	0.004222	47.55622	47.55622	
	298.1	0.95544874	0.66866	2.702	2.7020E-03	0.004012	48.4717	48.4717	
	298.1	0.953456365	0.81626	2.249	2.2490E-03	0.002906	29.20751	29.20751	
	298.1	0.951641022	1	1.529	1.5290E-03	0.001399	-8.49303	8.493025	30.97315
	308.1	0.99091158	0	0.721	7.2100E-04	0.000627	-12.9981	12.9981	
	308.1	0.989403315	0.00629	0.777	7.7700E-04	0.000651	-16.1569	16.15692	
	308.1	0.98788979	0.01294	0.844	8.4400E-04	0.000678	-19.6723	19.67232	
	308.1	0.986369259	0.01999	0.911	9.1100E-04	0.000707	-22.38	22.37999	
	308.1	0.984851038	0.02743	0.979	9.7900E-04	0.000739	-24.5086	24.50958	
	308.1	0.983437085	0.03475	1.048	1.0480E-03	0.000772	-26.3712	26.37125	
	308.1	0.982190868	0.04154	1.12	1.1200E-03	0.000803	-28.3154	28.3154	
	308.1	0.980892222	0.04898	1.201	1.2010E-03	0.000838	-30.2074	30.20738	
	308.1	0.979116438	0.05981	1.308	1.3080E-03	0.000892	-31.8269	31.82688	
	308.1	0.977057952	0.07342	1.445	1.4450E-03	0.000962	-33.4049	33.40486	
	308.1	0.975177945	0.08697	1.563	1.5630E-03	0.001036	-33.7049	33.70486	
	308.1	0.97296654	0.10448	1.695	1.6950E-03	0.001137	-32.9337	32.93366	
	308.1	0.971281285	0.11913	1.798	1.7980E-03	0.001225	-31.7877	31.78771	
	308.1	0.969805182	0.13302	1.873	1.8730E-03	0.001312	-29.9468	29.94677	
	308.1	0.96871262	0.14401	1.932	1.9320E-03	0.001383	-28.4143	28.41433	
	308.1	0.96633303	0.17033	2.049	2.0490E-03	0.00156	-23.8818	23.88179	
	308.1	0.963995088	0.19994	2.15	2.1500E-03	0.001768	-17.7782	17.77823	
	308.1	0.961478412	0.23697	2.243	2.2430E-03	0.002037	-9.16303	9.163034	
	308.1	0.959163166	0.27698	2.322	2.3220E-03	0.002333	0.486665	0.486665	
	308.1	0.956999966	0.32092	2.392	2.3920E-03	0.002652	10.8785	10.8785	
	308.1	0.955360589	0.35952	2.415	2.4150E-03	0.002916	20.75991	20.75991	
	308.1	0.953586801	0.40773	2.415	2.4150E-03	0.003209	32.87516	32.87516	
	308.1	0.951587797	0.47225	2.398	2.3980E-03	0.003503	46.07459	46.07459	
	308.1	0.950105503	0.52903	2.358	2.3580E-03	0.003639	54.31348	54.31348	
	308.1	0.948167155	0.61849	2.248	2.2480E-03	0.003579	59.19409	59.19409	
	308.1	0.947246859	0.68866	2.142	2.1420E-03	0.003401	58.76401	58.76401	
	308.1	0.945045526	0.81626	1.819	1.8190E-03	0.002468	35.67555	35.67555	
	308.1	0.943036491	1	1.295	1.2950E-03	0.001199	-7.43495	7.43495	29.21065
	270.1	0.993705595	0.09499	6.22	6.2200E-03	0.002033	-67.3076	67.30763	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	270.1	0.992856411	0.10872	6.63	6.6300E-03	0.002169	-67.289	67.28904	
	270.1	0.992254662	0.11553	6.9	6.9000E-03	0.002273	-67.0539	67.0539	
	270.1	0.991985572	0.11992	6.99	6.9900E-03	0.002326	-66.7199	66.71991	
	270.1	0.991548101	0.12645	7.04	7.0400E-03	0.002406	-65.8213	65.82131	
	270.1	0.990559999	0.14287	7.26	7.2600E-03	0.002612	-64.016	64.01603	
	270.1	0.989123773	0.16948	7.51	7.5100E-03	0.002961	-60.5718	60.57178	
	270.1	0.986329154	0.23323	7.85	7.8500E-03	0.003846	-51.0021	51.00209	
	270.1	0.983986686	0.30387	8	8.0000E-03	0.004848	-39.4046	39.40456	
	270.1	0.983395823	0.32509	8.02	8.0200E-03	0.005139	-35.9243	35.92428	
	270.1	0.982805637	0.34798	8.01	8.0100E-03	0.005442	-32.0562	32.05621	
	270.1	0.982188192	0.37397	7.97	7.9700E-03	0.005769	-27.6217	27.62172	
	270.1	0.98095522	0.4333	7.81	7.8100E-03	0.00641	-17.924	17.92403	
	270.1	0.979362835	0.52903	7.31	7.3100E-03	0.006999	-4.25038	4.25038	47.8402
	273.1	0.982024172	0.30387	7.09	7.0900E-03	0.004589	-35.2685	35.26852	
	273.1	0.981399376	0.32509	7.11	7.1100E-03	0.004865	-31.5683	31.5683	
	273.1	0.980775342	0.34798	7.11	7.1100E-03	0.005153	-27.5232	27.52325	
	273.1	0.980122532	0.37397	7.08	7.0800E-03	0.005462	-22.8484	22.84845	
	273.1	0.978818088	0.4333	6.97	6.9700E-03	0.00607	-12.9088	12.90883	
	273.1	0.977135975	0.52903	6.54	6.5400E-03	0.006628	1.338739	1.338739	21.90935
BUTYRIC ACID (1) - WATER (2)									
AC - OI									
00550 Traube, J.; Ber. Dtsch. Chem. Ges., 19, 871-892(1886)									
P= 0.101 MPa									
				Butyric Acid	(g/m s)				
	293.1	0.992328097	0.022	1.332	1.3320E-03	0.000895	-32.8309	32.83088	
	293.1	0.983915237	0.081	2.265	2.2650E-03	0.001268	-44.0234	44.02339	
	293.1	0.975761473	0.17	3.095	3.0950E-03	0.001984	-35.8854	35.88537	
	293.1	0.955895886	1	1.623	1.6230E-03	0.001516	-6.59246	6.592462	37.57988
	313.1	0.983653168	0.022	0.848	8.4800E-04	0.000607	-21.3725	21.37251	
	313.1	0.973194071	0.081	1.327	1.3270E-03	0.000931	-29.8293	29.82933	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	313.1	0.963100382	0.17	1.786	1.7860E-03	0.001441	-19.3053	19.30525	
	313.1	0.938685169	1	1.184	1.1840E-03	0.001113	-6.02092	6.020921	23.50236
	333.1	0.973580422	0.022	0.626	6.2600E-04	0.000511	-18.3452	18.34521	
	333.1	0.961251953	0.081	0.899	8.9900E-04	0.000703	-21.853	21.853	
	333.1	0.949402083	0.17	1.199	1.1990E-03	0.001073	-10.5257	10.52569	
	333.1	0.920931663	1	0.911	9.1100E-04	0.000841	-7.64414	7.64414	16.90796
BUTYRIC ACID (1) - WATER (2)									
AC - Ol									
00077 Wilsdon, B. H.; Sidgwick, N. V.; J. Chem. Soc., 103, 1958-1973(1913)									
P= 0.101 MPa									
	298.15	0.987043068	Butyric Acid	(g/m s)	1.1231	1.1231E-03	0.000927	-17.4819	17.48188
	298.15	0.990028451	0.04061	1.0675	1.0675E-03	0.000835	-21.7949	21.79486	
	298.15	0.993534112	0.00547	1.0156	1.0156E-03	0.000748	-26.3259	26.32589	
							Average Error for Temp.		21.86755
n-BUTYRIC ACID (1) - BENZENE (2)									
AC - AR									
00043 Jones, W. J.; Bowden, S. T.; Yarnold, W. W.; Jones, W. H.; J. Phys. Chem., 52, 753-760(1948)									
P= 1 atm									
	298.15	0.873007427	n-Butyric Acid	(cP)	0.603	6.0300E-04	0.000602	-0.18328	0.183275
	298.15	0.876627386	0.044582	0.612	6.1200E-04	0.000612	-0.05212	0.052122	
	298.15	0.880277749	0.0896754	0.624	6.2400E-04	0.000624	3.45E-05	3.45E-05	
	298.15	0.883958117	0.1352891	0.639	6.3900E-04	0.000639	-0.03405	0.034049	
	298.15	0.887669653	0.1814322	0.656	6.5600E-04	0.000656	-3.1E-06	3.08E-06	
	298.15	0.902832798	0.3714865	0.747	7.4700E-04	0.00075	0.384151	0.384151	
							Total Error for All T _e		1.323408 1.246721
							k _{ij} I _{ij}		
							%AAD=		0.462294

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD	
	298.15	0.910610307	0.4699413	0.808	8.0800E-04	0.000813	0.63004	0.63004		
	298.15	0.918522979	0.5707925	0.903	9.0300E-04	0.000889	-1.58174	1.581736		
	298.15	0.934768159	0.7800426	1.1	1.1000E-03	0.001089	-1.03622	1.036215		
	298.15	0.951598316	1	1.466	1.4660E-03	0.001398	-4.63618	4.636181		
							Average Error for Temp.			
							0.462294			
									<i>k_{ij}</i>	
									<i>l_{ij}</i>	
Total Error for All <i>T_e</i>									0.918803	1.141339

ISOBUTYRIC ACID (1) - WATER (2)

OC - OI
00550 Traube, J.; Ber. Dtsch. Chem. Ges., 19, 871-892(1886)

Wt. Frac.	P=	1 atm		IsoButyric Ac	(g/m s)	%AAD=			
0.05	293.15	0.99397838	0.0106469	1.181	1.1810E-03	0.000816	-30.9232	30.92322	31.1794
0.1	293.15	0.991480179	0.0222141	1.448	1.4480E-03	0.000857	-40.8041	40.80406	
0.15	293.15	0.981611701	0.0805693	1.558	1.5580E-03	0.001087	-30.2046	30.20456	
0.2	293.15	0.971937735	0.1697586	1.779	1.7790E-03	0.001487	-16.3867	16.38672	
1	293.15	0.948566975	1	1.326	1.3260E-03	0.00132	-0.41505	0.415051	
29.57964									
0.05	313.15	0.985729882	0.0106469	0.767	7.6700E-04	0.000611	-20.3379	20.33791	16.58724
0.1	313.15	0.982635408	0.0222141	0.907	9.0700E-04	0.00064	-29.4049	29.40488	
0.15	313.15	0.97044939	0.0805693	0.965	9.6500E-04	0.000805	-16.606	16.60602	
0.2	313.15	0.958561917	0.1697586	1.094	1.0940E-03	0.001094	-0.00013	0.000132	
1	313.15	0.930079506	1	1.004	1.0040E-03	0.000976	-2.81691	2.816906	
16.58724									
0.05	333.15	0.976037868	0.0106469	0.568	5.6800E-04	0.000471	-17.0981	17.09808	14.81189
0.1	333.15	0.972385465	0.0222141	0.644	6.4400E-04	0.000492	-23.5911	23.59109	
0.15	333.15	0.958045172	0.0805693	0.682	6.8200E-04	0.000612	-10.2585	10.25854	
0.2	333.15	0.944121701	0.1697586	0.762	7.6200E-04	0.000825	8.299844	8.299844	
1	333.15	0.911021533	1	0.796	7.9600E-04	0.000743	-6.6084	6.608401	
14.81189									

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
WATER (1) - ISOBUTYRIC ACID (2)									
OI - OC									
00802 Zhuravlev, E. F.; J. Gen. Chem. USSR, 31, 327-330(1961)									
P= 1 atm									
Water (cP)									
			0	1.12	1.1200E-03	0.001131	0.945804	0.945804	
303.15	0.939390886								
303.15	0.944802551	0.352		1.51	1.5100E-03	0.002377	57.43352	57.43352	
303.15	0.950277546	0.55		2.12	2.1200E-03	0.002307	8.821659	8.821659	
303.15	0.955820897	0.677		2.43	2.4300E-03	0.001896	-21.9599	21.95986	
303.15	0.96140503	0.765		2.51	2.5100E-03	0.001544	-38.4737	38.47371	
303.15	0.96707347	0.83		2.42	2.4200E-03	0.001261	-47.077	47.07703	
303.15	0.972831439	0.88		2	2.0000E-03	0.001086	-45.7191	45.7191	
303.15	0.978572641	0.919		1.58	1.5800E-03	0.000942	-40.3802	40.38018	
303.15	0.984445591	0.951		1.28	1.2800E-03	0.000832	-35.006	35.00599	
303.15	0.984602913	0.978		1.02	1.0200E-03	0.00068	-33.3236	33.32358	
303.15	0.987459545	1		0.8	8.0000E-04	0.000615	-23.1332	23.13319	36.46607

ISOBUTYRIC ACID (1) - WATER (2)

OC - OI

01350 Allegra, J. C.; Stein, A.; Allen, G. F.; J. Chem. Phys., 55(4), 1716-1720(1971)

P= 0.101 MPa

Isobutyric Ac (g/m s)									
299.354	0.975663086	0.09918		2.904	2.9040E-03	0.001059	-63.5288	63.52875	
299.359	0.975680211	0.09918		2.886	2.8860E-03	0.001059	-63.4308	63.43082	
299.368	0.975655035	0.09918		2.882	2.8820E-03	0.001059	-63.2583	63.25827	
299.379	0.975648708	0.09918		2.868	2.8680E-03	0.001059	-63.0852	63.08518	
299.386	0.975644682	0.09918		2.846	2.8460E-03	0.001059	-62.8038	62.80383	
299.389	0.975642957	0.09918		2.836	2.8360E-03	0.001059	-62.6744	62.6744	
299.402	0.975635479	0.09918		2.813	2.8130E-03	0.001058	-62.3768	62.37675	
299.428	0.975620523	0.09918		2.767	2.7670E-03	0.001058	-61.7666	61.7666	
299.447	0.975609592	0.09918		2.751	2.7510E-03	0.001058	-61.5555	61.55549	
299.48	0.975590604	0.09918		2.711	2.7110E-03	0.001057	-61.0081	61.00808	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	296.502	0.977291393	0.09918	2.69	2.6900E-03	0.001107	-58.8459	58.84593	
	299.562	0.975543408	0.09918	2.645	2.6450E-03	0.001056	-60.0856	60.08556	
	299.644	0.975496192	0.09918	2.606	2.6060E-03	0.001054	-59.5393	59.53932	
	299.724	0.975450109	0.09918	2.571	2.5710E-03	0.001053	-59.039	59.03897	
	299.849	0.975378067	0.09918	2.541	2.5410E-03	0.001051	-58.635	58.63497	
	299.958	0.975315209	0.09918	2.506	2.5060E-03	0.001049	-58.1275	58.12747	
	300.155	0.975201517	0.09918	2.466	2.4660E-03	0.001046	-57.5768	57.57684	
	300.4	0.975059864	0.09918	2.422	2.4220E-03	0.001042	-56.9682	56.96823	
	301.152	0.974624391	0.09918	2.317	2.3170E-03	0.00103	-55.533	55.53303	
	302.274	0.973971437	0.09918	2.211	2.2110E-03	0.001013	-54.1913	54.19132	
	303.108	0.973483699	0.09918	2.144	2.1440E-03	0.001	-53.3538	53.35379	
	304.12	0.972889125	0.09918	2.07	2.0700E-03	0.000985	-52.4193	52.41925	
	305.069	0.972328831	0.09918	2.003	2.0030E-03	0.000971	-51.5244	51.52443	
	306.723	0.971345963	0.09918	1.907	1.9070E-03	0.000947	-50.3274	50.32741	
	307.673	0.970777786	0.09918	1.855	1.8550E-03	0.000934	-49.6506	49.6506	
Average Error for Temp.								58.45221	
Total Error for All T _e								k _{ij}	l _{ij}
								1.340286	1.00227

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
Total Error for All T _e									
						<i>k</i> / <i>ij</i>	33.46105	1.000861	1.000864

CAPROIC ACID (1) - BENZENE (2)

AC - AR (Hexanoic Acid)

00043 Jones, W. J.; Bowden, S. T.; Yarnold, W. W.; Jones, W. H.; J. Phys. Chem., 52, 753-760(1948)

$P = 1 \text{ atm}$

%AAD= 1.293023

Caproic Acid		(cP)	Average Error for Temp.			
298.15	0.873007427	0	6.0300E-04	0.000602	-0.18328	0.183275
298.15	0.87520268	0.0342	6.2600E-04	0.000623	-0.44767	0.447671
298.15	0.877405391	0.0695	6.5300E-04	0.000649	-0.55069	0.550687
298.15	0.879624326	0.1061	6.8400E-04	0.000681	-0.44976	0.449761
298.15	0.881849622	0.1439	7.1800E-04	0.000718	8.04E-09	8.04E-09
298.15	0.89087318	0.3095	9.0800E-04	0.000933	2.759335	2.759335
298.15	0.895458004	0.4021	1.0580E-03	0.001089	2.958992	2.958992
298.15	0.900087815	0.5022	1.2840E-03	0.001284	-0.0002	0.000202
298.15	0.908490231	0.729	1.8440E-03	0.001785	-3.17754	3.177537
298.15	0.919091773	1	2.8140E-03	0.002383	-15.3191	15.31911

CAPRYLIC ACID [Octanoic Acid] (1) - BENZENE (2)

AC-AR

00043 Jones, W. J.; Bowden, S. T.; Yarnold, W. W.; Jones, W. H.; J. Phys. Chem., 52, 753-760(1948)

$P = 1 \text{ atm}$

%AAD= 0.294047

Wt. Frac	Caprylic Aci.	(cP)			
0	0.873007427	0	6.0300E-04	0.000602	-0.18328
0.05	0.87450754	0.0277185	6.3800E-04	0.000639	0.18788
0.1	0.876012813	0.0567685	6.8000E-04	0.000681	0.139382
0.15	0.877523272	0.0872482	7.2700E-04	0.000728	0.115439
0.2	0.879038945	0.1192659	7.8100E-04	0.000781	-0.03808

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
0.4	298.15	0.885154317	0.2653057	1.072	1.0720E-03	0.001075	0.267467	0.267467	
0.5	298.15	0.888243996	0.3513509	1.295	1.2950E-03	0.001295	-0.00054	0.000536	
0.6	298.15	0.891355303	0.4482754	1.591	1.5910E-03	0.001591	-0.01237	0.012368	
0.8	298.15	0.897643714	0.6842101	2.505	2.5050E-03	0.002545	1.591225	1.591225	
1	298.15	0.904021413	1	5.16	5.1600E-03	0.004275	-17.1566	17.15655	
Average Error for Temp.									0.294047

k_{ij} l_{ij}
 Total Error for All T_e 2.352377 1.029202 1.073848

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD	k_{ij}	l_{ij}
BENZOIC ACID (1) - METHANOL (2)											
RC - AL											
01235 Chatterji, A. C.; Bose, A. N.; J. Indian Chem. Soc., 25, 39-42(1948)											
P= 0.101 MPa											
Benzoic Acid (g/m s)											
298.15	0.911023889	0.151403		1.311	1.3110E-03	0.001308	-0.22855	0.228548			
303.15	0.90611333	0.151403		1.196	1.1960E-03	0.001196	2.98E-05	2.98E-05			
308.15	0.901150695	0.151403		1.098	1.0980E-03	0.001097	-0.07655	0.076552			
313.15	0.896133889	0.151403		1.014	1.0140E-03	0.00101	-0.42192	0.421917			
318.15	0.891060671	0.151403		0.9466	9.4660E-04	0.000932	-1.52332	1.52332			
303.15	0.923318588	0.178828		1.36	1.3600E-03	0.001369	0.671579	0.671579		0.450073	
308.15	0.9183589	0.178828		1.25	1.2500E-03	0.001251	0.078391	0.078391			
313.15	0.913346293	0.178828		1.147	1.1470E-03	0.001147	-4.4E-05	4.41E-05			
318.15	0.908278585	0.178828		1.053	1.0530E-03	0.001055	0.21423	0.21423		0.241061	
Total Error for All T_{ei}											
											15.23419
											1.322204
											0.5

BENZOIC ACID (1) - METHANOL (2)

RC - AL

01235 Chatterji, A. C.; Bose, A. N.; J. Indian Chem. Soc., 25, 39-42(1948)

P= 0.101 MPa

Benzoic Acid (g/m s)

298.15	0.911023889	0.151403		1.311	1.3110E-03	0.001308	-0.22855	0.228548			
303.15	0.90611333	0.151403		1.196	1.1960E-03	0.001196	2.98E-05	2.98E-05			
308.15	0.901150695	0.151403		1.098	1.0980E-03	0.001097	-0.07655	0.076552			
313.15	0.896133889	0.151403		1.014	1.0140E-03	0.00101	-0.42192	0.421917			
318.15	0.891060671	0.151403		0.9466	9.4660E-04	0.000932	-1.52332	1.52332			
303.15	0.923318588	0.178828		1.36	1.3600E-03	0.001369	0.671579	0.671579		0.450073	
308.15	0.9183589	0.178828		1.25	1.2500E-03	0.001251	0.078391	0.078391			
313.15	0.913346293	0.178828		1.147	1.1470E-03	0.001147	-4.4E-05	4.41E-05			
318.15	0.908278585	0.178828		1.053	1.0530E-03	0.001055	0.21423	0.21423		0.241061	

BENZOIC ACID (1) - METHANOL (2)

RC - AL

01236 Bose, A. N.; J. Indian Chem. Soc., 25, 33-38(1948)

P= 0.101 MPa

Benzoic Acid (g/m s)

303.15	0.90611333	0.151403		1.196	1.1960E-03	0.001196	2.98E-05	2.98E-05			
303.15	0.913272697	0.16259		1.29	1.2900E-03	0.001265	-1.94995	1.949947			
303.15	0.923318588	0.178828		1.36	1.3600E-03	0.001369	0.671579	0.671579			
318.15	0.891060671	0.151403		0.9466	9.4660E-04	0.000932	-1.52332	1.52332		0.873852	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	303.15	0.891462636	0.197461	2.734	2.7340E-03	0.002734	-0.00052	0.000523	
	303.15	0.899762609	0.216038	2.844	2.8440E-03	0.002851	0.246978	0.246978	0.209775
	318.15	0.86273929	0.164464	1.77	1.7700E-03	0.001753	-0.96885	0.968854	
	318.15	0.868911006	0.177983	1.816	1.8160E-03	0.00181	-0.34665	0.346647	
	318.15	0.877701413	0.197461	1.881	1.8810E-03	0.00189	0.500252	0.500252	
	318.15	0.8859753	0.216038	1.965	1.9650E-03	0.001965	0.001153	0.001153	0.454227
Average Error for Temp.									
Total Error for All Temp.									
							k_{ij}	l_{ij}	
							1.358026	0.603008	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
ETHANOL (1) - ACETIC ACID (2)									
AL - AC									
00365 Noda, K.; Aono, Y.; Ishida, K.; Kagaku Kagaku Ronbunshu, 9(3), 237-240(1983)									
P= 0.101 MPa									
			Ethanol	(mPa s)				%AAD=	2.86926
	298.15	1.042012521	0	1.126	1.1260E-03	0.001108	-1.57409	1.574087	
	298.15	1.020992429	0.0808	1.246	1.2460E-03	0.001184	-4.94251	4.942513	
	298.15	1.004565554	0.1441	1.292	1.2920E-03	0.001236	-4.32509	4.325091	
	298.15	0.994902544	0.1814	1.313	1.3130E-03	0.001263	-3.84283	3.842825	
	298.15	0.966348405	0.2919	1.327	1.3270E-03	0.001319	-0.57394	0.573942	
	298.15	0.950296978	0.3542	1.335	1.3350E-03	0.001335	0.01084	0.01084	
	298.15	0.921782459	0.4652	1.299	1.2990E-03	0.001331	2.461241	2.461241	
	298.15	0.895035968	0.5697	1.24	1.2400E-03	0.00129	4.001242	4.001242	
	298.15	0.872738979	0.6571	1.195	1.1950E-03	0.001231	2.988805	2.988805	
	298.15	0.849111219	0.75	1.15	1.1500E-03	0.00115	-0.00317	0.003174	
	298.15	0.825304545	0.8439	1.119	1.1190E-03	0.001057	-5.54293	5.542927	
	298.15	0.785894999	1	1.091	1.0910E-03	0.000898	-17.6919	17.6919	
Average Error for Temp.									2.86926
Total Error for All Tei									1.078146
kij									0.912655
ljj									0.912655

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
ACETONE (1) - WATER (2)									
KK - OI									
00113 Baldauf, W.; Knapp, H.; Ber. Bunsenges. Phys. Chem., 87(4), 304-309(1983)									
P= 1 atm									
Acetone (g m/s)									
	283.15	0.899775767	0	1.288	1.2880E-03	0.00091	-29.3524	29.35237	%AAD= 24.41035
	283.15	0.954400426	0.0697	1.9971	1.9971E-03	0.000929	-53.4676	53.46755	
	283.15	0.911684465	0.1687	2.1486	2.1486E-03	0.000955	-55.5378	55.5378	
	283.15	0.872101586	0.3167	1.5859	1.5859E-03	0.000951	-40.0093	40.00929	
	283.15	0.803438382	1	0.3472	3.4720E-04	0.000358	3.054712	3.054712	
	293.15	0.998489202	0	1.0098	1.0098E-03	0.000779	-22.8349	22.83486	49.67155
	293.15	0.948897661	0.0697	1.4608	1.4608E-03	0.000793	-45.7048	45.70476	
	293.15	0.904290332	0.1687	1.5725	1.5725E-03	0.000815	-48.1545	48.15447	
	293.15	0.863180435	0.3167	1.2052	1.2052E-03	0.000816	-32.3072	32.30721	
	293.15	0.826105454	0.5538	0.6593	6.5930E-04	0.000704	6.847378	6.847378	
	293.15	0.792251985	1	0.3143	3.1430E-04	0.000321	2.18091	2.18091	33.25345
	303.15	0.992847701	0	0.6122	8.1220E-04	0.000673	-17.1748	17.17485	
	303.15	0.943037286	0.0697	1.1179	1.1179E-03	0.000682	-38.9816	38.98162	
	303.15	0.896578586	0.1687	1.1983	1.1983E-03	0.000701	-41.5317	41.53168	
	303.15	0.853958763	0.3167	0.9576	9.5760E-04	0.000704	-26.4944	26.49437	
	303.15	0.815677035	0.5538	0.5681	5.6810E-04	0.000615	8.241866	8.241866	28.81239
	303.15	0.780854255	1	0.2852	2.8520E-04	0.00029	1.528757	1.528757	

WATER (1) - ACETONE (2)

OI - KK The value for acetone is 12 % higher than the DIPPR 801 value.

01472 Ernst, R. C.; Likkenhous, E. E.; Spanner, J. W., Jr.; J. Phys. Chem., 36, 842-854(1932)

P= 1 atm									
Water (Poise)									
	298.15	0.78658055	0	0.003439	3.4390E-04	0.000305	-11.374	11.37403	
	298.15	0.803411123	0.264	0.004509	4.5090E-04	0.000517	14.73117	14.73117	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
ACETONE (1) - WATER (2)									
	298.15	0.820901363	0.446	0.006261	6.2610E-04	0.000658	5.033443	5.033443	
	298.15	0.839241002	0.58	0.008365	8.3650E-04	0.000729	-12.8297	12.82967	
	298.15	0.858324882	0.682	0.01083	1.0830E-03	0.000757	-30.0978	30.09782	
	298.15	0.878414618	0.763	0.0124	1.2400E-03	0.000762	-38.5657	38.56574	
	298.15	0.899635591	0.829	0.01325	1.3250E-03	0.000755	-42.9814	42.98135	
	298.15	0.921264453	0.882	0.01336	1.3360E-03	0.000746	-44.1933	44.1933	
	298.15	0.945840347	0.93	0.0129	1.2900E-03	0.000735	-43.0286	43.02861	
	298.15	0.969291843	0.967	0.01121	1.1210E-03	0.000728	-35.1024	35.1024	
	298.15	0.994713268	1	0.00893	8.9300E-04	0.000723	-19.0041	19.00406	
									29.61817

ACETONE (1) - WATER (2)

KK - OI Both kinematic and absolute viscosities were given in the article.

00679 Howard, K. S.; McAllister, R. A.; AIChE J., 4, 362-366(1958)

P= 0.101 MPa

		Acetone	(g/m s)						
293.15	0.996489202	0	1.002	1.0020E-03	0.000779	-22.2342	22.23417		
293.15	0.977181866	0.0251	1.1987	1.1987E-03	0.000783	-34.6754	34.6754		
293.15	0.955266389	0.0587	1.4077	1.4077E-03	0.00079	-43.8485	43.84848		
293.15	0.912750842	0.1463	1.5828	1.5828E-03	0.000811	-48.75	48.75002		
293.15	0.900064773	0.1807	1.5485	1.5485E-03	0.000817	-47.2321	47.23212		
293.15	0.878435915	0.2525	1.3779	1.3779E-03	0.000822	-40.3498	40.34978		
293.15	0.86561893	0.3055	1.2249	1.2249E-03	0.000818	-33.2475	33.24754		
293.15	0.835721163	0.477	0.827	8.2700E-04	0.000755	-8.73776	8.737764		
293.15	0.834769329	0.484	0.7762	7.7620E-04	0.000751	-3.29075	3.290746		
293.15	0.822982387	0.582	0.6233	6.2330E-04	0.000683	9.617302	9.617302		
293.15	0.818089654	0.63	0.5528	5.5280E-04	0.000644	16.58122	16.58122		
293.15	0.817512346	0.636	0.5486	5.4860E-04	0.000639	16.34083	16.34083		
293.15	0.805897303	0.775	0.4213	4.2130E-04	0.000515	22.25396	22.25396		
293.15	0.798173256	0.892	0.3534	3.5340E-04	0.00041	15.93891	15.93891		
293.15	0.797640047	0.901	0.3528	3.5280E-04	0.000402	13.92876	13.92876		
293.15	0.792657353	0.992	0.3207	3.2070E-04	0.000327	2.080945	2.080945		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
ACETONE (1) - WATER (2)									
	293.15	0.792251985	1	0.3148	3.1480E-04	0.000321	2.018615	2.018615	23.79025
	298.15	0.994713268	0	0.8905	8.9050E-04	0.000723	-18.7767	18.77667	
	298.15	0.971977823	0.0292	1.0792	1.0792E-03	0.000727	-32.648	32.64803	
	298.15	0.95278659	0.0583	1.2272	1.2272E-03	0.000732	-40.3187	40.31873	
	298.15	0.934230605	0.0913	1.3291	1.3291E-03	0.00074	-44.3468	44.34683	
	298.15	0.909348207	0.1457	1.3733	1.3733E-03	0.000751	-45.3018	45.30185	
	298.15	0.889200022	0.2014	1.309	1.3090E-03	0.000759	-41.9868	41.98684	
	298.15	0.874592459	0.2508	1.2119	1.2119E-03	0.000762	-37.1224	37.12235	
	298.15	0.86211017	0.301	1.0888	1.0888E-03	0.000759	-30.2513	30.25129	
	298.15	0.832820777	0.462	0.7527	7.5270E-04	0.000711	-5.57828	5.578279	
	298.15	0.822791748	0.538	0.6247	6.2470E-04	0.000688	6.927491	6.927491	
	298.15	0.814183323	0.616	0.5104	5.1040E-04	0.000614	20.24905	20.24905	
	298.15	0.800416213	0.775	0.3984	3.9840E-04	0.000484	22.20857	22.20857	
	298.15	0.792462371	0.894	0.3355	3.3550E-04	0.000385	14.90122	14.90122	
	298.15	0.786991429	0.992	0.303	3.0300E-04	0.000311	2.481631	2.481631	
	298.15	0.78658055	1	0.3012	3.0120E-04	0.000305	1.190141	1.190141	26.48632
	310.95	0.989756216	0	0.6809	6.8090E-04	0.000603	-11.4359	11.43594	
	310.95	0.965273	0.0297	0.8054	8.0540E-04	0.000604	-24.961	24.961	
	310.95	0.925845935	0.0912	0.9843	9.8430E-04	0.000613	-36.4351	36.43511	
	310.95	0.900053014	0.1447	0.9943	9.9430E-04	0.000622	-37.4582	37.45825	
	310.95	0.882275458	0.1905	0.9846	9.8460E-04	0.000628	-34.8907	34.8907	
	310.95	0.865752239	0.242	0.8974	8.9740E-04	0.000632	-29.5828	29.58284	
	310.95	0.850874921	0.299	0.8193	8.1930E-04	0.000631	-22.9516	22.95164	
	310.95	0.820612863	0.456	0.5983	5.9830E-04	0.000598	0.303548	0.303548	
	310.95	0.809290201	0.538	0.5054	5.0540E-04	0.000563	11.38799	11.38799	
	310.95	0.798007928	0.639	0.4241	4.2410E-04	0.000506	19.38486	19.38486	
	310.95	0.786030406	0.776	0.3407	3.4070E-04	0.000416	21.96667	21.96667	
	310.95	0.777203181	0.905	0.2934	2.9340E-04	0.000328	11.71129	11.71129	
	310.95	0.77223076	0.992	0.2692	2.6920E-04	0.000273	1.284925	1.284925	
	310.95	0.771808457	1	0.269	2.6900E-04	0.000268	-0.42572	0.425717	21.02657
	323.2	0.984447218	0	0.5464	5.4640E-04	0.000512	-6.22423	6.224235	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
ACETONE (1) - WATER (2)									
	323.2	0.959417088	0.0287	0.6351	6.3510E-04	0.000512	-19.3906	19.39058	
	323.2	0.917310392	0.091	0.7439	7.4390E-04	0.000517	-30.4575	30.45748	
	323.2	0.890117952	0.1449	0.7639	7.6390E-04	0.000524	-31.3737	31.37367	
	323.2	0.874839324	0.182	0.7497	7.4970E-04	0.000529	-29.4984	29.49844	
	323.2	0.852354673	0.249	0.697	6.9700E-04	0.000533	-23.4793	23.47931	
	323.2	0.836812209	0.307	0.6379	6.3790E-04	0.000533	-16.4377	16.43771	
	323.2	0.807626723	0.456	0.4876	4.8760E-04	0.000509	4.381561	4.381561	
	323.2	0.796409355	0.542	0.4204	4.2040E-04	0.00048	14.1317	14.1317	
	323.2	0.784691186	0.635	0.3609	3.6090E-04	0.000438	21.34822	21.34822	
	323.2	0.772010461	0.775	0.2981	2.9810E-04	0.000362	21.52751	21.52751	
	323.2	0.763608198	0.893	0.262	2.6200E-04	0.000295	12.71076	12.71076	
	323.2	0.757840594	0.99	0.244	2.4400E-04	0.000243	-0.3364	0.33636	
	323.2	0.757294437	1	0.2442	2.4420E-04	0.000238	-2.50366	2.503657	18.75584
	328.23	0.801044132	0.463	0.4523	4.5230E-04	0.000475	5.128213	5.128213	
	328.23	0.794220841	0.509	0.4102	4.1020E-04	0.000462	12.65642	12.65642	
	328.23	0.778509883	0.639	0.3425	3.4250E-04	0.000411	19.91378	19.91378	
	328.23	0.766500353	0.77	0.2845	2.8450E-04	0.000345	21.40306	21.40306	
	328.23	0.757538075	0.894	0.2504	2.5040E-04	0.00028	11.84934	11.84934	
	328.23	0.751828465	0.989	0.2329	2.3290E-04	0.000232	-0.20257	0.202573	
	328.23	0.751220803	1	0.2318	2.3180E-04	0.000227	-1.99488	1.994883	11.8589
	333.26	0.979663401	0	0.4658	4.6580E-04	0.000452	-3.03455	3.034545	
	333.26	0.953135128	0.0292	0.5357	5.3570E-04	0.00045	-15.979	15.97905	
	333.26	0.916293109	0.0803	0.6083	6.0830E-04	0.000452	-25.6416	25.64159	
	333.26	0.882104897	0.1438	0.632	6.3200E-04	0.000459	-27.4451	27.44511	
	333.26	0.867628079	0.1774	0.6237	6.2370E-04	0.000462	-25.9462	25.94617	
	333.26	0.8661553	0.1811	0.6226	6.2260E-04	0.000462	-25.761	25.76102	
	333.26	0.844757594	0.242	0.5859	5.8590E-04	0.000466	-20.3952	20.3952	
	333.26	0.841327299	0.2532	0.5779	5.7790E-04	0.000467	-19.2208	19.22076	
	333.26	0.827595678	0.303	0.5404	5.4040E-04	0.000467	-13.5759	13.57587	
	333.26	0.824858722	0.314	0.538	5.3800E-04	0.000467	-13.2546	13.25463	20.80216

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
ACETONE (1) - WATER (2)									

ACETONE (1) - WATER (2)

KK - OI Values are given at boiling temperatures which were inferred with the compositions and published VLE data. Viscosities of water were calculated from modified Cragoe equation.
 00679 Howard, K. S.; McAllister, R. A.; AIChE J., 4, 362-366(1958)
 P= 0.101 MPa

		Acetone		(g/m s)					
			0	0.282	2.8200E-04	0.000291	3.180891	3.180891	
373.15	0.956740762								
366.15	0.950220895	0.01		0.329	3.2900E-04	0.000311	-5.61392	5.613918	
359.65	0.944437911	0.02		0.37	3.7000E-04	0.000331	-10.4362	10.43624	
354.45	0.938676043	0.03		0.407	4.0700E-04	0.00035	-13.9832	13.98318	
350.75	0.932634721	0.04		0.437	4.3700E-04	0.000365	-16.5574	16.5574	
348.15	0.926453829	0.05		0.462	4.6200E-04	0.000376	-18.6889	18.68887	
345.95	0.920537426	0.06		0.486	4.8600E-04	0.000386	-20.649	20.64896	
344.15	0.914813969	0.07		0.51	5.1000E-04	0.000394	-22.6726	22.6726	
342.65	0.909298721	0.08		0.532	5.3200E-04	0.000402	-24.4168	24.41679	
341.25	0.904100655	0.09		0.543	5.4300E-04	0.00041	-24.548	24.54798	
339.85	0.899265114	0.1		0.56	5.6000E-04	0.000418	-25.4224	25.42238	
338.85	0.888452827	0.125		0.576	5.7600E-04	0.000425	-26.2053	26.20535	
336.55	0.876374156	0.15		0.597	5.9700E-04	0.00044	-26.2847	26.28471	
335.85	0.866226725	0.175		0.595	5.9500E-04	0.000446	-24.974	24.97399	
335.35	0.856993901	0.2		0.591	5.9100E-04	0.000451	-23.6226	23.62256	
334.15	0.827441253	0.3		0.539	5.3900E-04	0.000462	-14.329	14.32897	
333.55	0.806073385	0.4		0.473	4.7300E-04	0.000457	-3.39774	3.39774	
332.95	0.790202777	0.5		0.403	4.0300E-04	0.000439	8.825211	8.825211	
332.45	0.777894406	0.6		0.34	3.4000E-04	0.000407	19.70682	19.70682	
331.95	0.768163408	0.7		0.304	3.0400E-04	0.000366	20.27469	20.27469	
331.35	0.760430835	0.8		0.268	2.6800E-04	0.000319	18.94141	18.94141	
330.55	0.754354421	0.9		0.246	2.4600E-04	0.000271	10.00826	10.00826	
329.35	0.749858827	1		0.231	2.3100E-04	0.000225	-2.6668	2.666798	

18.07419

Press. Temp. Pred. Density Mole Frac. Exp. Viscosity Exp. Viscosity η_{pred} %AD %AAD
 (DIPPR) (K) (g/cm³) (DIPPR units) (Pa s) (Pa s)
 ACETONE (1) - WATER (2)
 ACETONE (1) - WATER (2)

KK - OI

02403 Hazra, S. K.; Venkateswarlu, C.; Chem. Petro-Chem. J., 9, 29-34(1978)

P= 0.101 MPa

		Acetone		(g/m s)									
292.59	0.996682564	0	1.0158	1.0158E-03	0.000786	-22.6385	22.6385	20.18069					
292.59	0.933406103	0.1	1.2989	1.2989E-03	0.000808	-37.8168	37.81681						
292.59	0.911704842	0.15	1.3088	1.3088E-03	0.000819	-37.423	37.42299						
292.59	0.894116911	0.2	1.2832	1.2832E-03	0.000827	-35.5814	35.58143						
292.59	0.8673485	0.3	1.1205	1.1205E-03	0.000825	-26.3369	26.33694						
292.59	0.847939256	0.4	0.9557	9.5570E-04	0.000799	-16.4315	16.43149						
292.59	0.833218835	0.5	0.8136	8.1360E-04	0.000747	-8.20626	8.206259						
292.59	0.821673127	0.6	0.6332	6.3320E-04	0.000674	6.471026	6.471026						
292.59	0.812374575	0.7	0.5418	5.4180E-04	0.000588	8.46632	8.46632						
292.59	0.804725312	0.8	0.4642	4.6420E-04	0.000496	6.746755	6.746755						
292.59	0.798322279	0.9	0.3426	3.4260E-04	0.000405	18.32689	18.32689						
292.59	0.792883861	1	0.321	3.2100E-04	0.000323	0.643077	0.643077						
													20.18069
308.15	0.990891567	0	0.7361	7.3610E-04	0.000627	-14.6422	14.84218	21.79568					
308.15	0.923099366	0.1	1.2491	1.2491E-03	0.00064	-48.7914	48.7914						
308.15	0.88136417	0.2	1.1592	1.1592E-03	0.000655	-43.5046	43.50462						
308.15	0.853084613	0.3	0.9748	9.7480E-04	0.000657	-32.63	32.63002						
308.15	0.832656806	0.4	0.8427	8.4270E-04	0.00064	-24.1092	24.10918						
308.15	0.817209341	0.5	0.68	6.8000E-04	0.000603	-11.3684	11.3684						
308.15	0.805118788	0.6	0.5559	5.5590E-04	0.000549	-1.25524	1.255241						
308.15	0.795398147	0.7	0.4447	4.4470E-04	0.000483	8.676641	8.676641						
308.15	0.787412812	0.8	0.3537	3.5370E-04	0.000412	16.48707	16.48707						
308.15	0.780736186	0.9	0.312	3.1200E-04	0.000341	9.338595	9.338595						
308.15	0.775070912	1	0.2769	2.7690E-04	0.000275	-0.54997	0.54997						
													21.79568
313.71	0.988608827	0	0.6305	6.3050E-04	0.000581	-7.88779	7.887794						
313.71	0.919201349	0.1	0.9709	9.7090E-04	0.000591	-39.1417	39.14168						
313.71	0.876604362	0.2	0.9127	9.1270E-04	0.000605	-33.7316	33.73157						

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
ACETONE (1) - WATER (2)									
	313.71	0.847798085	0.3	0.7701	7.7010E-04	0.000607	-21.1454	21.14542	
	313.71	0.827018483	0.4	0.6621	6.6210E-04	0.000593	-10.502	10.502	
	313.71	0.811320937	0.5	0.5469	5.4690E-04	0.00056	2.372655	2.372655	
	313.71	0.799044217	0.6	0.4254	4.2540E-04	0.000511	20.2325	20.2325	
	313.71	0.769179887	0.7	0.3656	3.6560E-04	0.000452	23.59489	23.59489	
	313.71	0.78108075	0.8	0.3055	3.0550E-04	0.000387	26.58135	26.58135	
	313.71	0.774311698	0.9	0.2787	2.7870E-04	0.000322	15.36606	15.36606	
	313.71	0.768568997	1	0.2634	2.6340E-04	0.000261	-1.01879	1.018786	21.40757
	319.26	0.986215966	0	0.591	5.9100E-04	0.000539	-8.74207	8.742071	
	319.26	0.915193783	0.1	0.8311	8.3110E-04	0.000547	-34.1844	34.1844	
	319.26	0.871742398	0.2	0.7865	7.8650E-04	0.00056	-28.8367	28.83672	
	319.26	0.842416983	0.3	0.7191	7.1910E-04	0.000563	-21.7715	21.77146	
	319.26	0.821292203	0.4	0.6178	6.1780E-04	0.00055	-10.9785	10.97853	
	319.26	0.805350156	0.5	0.5064	5.0640E-04	0.000521	2.867288	2.867288	
	319.26	0.792891952	0.6	0.4092	4.0920E-04	0.000477	16.63782	16.63782	
	319.26	0.782888087	0.7	0.351	3.5100E-04	0.000423	20.53643	20.53643	
	319.26	0.774678318	0.8	0.2912	2.9120E-04	0.000363	24.80866	24.80866	
	319.26	0.76781973	0.9	0.268	2.6800E-04	0.000303	13.22104	13.22104	
	319.26	0.762004116	1	0.251	2.5100E-04	0.000247	-1.5381	1.538099	19.31582

ACETONE (1) - WATER (2)

KK - OI

00272 Dizzechi, M.; Marschell, E.; J. Chem. Eng. Data, 27(3), 358-363(1982)

P= 0.102 MPa

Acetone		Acetone		Acetone		Acetone		Acetone	
293.1	0.996506511	0	1.0032	1.0032E-03	0.00078	-22.2665	22.26654	293.1	0.972714058
293.1	0.972714058	0.0315	1.2528	1.2528E-03	0.000785	-37.3478	37.3478	293.1	0.955890256
293.1	0.955890256	0.0577	1.405	1.4050E-03	0.000791	-43.7144	43.71439	293.1	0.935739086
293.1	0.935739086	0.0946	1.5429	1.5429E-03	0.0008	-48.1504	48.15037	293.1	0.911920903
293.1	0.911920903	0.1485	1.5894	1.5894E-03	0.000812	-48.8958	48.89578		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
ACETONE (1) - WATER (2)									
	293.1	0.892849581	0.2024	1.5196	1.5196E-03	0.00082	-46.014	46.01401	
	293.1	0.873599026	0.2716	1.3363	1.3363E-03	0.000822	-38.5004	38.50041	
	293.1	0.853338161	0.3665	1.0582	1.0582E-03	0.000804	-23.9835	23.98349	
	293.1	0.832847413	0.4989	0.7626	7.6260E-04	0.000742	-2.68272	2.682723	
	293.1	0.821171469	0.5997	0.6054	6.0540E-04	0.00067	10.63116	10.63116	
	293.1	0.812796719	0.6886	0.5015	5.0150E-04	0.000594	18.44863	18.44863	
	293.1	0.810243227	0.7192	0.4652	4.6520E-04	0.000566	21.76562	21.76562	
	293.1	0.805516106	0.781	0.4237	4.2370E-04	0.00051	20.33635	20.33635	
	293.1	0.801223559	0.8438	0.3842	3.8420E-04	0.000453	17.81587	17.81587	
	293.1	0.797158774	0.9102	0.3525	3.5250E-04	0.000394	11.84964	11.84964	
	293.1	0.793123996	0.984	0.3237	3.2370E-04	0.000334	3.093505	3.093505	26.21532
	298.1	0.99473147	0	0.8923	8.9230E-04	0.000724	-18.8809	18.88093	
	298.1	0.951883101	0.0598	1.2341	1.2341E-03	0.000733	-40.582	40.58203	
	298.1	0.927307462	0.1052	1.3665	1.3665E-03	0.000743	-45.6017	45.60172	
	298.1	0.905502233	0.1555	1.3715	1.3715E-03	0.000754	-45.0587	45.05871	
	298.1	0.885261233	0.214	1.3076	1.3076E-03	0.000761	-41.7943	41.79432	
	298.1	0.867394267	0.2789	1.1525	1.1525E-03	0.000762	-33.9037	33.90375	
	298.1	0.846876683	0.3758	0.9289	9.2890E-04	0.000745	-19.8175	19.81753	
	298.1	0.827050179	0.5044	0.6874	6.8740E-04	0.000689	0.194052	0.194052	
	298.1	0.815063306	0.6079	0.5482	5.4820E-04	0.00062	13.13259	13.13259	
	298.1	0.807380616	0.689	0.4668	4.6680E-04	0.000557	19.2531	19.2531	
	298.1	0.803275168	0.7384	0.4287	4.2870E-04	0.000516	20.27694	20.27694	
	298.1	0.799231466	0.792	0.3919	3.9190E-04	0.00047	20.01757	20.01757	
	298.1	0.795258409	0.8502	0.3587	3.5870E-04	0.000422	17.5137	17.5137	
	298.1	0.791192089	0.9164	0.3299	3.2990E-04	0.000368	11.50783	11.50783	
	298.1	0.787464202	0.984	0.308	3.0800E-04	0.000316	2.754394	2.754394	23.67202
	303.1	0.992866803	0	0.8005	8.0050E-04	0.000673	-15.9041	15.90413	
	303.1	0.949034952	0.0598	1.0885	1.0885E-03	0.000681	-37.4592	37.45921	
	303.1	0.923939501	0.1052	1.1922	1.1922E-03	0.00069	-42.148	42.14796	
	303.1	0.901700014	0.1555	1.2009	1.2009E-03	0.000699	-41.7872	41.78724	
	303.1	0.88107855	0.214	1.1464	1.1464E-03	0.000706	-38.3824	38.38243	
	303.1	0.86289383	0.2789	1.026	1.0260E-03	0.000708	-31.0316	31.03161	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%D	%AD	%AAD
ACETONE (1) - WATER (2)									
303.1	0.842032242	0.3758	0.8344	8.3440E-04	0.000693	-16.9263	16.92632		
303.1	0.821894502	0.5044	0.6307	6.3070E-04	0.000643	1.950066	1.950066		
303.1	0.809729546	0.6079	0.5073	5.0730E-04	0.000581	14.476	14.476		
303.1	0.80193671	0.689	0.4359	4.3590E-04	0.000523	19.8926	19.8926		
303.1	0.797773701	0.7384	0.4032	4.0320E-04	0.000485	20.26176	20.26176		
303.1	0.793674132	0.792	0.3691	3.6910E-04	0.000443	20.06697	20.06697		
303.1	0.789647046	0.8502	0.3403	3.4030E-04	0.000398	16.96524	16.96524		
303.1	0.78552629	0.9164	0.3149	3.1490E-04	0.000348	10.59838	10.59838		
303.1	0.781749264	0.984	0.2948	2.9480E-04	0.0003	1.922474	1.922474		22.41916
311	0.98973568	0	0.6852	6.8520E-04	0.000603	-12.0521	12.05212		
311	0.944346359	0.0598	0.9038	9.0380E-04	0.000608	-32.7784	32.77839		
311	0.91843237	0.1052	0.8851	9.8510E-04	0.000615	-37.581	37.58102		
311	0.895511864	0.1555	0.9844	9.9440E-04	0.000623	-37.3448	37.34478		
311	0.874296075	0.214	0.9534	9.5340E-04	0.00063	-33.9379	33.93787		
311	0.855616844	0.2789	0.8566	8.5660E-04	0.000632	-26.2555	26.25554		
311	0.834222016	0.3758	0.7149	7.1490E-04	0.00062	-13.2071	13.20706		
311	0.813603987	0.5044	0.552	5.5200E-04	0.000578	4.767824	4.767824		
311	0.801165252	0.6079	0.4536	4.5360E-04	0.000525	15.67724	15.67724		
311	0.793203499	0.689	0.394	3.9400E-04	0.000474	20.32806	20.32806		
311	0.78895232	0.7384	0.365	3.6500E-04	0.000441	20.83092	20.83092		
311	0.78476733	0.792	0.3379	3.3790E-04	0.000404	19.64703	19.64703		
311	0.780657689	0.8502	0.3135	3.1350E-04	0.000364	16.22143	16.22143		
311	0.776453852	0.9164	0.2909	2.9090E-04	0.00032	10.04055	10.04055		
311	0.77260191	0.984	0.2735	2.7350E-04	0.000277	1.416211	1.416211		20.71671
323.1	0.984492835	0	0.5514	5.5140E-04	0.000513	-8.95485	6.954845		
323.1	0.936705678	0.0598	0.7055	7.0550E-04	0.000515	-27.057	27.05703		
323.1	0.909542883	0.1052	0.7571	7.5710E-04	0.00052	-31.3419	31.34193		
323.1	0.88559021	0.1555	0.765	7.6500E-04	0.000526	-31.2076	31.20759		
323.1	0.863479311	0.214	0.7457	7.4570E-04	0.000532	-28.6371	28.63708		
323.1	0.844059785	0.2789	0.6721	6.7210E-04	0.000534	-20.4738	20.47383		
323.1	0.821871821	0.3758	0.5794	5.7940E-04	0.000527	-9.05583	9.055826		
323.1	0.800544594	0.5044	0.4606	4.6060E-04	0.000494	7.349154	7.349154		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
ACETONE (1) - WATER (2)									
	323.1	0.787704092	0.6079	0.3852	3.8520E-04	0.000452	17.24362	17.24362	
	323.1	0.779495456	0.689	0.3401	3.4010E-04	0.00041	20.68455	20.68455	
	323.1	0.775115734	0.7384	0.3174	3.1740E-04	0.000383	20.77838	20.77838	
	323.1	0.770806432	0.792	0.2976	2.9760E-04	0.000353	18.60996	18.60996	
	323.1	0.766576868	0.8502	0.2773	2.7730E-04	0.00032	15.30666	15.30666	
	323.1	0.76225256	0.9164	0.2601	2.6010E-04	0.000283	8.66443	8.66443	
	323.1	0.758292187	0.984	0.2461	2.4610E-04	0.000247	0.166067	0.166067	18.32758

ACETONE (1) - WATER (2)

KK - OI

00322 Konobeev, B. I.; Lyapin, V. V.; J. Appl. Chem. USSR, 43(4), 806-813(1970)

P= 1 atm

		Acetone (10 ⁻⁶ N s/m ²)							
		Acetone							
293.15	0.998489202	0	1002	1.0020E-03	0.000779	-22.2342	22.23417		
293.15	0.952153123	0.064	1447	1.4470E-03	0.000792	-45.2843	45.28426		
293.15	0.948728908	0.07	1470	1.4700E-03	0.000793	-46.0395	46.03949		
293.15	0.94761037	0.072	1479	1.4790E-03	0.000794	-46.3342	46.3342		
293.15	0.908611858	0.157	1569	1.5690E-03	0.000813	-48.1685	48.16851		
293.15	0.903822714	0.17	1567	1.5670E-03	0.000815	-47.959	47.95898		
293.15	0.903108057	0.172	1566	1.5660E-03	0.000816	-47.9053	47.90532		
293.15	0.878832845	0.251	1444	1.4440E-03	0.000822	-43.079	43.07897		
293.15	0.86821422	0.294	1316	1.3160E-03	0.000819	-37.7522	37.75223		
293.15	0.848415355	0.394	988	9.8800E-04	0.000794	-19.5929	19.59293		
293.15	0.846899404	0.403	465	4.6500E-04	0.000791	70.09272	70.09272		
293.15	0.82938627	0.526	709	7.0900E-04	0.000724	2.114663	2.114663		
293.15	0.823197485	0.58	622	6.2200E-04	0.000685	10.09489	10.09489		
293.15	0.808459156	0.741	439	4.3900E-04	0.000546	24.42507	24.42507		
293.15	0.805533829	0.78	411	4.1100E-04	0.00051	24.2015	24.2015		
293.15	0.800260677	0.858	372	3.7200E-04	0.00044	18.19009	18.19009		
293.15	0.792251985	1	325	3.2500E-04	0.000321	-1.1832	1.1832		35.41559

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
ACETONE (1) - WATER (2)									
	313,15	0.988843907	0	656	6.5600E-04	0.000585	-10.794	10.79395	
	313,15	0.940351112	0.064	872	8.7200E-04	0.00059	-32.3347	32.33469	
	313,15	0.936625056	0.07	865	8.8500E-04	0.000591	-33.2321	33.23215	
	313,15	0.935408513	0.072	887	8.8700E-04	0.000591	-33.3497	33.34971	
	313,15	0.893174811	0.157	939	9.3900E-04	0.000604	-35.6283	35.62831	
	313,15	0.888012628	0.17	933	9.3300E-04	0.000606	-35.025	35.02502	
	313,15	0.887242756	0.172	932	9.3200E-04	0.000606	-34.9276	34.9276	
	313,15	0.861161667	0.251	855	8.5500E-04	0.000613	-26.3261	28.32606	
	313,15	0.849795455	0.294	799	7.9900E-04	0.000612	-23.362	23.362	
	313,15	0.828671121	0.394	673	6.7300E-04	0.000599	-11.0684	11.06837	
	313,15	0.827057342	0.403	664	6.6400E-04	0.000596	-10.1867	10.18668	
	313,15	0.808451625	0.526	526	5.2600E-04	0.000553	5.068658	5.068658	
	313,15	0.801893244	0.58	471	4.7100E-04	0.000526	11.86578	11.86578	
	313,15	0.786309291	0.741	346	3.4600E-04	0.000428	23.78318	23.78318	
	313,15	0.783221895	0.78	330	3.3000E-04	0.000402	21.96229	21.96229	
	313,15	0.77766142	0.858	306	3.0600E-04	0.000351	14.61334	14.61334	
	313,15	0.769228187	1	273	2.7300E-04	0.000262	-3.9768	3.976799	23.63559
	333,15	0.979717812	0	469	4.6900E-04	0.000452	-3.56665	3.566653	
	333,15	0.927025548	0.064	594	5.9400E-04	0.000452	-23.9415	23.94155	
	333,15	0.922998553	0.07	600	6.0000E-04	0.000452	-24.6364	24.6364	
	333,15	0.921684423	0.072	603	6.0300E-04	0.000452	-24.9878	24.98785	
	333,15	0.876265776	0.157	632	6.3200E-04	0.000461	-27.1271	27.12711	
	333,15	0.870741219	0.17	630	6.3000E-04	0.000462	-26.6923	26.69227	
	333,15	0.869917804	0.172	629	6.2900E-04	0.000462	-26.5453	26.54532	
	333,15	0.842099235	0.251	580	5.8000E-04	0.000467	-19.4104	19.4104	
	333,15	0.83002209	0.294	549	5.4900E-04	0.000468	-14.7768	14.77682	
	333,15	0.80765063	0.394	466	4.8600E-04	0.00046	-5.32258	5.322582	
	333,15	0.805945528	0.403	475	4.7500E-04	0.000459	-3.41317	3.413175	19.88535

ACETONE (1) - WATER (2)
KK - OI

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
ACETONE (1) - WATER (2)									
00344 Mato, F.; Hernandez, J. L.; An. R. Soc. Esp. Fis. Quim. Ser. B, 65, 9-18(1969)									
P= 1 atm									
Acetone (cP)									
288.15	0.998176407	0	1.14	1.1400E-03	0.000841	-26.2139	26.21394		
288.15	0.984942877	0.047	1.523	1.5230E-03	0.000851	-44.0933	44.09328		
288.15	0.938594924	0.095	1.796	1.7960E-03	0.000865	-51.8529	51.85295		
288.15	0.925378192	0.124	1.844	1.8440E-03	0.000872	-52.6952	52.69522		
288.15	0.91412733	0.152	1.836	1.8360E-03	0.000879	-52.1457	52.14573		
288.15	0.900149764	0.192	1.743	1.7430E-03	0.000885	-49.2181	49.21809		
288.15	0.865343981	0.328	1.27	1.2700E-03	0.000878	-30.8846	30.88461		
288.15	0.838957378	0.49	0.821	8.2100E-04	0.000803	-2.23548	2.235482		
288.15	0.818200497	0.687	0.527	5.2700E-04	0.000635	20.57329	20.57329		
288.15	0.80626717	0.85	0.423	4.2300E-04	0.000474	12.12159	12.12159		
288.15	0.797670617	1	0.348	3.4800E-04	0.000339	-2.64792	2.647922		35.09114
293.15	0.996489202	0	1.005	1.0050E-03	0.000779	-22.4663	22.46631		
293.15	0.962451196	0.047	1.328	1.3280E-03	0.000786	-40.6867	40.68665		
293.15	0.935508639	0.095	1.549	1.5490E-03	0.000799	-48.3882	48.38817		
293.15	0.922007999	0.124	1.586	1.5860E-03	0.000806	-49.1546	49.15459		
293.15	0.910523009	0.152	1.588	1.5880E-03	0.000812	-48.8477	48.84767		
293.15	0.89626423	0.192	1.504	1.5040E-03	0.000819	-45.5721	45.57208		
293.15	0.860804639	0.328	1.129	1.1290E-03	0.000814	-27.93	27.92997		
293.15	0.833966449	0.49	0.746	7.4600E-04	0.000747	0.14393	0.14393		
293.15	0.812860983	0.687	0.497	4.9700E-04	0.000595	19.73028	19.73028		
293.15	0.800769357	0.85	0.404	4.0400E-04	0.000447	10.59808	10.59808		
293.15	0.792251985	1	0.326	3.2600E-04	0.000321	-1.48632	1.486319		32.33905
303.15	0.992847701	0	0.801	8.0100E-04	0.000673	-16.0167	16.01674		
303.15	0.957197036	0.047	1.027	1.0270E-03	0.000678	-33.9822	33.98223		
303.15	0.929069435	0.095	1.179	1.1790E-03	0.000667	-41.7175	41.71754		
303.15	0.915005253	0.124	1.214	1.2140E-03	0.000693	-42.924	42.92404		
303.15	0.903056722	0.152	1.212	1.2120E-03	0.000698	-42.4112	42.41116		
303.15	0.888242704	0.192	1.148	1.1480E-03	0.000704	-38.7011	38.70112		
303.15	0.85149926	0.328	0.901	9.0100E-04	0.000702	-22.0493	22.04935		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
ACETONE (1) - WATER (2)									
	303.15	0.823780939	0.49	0.625	6.2500E-04	0.00065	3.97021	3.97021	
	303.15	0.802059097	0.687	0.435	4.3500E-04	0.000524	20.40998	20.40998	
	303.15	0.789603788	0.85	0.367	3.6700E-04	0.000398	8.436011	8.436011	
	303.15	0.780854255	1	0.303	3.0300E-04	0.00029	-4.43564	4.435639	28.28907
	313.15	0.988843907	0	0.656	6.5600E-04	0.000585	-10.794	10.79395	
	313.15	0.951573477	0.047	0.826	8.2600E-04	0.000588	-28.8295	28.82946	
	313.15	0.922285089	0.095	0.929	9.2900E-04	0.000595	-35.9793	35.97929	
	313.15	0.90764251	0.124	0.945	9.4500E-04	0.000599	-36.5676	36.56758	
	313.15	0.895236301	0.152	0.955	9.5500E-04	0.000604	-36.7818	36.78181	
	313.15	0.879876128	0.192	0.908	9.0800E-04	0.000609	-32.9483	32.9483	
	313.15	0.841878415	0.328	0.737	7.3700E-04	0.00061	-17.274	17.27401	
	313.15	0.813310874	0.49	0.536	5.3600E-04	0.000568	5.986899	5.986899	
	313.15	0.790979722	0.687	0.386	3.8600E-04	0.000483	19.99213	19.99213	
	313.15	0.778197546	0.85	0.333	3.3300E-04	0.000356	6.901394	6.901394	
	313.15	0.769228187	1	0.283	2.8300E-04	0.000262	-7.36985	7.369845	24.58454
	323.15	0.984470031	0	0.549	5.4900E-04	0.000513	-6.60825	6.608246	
	323.15	0.945569545	0.047	0.746	7.4600E-04	0.000513	-31.203	31.20301	
	323.15	0.915082707	0.095	0.834	8.3400E-04	0.000518	-37.8695	37.86949	
	323.15	0.899906067	0.124	0.853	8.5300E-04	0.000522	-38.8157	38.8157	
	323.15	0.887047419	0.152	0.859	8.5900E-04	0.000525	-38.8269	38.82692	
	323.15	0.871149469	0.192	0.808	8.0800E-04	0.00053	-34.417	34.41702	
	323.15	0.831928527	0.328	0.682	6.8200E-04	0.000532	-21.9805	21.98051	
	323.15	0.802538617	0.49	0.499	4.9900E-04	0.000499	-5.4E-05	5.43E-05	
	323.15	0.779624386	0.687	0.367	3.6700E-04	0.000411	12.07472	12.07472	
	323.15	0.766531668	0.85	0.32	3.2000E-04	0.00032	-0.09684	0.096839	
	323.15	0.757354464	1	0.276	2.7600E-04	0.000238	-13.6963	13.69635	23.92047

ACETONE (1) - WATER (2)

KK - OI Values were said to be mol% but as mol frac. (JW)
00178 Noda, K.; Ohashi, M.; Ishida, K.; J. Chem. Eng. Data, 27(3), 326-328(1982)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
ACETONE (1) - WATER (2)									
P= 1 atm									
Acetone (g m/s)									
298.15	0.984713268	0	0.8904	8.9040E-04	0.000723	-18.7675	18.76755		
298.15	0.95276659	0.0583	1.207	1.2070E-03	0.000732	-39.3199	39.31992		
298.15	0.909226924	0.146	1.3724	1.3724E-03	0.000751	-45.2619	45.26188		
298.15	0.887852284	0.2056	1.2885	1.2885E-03	0.00076	-41.032	41.03199		
298.15	0.861881824	0.302	1.0872	1.0872E-03	0.000759	-30.1719	30.17188		
298.15	0.833154573	0.4597	0.7486	7.4860E-04	0.000712	-4.91268	4.912678		
298.15	0.824181984	0.5266	0.6479	6.4790E-04	0.000675	4.196391	4.196391		
298.15	0.813971243	0.6181	0.5101	5.1010E-04	0.000612	20.01071	20.01071		
298.15	0.800795729	0.7699	0.3961	3.9610E-04	0.000489	23.38952	23.38952		
298.15	0.797248284	0.8195	0.3811	3.8110E-04	0.000447	17.26488	17.26488		
298.15	0.78658055	1	0.3013	3.0130E-04	0.000305	1.156556	1.156556		25.06221

ACETONE (1) - WATER (2)

KK - OI

00213 Fort, R. J.; Moore, W. R.; Trans. Faraday Soc., 62, 1112-1119(1966)

P= 1 atm

Acetone (mP)									
298.15	0.994713268	0	9.03	9.0300E-04	0.000723	-19.901	19.90102		
298.15	0.88965406	0.2	13.43	1.3430E-03	0.000759	-43.4663	43.46626		
298.15	0.842559705	0.4	8.8	8.8000E-04	0.000737	-16.2984	16.29838		
298.15	0.815830794	0.6	5.43	5.4300E-04	0.000626	15.2087	15.2087		
298.15	0.798605617	0.8	3.72	3.7200E-04	0.000463	24.54635	24.54635		
298.15	0.78658055	1	3.02	3.0200E-04	0.000305	0.922087	0.922087		24.87992

ACETONE (1) - WATER (2)

KK - OI

00645 Jones, H. C.; Mahlin, E. G.; Z. Phys. Chem. Stoechiom. Verwandtschaftsl., 69, 389-418(1909)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
ACETONE (1) - WATER (2)									
P= 1 atm									
Acetone (P)									
273.15	1.00271436	0	0.01778	1.7780E-03	0.001072	-39.7135	39.71348		
273.15	0.895477615	0.25	0.02908	2.9080E-03	0.001132	-61.0891	61.08906		
273.15	0.852318129	0.5	0.03005	3.0050E-03	0.000995	-66.9017	66.90165		
273.15	0.829015288	0.75	0.01659	1.6590E-03	0.000699	-57.8842	57.8842		
273.15	0.814428501	1	0.00429	4.2900E-04	0.000401	-6.61621	6.616208		61.95631
298.15	0.994713268	0	0.00891	8.9100E-04	0.000723	-18.8223	18.82225		
298.15	0.874809023	0.25	0.0125	1.2500E-03	0.000762	-39.039	39.03903		
298.15	0.827575287	0.5	0.01305	1.3050E-03	0.000691	-47.0686	47.06858		
298.15	0.802311025	0.75	0.00865	8.8500E-04	0.000506	-42.8761	42.87615		
298.15	0.78658055	1	0.00346	3.4600E-04	0.000305	-11.9119	11.91194		42.99459

ACETONE (1) - WATER (2)

KK - OJ Units not published and were surmised from values for pure components.
01238 Subnlis, S. W.; Bhagwat, W. V.; Kanugo, R. B.; J. Indian Chem. Soc. 25(12), 575-578(1948)

P= 1 atm									
Acetone (10-3 P)									
303.15	0.992847701	0	8.004	8.0040E-04	0.000673	-15.9538	15.95379		
303.15	0.916007857	0.1218	11.62	1.1620E-03	0.000692	-40.4064	40.40637		
303.15	0.895350233	0.172	11.16	1.1160E-03	0.000701	-37.1766	37.17665		
303.15	0.85495977	0.3122	9.287	9.2870E-04	0.000704	-24.1486	24.14861		
303.15	0.843427315	0.3681	8.397	8.3970E-04	0.000695	-17.2838	17.28377		
303.15	0.810063987	0.6042	5.28	5.2600E-04	0.000583	10.80735	10.80735		
303.15	0.795275207	0.7697	4.16	4.1600E-04	0.00046	10.64709	10.64709		
303.15	0.780854255	1	3.39	3.3900E-04	0.00029	-14.5841	14.58407		23.41164
313.15	0.988843907	0	6.536	6.5360E-04	0.000585	-10.4664	10.46639		
313.15	0.908684215	0.1218	8.966	8.9660E-04	0.000599	-33.1827	33.18267		
313.15	0.887242756	0.172	8.596	8.5960E-04	0.000606	-29.4469	29.44686		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
ACETONE (1) - WATER (2)									
	313,15	0.845451811	0.3122	7.082	7.0820E-04	0.000611	-13.6997	13.69973	
	313,15	0.833551444	0.3681	6.751	6.7510E-04	0.000604	-10.5526	10.55261	
	313,15	0.798203341	0.6042	4.571	4.5710E-04	0.000513	12.17487	12.17487	
	313,15	0.784015769	0.7697	3.565	3.5650E-04	0.000409	14.81643	14.81643	
	313,15	0.769228187	1	3.089	3.0890E-04	0.000262	-15.1365	15.1365	18.97887
	323,15	0.984470031	0	5.492	5.4920E-04	0.000513	-6.64226	6.642256	
	323,15	0.900986499	0.1218	7.087	7.0870E-04	0.000522	-26.3983	26.39833	
	323,15	0.878770923	0.172	6.847	6.8470E-04	0.000528	-22.9107	22.91074	
	323,15	0.835609605	0.3122	6.027	6.0270E-04	0.000533	-11.5415	11.54152	
	323,15	0.823352357	0.3681	5.547	5.5470E-04	0.000528	-4.86535	4.865351	
	323,15	0.788056723	0.6042	4.055	4.0550E-04	0.000453	11.7357	11.7357	
	323,15	0.772489153	0.7697	3.421	3.4210E-04	0.000365	6.835833	6.835833	
	323,15	0.757354464	1	2.671	2.6710E-04	0.000238	-17.0331	17.03306	14.04791
Average Error for Temp.									
Total Error for All T _i									
							kij	lij	
							1.21936	1.014807	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
ACETIC ACID (1) - ACETONE (2)									
AC - KK									
(From Irving, NEL Report, 1977 - Howard, 1959)									
P= 0.101 MPa									
%AAD= 2.345622									
			Acetic Acid	(cP)					
	293.15	0.792251985	0	0.316	3.1600E-04	0.000321	1.631202	1.631202	
	293.15	0.812630802	0.1	0.367	3.6700E-04	0.000371	1.092466	1.092466	
	293.15	0.833937144	0.2	0.427	4.2700E-04	0.00043	0.709078	0.709078	
	293.15	0.856235808	0.3	0.492	4.9200E-04	0.000499	1.380578	1.380578	
	293.15	0.879597774	0.4	0.554	5.5400E-04	0.000578	4.249803	4.249803	
	293.15	0.904100951	0.5	0.649	6.4900E-04	0.000666	2.622086	2.622086	
	293.15	0.929831056	0.6	0.747	7.4700E-04	0.000763	2.180095	2.180095	
	293.15	0.956882606	0.7	0.859	8.5900E-04	0.000868	1.006116	1.006116	
	293.15	0.985360085	0.8	0.992	9.9200E-04	0.000977	-1.55407	1.554072	
	293.15	1.015379289	0.9	1.133	1.1330E-03	0.001087	-4.06566	4.065664	
	293.15	1.047068901	1	1.23	1.2300E-03	0.001195	-2.82803	2.828032	2.095551
	298.15	0.78658055	0	0.302	3.0200E-04	0.000305	0.922087	0.922087	
	298.15	0.806964553	0.1	0.35	3.5000E-04	0.000351	0.231735	0.231735	
	298.15	0.82828448	0.2	0.4	4.0000E-04	0.000405	1.301246	1.301246	
	298.15	0.850606307	0.3	0.456	4.5600E-04	0.000468	2.737089	2.737089	
	298.15	0.874002356	0.4	0.528	5.2800E-04	0.000541	2.433212	2.433212	
	298.15	0.898552083	0.5	0.608	6.0800E-04	0.000622	2.312483	2.312483	
	298.15	0.92434298	0.6	0.701	7.0100E-04	0.000711	1.467186	1.467186	
	298.15	0.951471611	0.7	0.801	8.0100E-04	0.000807	0.749009	0.749009	
	298.15	0.980044829	0.8	0.926	9.2600E-04	0.000907	-2.05429	2.054289	
	298.15	1.010181173	0.9	1.049	1.0490E-03	0.001008	-3.86874	3.868738	
	298.15	1.042012521	1	1.136	1.1360E-03	0.001108	-2.44051	2.440512	1.90611
	310.95	0.771806457	0	0.268	2.6800E-04	0.000268	-0.05417	0.054171	
	310.95	0.792203503	0.1	0.307	3.0700E-04	0.000306	-0.46159	0.461585	
	310.95	0.813558909	0.2	0.35	3.5000E-04	0.00035	-0.00068	0.000677	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	310.95	0.835941841	0.3	0.4	4.0000E-04	0.000401	0.370123	0.370123	
	310.95	0.859428288	0.4	0.457	4.5700E-04	0.00046	0.696157	0.696157	
	310.95	0.884101921	0.5	0.52	5.2000E-04	0.000526	1.136928	1.136928	
	310.95	0.910055088	0.6	0.6	6.0000E-04	0.000598	-0.32565	0.325654	
	310.95	0.93738997	0.7	0.68	6.8000E-04	0.000675	-0.66866	0.668662	
	310.95	0.966219925	0.8	0.763	7.6300E-04	0.000757	-0.85174	0.85174	
	310.95	0.996671061	0.9	0.864	8.6400E-04	0.000839	-2.87311	2.873106	
	310.95	1.02888408	1	0.938	9.3800E-04	0.000921	-1.77279	1.772788	0.820515
	323.25	0.757234404	0	0.241	2.4100E-04	0.000238	-1.25555	1.255548	
	323.25	0.777643873	0.1	0.277	2.7700E-04	0.000269	-2.75274	2.752745	
	323.25	0.799034668	0.2	0.317	3.1700E-04	0.000306	-3.39847	3.398466	
	323.25	0.821479309	0.3	0.357	3.5700E-04	0.000349	-2.29	2.289997	
	323.25	0.845057641	0.4	0.407	4.0700E-04	0.000397	-2.38636	2.386361	
	323.25	0.869857786	0.5	0.455	4.5500E-04	0.000451	-0.77381	0.773807	
	323.25	0.895977238	0.6	0.517	5.1700E-04	0.000511	-1.17278	1.172784	
	323.25	0.923524152	0.7	0.587	5.8700E-04	0.000575	-2.0738	2.073803	
	323.25	0.952618832	0.8	0.653	6.5300E-04	0.000642	-1.69056	1.690557	
	323.25	0.983395496	0.9	0.727	7.2700E-04	0.000711	-2.21365	2.213649	
	323.25	1.01600434	1	0.798	7.9800E-04	0.00078	-2.22452	2.224515	2.083574

ACETIC ACID (1) - ACETONE (2)

AC - KK

(From Irving, NEL Report, 1977 - Kendall, 1921)

P= 0.101 MPa

	Acetic Acid	(cP)
298.15	0.78658055	0
298.15	0.806964553	0.1
298.15	0.82828448	0.2
298.15	0.850606307	0.3

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	298.15	0.874002356	0.4	0.52	5.2000E-04	0.000541	4.009107	4.009107	
	298.15	0.898552083	0.5	0.607	6.0700E-04	0.000622	2.481037	2.481037	
	298.15	0.92434298	0.6	0.7	7.0000E-04	0.000711	1.612139	1.612139	
	298.15	0.951471611	0.7	0.807	8.0700E-04	0.000807	-5.4E-05	5.39E-05	
	298.15	0.980044829	0.8	0.92	9.2000E-04	0.000907	-1.41551	1.415512	
	298.15	1.010181173	0.9	1.027	1.0270E-03	0.001008	-1.80945	1.809451	
	298.15	1.042012521	1	1.127	1.1270E-03	0.001108	-1.66142	1.661421	1.730062

ACETIC ACID (1) - ACETONE (2)

AC - KK

(From Irving, NEL Report, 1977 - Odovenko, 1939)

P= 0.101 MPa

	Acetic Acid	(cP)							
298.15	0.78658055	0	0.33	3.3000E-04	0.000305	-7.641	7.640999		
298.15	0.806964553	0.1	0.37	3.7000E-04	0.000351	-5.1862	5.186197		
298.15	0.82828448	0.2	0.425	4.2500E-04	0.000405	-4.65765	4.657651		
298.15	0.850606307	0.3	0.488	4.8800E-04	0.000468	-3.99977	3.999769		
298.15	0.874002356	0.4	0.56	5.6000E-04	0.000541	-3.42011	3.420115		
298.15	0.898552083	0.5	0.648	6.4800E-04	0.000622	-4.0031	4.003103		
298.15	0.92434298	0.6	0.75	7.5000E-04	0.000711	-5.162	5.162003		
298.15	0.951471611	0.7	0.862	8.6200E-04	0.000807	-6.38056	6.380561		
298.15	0.980044829	0.8	0.982	9.8200E-04	0.000907	-7.63979	7.639788		
298.15	1.010181173	0.9	1.102	1.1020E-03	0.001008	-8.49211	8.492111		
298.15	1.042012521	1	1.209	1.2090E-03	0.001108	-8.3312	8.331201		5.437922
Average Error for Temp.									

Total Error for All Temp.

FORMIC ACID (1) - ACETONE (2)

kij

1.174989

kij

0.973985

126.6636

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
AC - KK									
(From Irving, NEL Report, 1977 - Odovenko, 1939)									
P= 0.101 MPa									
Formic Acid (cP)									
	298.15	0.78658055	0	0.317	3.1700E-04	0.000305	-3.85341	3.853406	%AAD= 1.687849
	298.15	0.809635698	0.1	0.353	3.5300E-04	0.000351	-0.65214	0.652144	
	298.15	0.835175328	0.2	0.393	3.9300E-04	0.000404	2.731961	2.731961	
	298.15	0.863623915	0.3	0.447	4.4700E-04	0.000466	4.191375	4.191375	
	298.15	0.895508463	0.4	0.518	5.1800E-04	0.000539	4.105658	4.105658	
	298.15	0.931491464	0.5	0.608	6.0800E-04	0.000628	3.290309	3.290309	
	298.15	0.972417419	0.6	0.718	7.1800E-04	0.000737	2.685612	2.685612	
	298.15	1.019379956	0.7	0.862	8.6200E-04	0.000875	1.505975	1.505975	
	298.15	1.073821014	0.8	1.05	1.0500E-03	0.001053	0.28283	0.28283	
	298.15	1.1376815	0.9	1.3	1.3000E-03	0.00129	-0.80587	0.805873	
	298.15	1.213637564	1	1.627	1.6270E-03	0.001614	-0.82512	0.825121	2.250193
	308.15	0.775070912	0	0.291	2.9100E-04	0.000275	-5.36868	5.368683	1.312671
	308.15	0.79798435	0.1	0.324	3.2400E-04	0.000315	-2.9102	2.910201	
	308.15	0.823380125	0.2	0.364	3.6400E-04	0.000359	-1.2661	1.266105	
	308.15	0.851684724	0.3	0.408	4.0800E-04	0.000411	0.794772	0.794772	
	308.15	0.883428273	0.4	0.466	4.6600E-04	0.000472	1.308992	1.308992	
	308.15	0.919278044	0.5	0.538	5.3800E-04	0.000545	1.262357	1.262357	
	308.15	0.960085681	0.6	0.634	6.3400E-04	0.000633	-0.08888	0.08888	
	308.15	1.006956754	0.7	0.752	7.5200E-04	0.000744	-1.04596	1.045962	
	308.15	1.061350321	0.8	0.904	9.0400E-04	0.000886	-1.98198	1.98198	
	308.15	1.125235671	0.9	1.086	1.0860E-03	0.001073	-1.15479	1.154788	
	308.15	1.201334802	1	1.304	1.3040E-03	0.001329	1.89597	1.89597	
	318.15	0.763323592	0	0.265	2.6500E-04	0.00025	-5.74516	5.745162	
	318.15	0.786092283	0.1	0.295	2.9500E-04	0.000283	-3.92045	3.920449	
	318.15	0.811341345	0.2	0.328	3.2800E-04	0.000322	-1.96224	1.962235	
	318.15	0.839499435	0.3	0.368	3.6800E-04	0.000365	-0.749	0.749002	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	318.15	0.871100022	0.4	0.416	4.1600E-04	0.000416	-8.7E-05	8.7E-05	
	318.15	0.908815508	0.5	0.476	4.7600E-04	0.000476	0.005247	0.005247	
	318.15	0.947505805	0.6	0.55	5.5000E-04	0.000549	-0.26811	0.268115	
	318.15	0.994287443	0.7	0.646	6.4600E-04	0.000638	-1.19786	1.19786	
	318.15	1.048639704	0.8	0.776	7.7600E-04	0.000752	-3.03737	3.037366	
	318.15	1.112561778	0.9	0.924	9.2400E-04	0.000902	-2.36579	2.365787	
	318.15	1.188825086	1	1.089	1.0890E-03	0.001105	1.471368	1.471368	1.500683
<i>Average Error for Temp.</i>									
Total Error for All Tei									
							<i>kij</i>	<i>lij</i>	
							1.065232	0.932445	

METHANOL (1) - ACETONE (2)

AL - KK

(From Irving, NEL Report, 1977 - Hernandez, 1966)

P= 0.101 MPa

	Methanol	(cP)		%AAD=
293.15	0.792251985	0	0.326	1.48632
293.15	0.792420476	0.135	0.333	1.486319
293.15	0.792653839	0.297	0.342	0.42964
293.15	0.79303376	0.513	0.371	0.42964
293.15	0.793248642	0.615	0.389	1.790515
293.15	0.793594879	0.756	0.435	2.478922
293.15	0.794031269	0.902	0.507	2.478922
293.15	0.794287745	0.975	0.563	3.138948
293.15	0.794382616	1	0.581	3.138948
303.15	0.780854255	0	0.303	1.442067
303.15	0.781164981	0.135	0.308	1.442067
303.15	0.781595534	0.297	0.314	0.074148
303.15	0.782296957	0.513	0.34	-1.14044
303.15	0.782693938	0.615	0.352	-0.6944
				0.694398
				1.49924

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	303.15	0.783333985	0.756	0.389	3.8900E-04	0.000394	1.172869	1.172869	
	303.15	0.784141384	0.902	0.449	4.4900E-04	0.000447	-0.51485	0.514845	
	303.15	0.784616272	0.975	0.496	4.9600E-04	0.000486	-2.02099	2.02099	
	303.15	0.784792003	1	0.509	5.0900E-04	0.000502	-1.32988	1.329876	1.437706
	313.15	0.769228187	0	0.289	2.8900E-04	0.000262	-9.29296	9.292963	
	313.15	0.769680443	0.135	0.287	2.8700E-04	0.000272	-5.35263	5.352629	
	313.15	0.770307387	0.297	0.291	2.9100E-04	0.000286	-1.74292	1.742921	
	313.15	0.771329465	0.513	0.311	3.1100E-04	0.000311	0.045309	0.045309	
	313.15	0.771908314	0.615	0.322	3.2200E-04	0.000326	1.334495	1.334495	
	313.15	0.772842177	0.756	0.349	3.4900E-04	0.000353	1.282484	1.282484	
	313.15	0.774021258	0.902	0.389	3.8900E-04	0.000396	1.897367	1.897367	
	313.15	0.774715304	0.975	0.435	4.3500E-04	0.000428	-1.64013	1.640134	
	313.15	0.774972235	1	0.453	4.5300E-04	0.000441	-2.67717	2.677166	1.899334
	318.15	0.763323592	0	0.279	2.7900E-04	0.00025	-10.4748	10.4748	
	318.15	0.763846348	0.135	0.277	2.7700E-04	0.000259	-6.46063	6.460634	
	318.15	0.764571192	0.297	0.282	2.8200E-04	0.000273	-3.1985	3.1985	
	318.15	0.765753287	0.513	0.3	3.0000E-04	0.000297	-1.02493	1.024929	
	318.15	0.766422991	0.615	0.311	3.1100E-04	0.000311	-1.9E-05	1.91E-05	
	318.15	0.767503781	0.756	0.335	3.3500E-04	0.000336	0.239725	0.239725	
	318.15	0.768868989	0.902	0.378	3.7800E-04	0.000374	-0.94388	0.943878	
	318.15	0.769672918	0.975	0.411	4.1100E-04	0.000403	-2.03076	2.030761	
	318.15	0.769970587	1	0.429	4.2900E-04	0.000414	-3.42592	3.425916	1.985492

METHANOL (1) - ACETONE (2)

AL - KK

(From Irving, NEL Report, 1977 - Jones, 1909)

P= 0.101 MPa

Methanol (cP)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	298.15	0.78658055	0	0.343	3.4300E-04	0.000305	-11.1415	11.14149	
	298.15	0.786755172	0.1	0.352	3.5200E-04	0.000312	-11.3423	11.34235	
	298.15	0.786947082	0.2	0.362	3.6200E-04	0.000321	-11.4034	11.40337	
	298.15	0.787158982	0.3	0.38	3.8000E-04	0.000331	-12.8581	12.85815	
	298.15	0.787394166	0.4	0.406	4.0600E-04	0.000344	-15.3575	15.35746	
	298.15	0.787656696	0.5	0.434	4.3400E-04	0.000359	-17.3587	17.35867	
	298.15	0.787951635	0.6	0.465	4.6500E-04	0.000377	-18.9264	18.9264	
	298.15	0.78828538	0.7	0.499	4.9900E-04	0.0004	-19.7956	19.79561	
	298.15	0.788666127	0.8	0.53	5.3000E-04	0.000431	-18.6461	18.64612	
	298.15	0.789104559	0.9	0.557	5.5700E-04	0.000475	-14.8044	14.80436	
	298.15	0.78961486	1	0.583	5.8300E-04	0.000538	-7.76676	7.766761	
Average Error for Temp.									15.61028
Total Error for All T_{ei}									$\frac{k_{ij}}{l_{ij}}$ 1.084416 0.716809

ETHANOL (1) - ACETONE (2)

AL - KK
(From Irving, NEL Report, 1977 - Jones, 1909)

P= 0.101 MPa

Wt Frac.	Ethanol (cP)	%AAD=
0	298.15 0.78658055 0	0.346
0.1	298.15 0.786511941 0.1228684	0.362
0.2	298.15 0.786443344 0.2396475	0.83
0.3	298.15 0.786374759 0.350779	0.412
0.4	298.15 0.786306186 0.456663	0.455
0.5	298.15 0.786237625 0.5578626	0.504
0.6	298.15 0.786169076 0.6541081	0.579
0.7	298.15 0.786100539 0.7463007	0.671
0.8	298.15 0.786032014 0.8345157	0.792
0.9	298.15 0.785963501 0.9190051	0.95
1	298.15 0.785894999 1	1.18

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
Average Error for Temp.									
									10.50715
Total Error for All T_{ei}									
							k_{ij}	l_{ij}	
							0.961785	1.091773	

n-BUTANOL (1) - ACETONE (2)

AL - KK

(From Irving, NEL Report, 1977 - Ernst, 1932)

P= 0.101 MPa

%AAD= 4.908057

		<i>n-Butanol</i>		(cP)					
298.15	0.78658055	0	0.344	3.4400E-04	0.000305	-11.3998	11.3998		
298.15	0.78890604	0.1	0.37	3.7000E-04	0.000349	-5.66574	5.665744		
298.15	0.791122512	0.2	0.41	4.1000E-04	0.000402	-1.95456	1.954561		
298.15	0.793237456	0.3	0.47	4.7000E-04	0.000467	-0.59425	0.594252		
298.15	0.795257692	0.4	0.545	5.4500E-04	0.00055	0.915475	0.915475		
298.15	0.797189443	0.5	0.65	6.5000E-04	0.000658	1.284649	1.284649		
298.15	0.799038396	0.6	0.605	6.0500E-04	0.000805	33.02082	33.02082		
298.15	0.800809765	0.7	1.01	1.0100E-03	0.001009	-0.07019	0.070189		
298.15	0.80250833	0.8	1.305	1.3050E-03	0.001305	-0.00073	0.000728		
298.15	0.804138492	0.9	1.76	1.7600E-03	0.001748	-0.66609	0.666095		
298.15	0.805704299	1	2.485	2.4850E-03	0.002438	-1.87771	1.877708		
Average Error for Temp.									
									4.908057
Total Error for All T_{ei}									
							k_{ij}	l_{ij}	
							1.00635	0.935948	

ISO-BUTANOL [2-Methyl-1-Propanol] (1) - ACETONE (2)

AL - KK

(From Irving, NEL Report, 1977 - Osipov, 1955)

P= 0.101 MPa

%AAD= 2.568856

		<i>iso-Butanol</i>		(cP)					
293.15	0.792251985	0	0.3	3.0000E-04	0.000321	7.051533	7.051533		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	293.15	0.793435194	0.1	0.36	3.6000E-04	0.000381	5.863772	5.863772	
	293.15	0.794559725	0.2	0.45	4.5000E-04	0.00459	2.008807	2.008807	
	293.15	0.795829839	0.3	0.57	5.7000E-04	0.00561	-1.51052	1.510519	
	293.15	0.796649392	0.4	0.705	7.0500E-04	0.00697	-1.0893	1.0893	
	293.15	0.797621885	0.5	0.88	8.8000E-04	0.0088	-0.00148	0.00148	
	293.15	0.798550502	0.6	1.1	1.1000E-03	0.001129	2.592527	2.592527	
	293.15	0.799438147	0.7	1.415	1.4150E-03	0.001471	3.965484	3.965484	
	293.15	0.800287474	0.8	1.95	1.9500E-03	0.00195	-0.00016	0.000159	
	293.15	0.801100911	0.9	2.8	2.8000E-03	0.00263	-6.08765	6.087653	
	293.15	0.801880686	1	4	4.0000E-03	0.00361	-9.75322	9.753223	
Average Error for Temp.									2.568856
Total Error for All Tei									
							kij	ljj	
							23.1197	0.988545	1.014214

n-BUTYRIC ACID (1) - ACETONE (2)

AL - KK

(From Irving, NEL Report, 1977 - Odovenko, 1939)

$P = 0.101 \text{ MPa}$

P=	0.101 MPa	<i>n</i> -Butyric AcI	(cP)			%AAD=	1,129059
298,15	0,78658055	0	0,317	3,1700E-04	0,000305	-3,85341	3,853406
298,15	0,806760062	0,1	0,387	3,8700E-04	0,000379	-2,11276	2,112758
298,15	0,825964306	0,2	0,47	4,7000E-04	0,000466	-0,87709	0,877093
298,15	0,844262313	0,3	0,565	5,6500E-04	0,000566	0,184409	0,184409
298,15	0,861716754	0,4	0,677	6,7700E-04	0,000679	0,222496	0,222496
298,15	0,878384648	0,5	0,8	8,0000E-04	0,000801	0,159714	0,159714
298,15	0,894317989	0,6	0,933	9,3300E-04	0,000931	-0,22067	0,220666
298,15	0,909564288	0,7	1,07	1,0700E-03	0,001063	-0,69893	0,698926
298,15	0,924167046	0,8	1,214	1,2140E-03	0,00119	-2,01675	2,016748
298,15	0,938166165	0,9	1,36	1,3600E-03	0,001304	-4,10505	4,105048
298,15	0,951598316	1	1,502	1,5020E-03	0,001398	-6,92186	6,921865

1.17754

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	308.15	0.775070912	0	0.291	2.9100E-04	0.000275	-5.36868	5.368683	
	308.15	0.795503867	0.1	0.35	3.5000E-04	0.00034	-2.8541	2.854103	
	308.15	0.814975518	0.2	0.422	4.2200E-04	0.000416	-1.53671	1.536715	
	308.15	0.833552144	0.3	0.505	5.0500E-04	0.000502	-0.62852	0.628522	
	308.15	0.85129407	0.4	0.596	5.9600E-04	0.000598	0.351942	0.351942	
	308.15	0.868256318	0.5	0.7	7.0000E-04	0.000702	0.354469	0.354469	
	308.15	0.884489177	0.6	0.81	8.1000E-04	0.000812	0.239912	0.239912	
	308.15	0.900038704	0.7	0.922	9.2200E-04	0.000922	0.018717	0.018717	
	308.15	0.914947156	0.8	1.042	1.0420E-03	0.001028	-1.37839	1.378395	
	308.15	0.92925338	0.9	1.162	1.1620E-03	0.001122	-3.45601	3.456014	
	308.15	0.942993143	1	1.27	1.2700E-03	0.001198	-5.68393	5.683928	1.202088
	318.15	0.763323592	0	0.265	2.6500E-04	0.00025	-5.74516	5.745162	
	318.15	0.784014118	0.1	0.315	3.1500E-04	0.000306	-2.70737	2.707372	
	318.15	0.803759121	0.2	0.375	3.7500E-04	0.000372	-0.71958	0.719581	
	318.15	0.822621967	0.3	0.45	4.5000E-04	0.000447	-0.64598	0.645978	
	318.15	0.840660483	0.4	0.53	5.3000E-04	0.00053	2.82E-05	2.82E-05	
	318.15	0.85792755	0.5	0.615	6.1500E-04	0.000619	0.703251	0.703251	
	318.15	0.874471621	0.6	0.703	7.0300E-04	0.000712	1.334192	1.334192	
	318.15	0.890337173	0.7	0.8	8.0000E-04	0.000805	0.678248	0.678248	
	318.15	0.90556511	0.8	0.896	8.9600E-04	0.000894	-0.25141	0.251412	
	318.15	0.920193111	0.9	0.992	9.9200E-04	0.000972	-2.02789	2.027893	
	318.15	0.934255947	1	1.078	1.0780E-03	0.001034	-4.0762	4.076203	1.007551
Average Error for Temp.									
Total Error for All T_{ei}							30.4846	$\frac{kJ}{IJ}$ 1.029336	1.105266

ACETONE (1)-n-HEXANE (2)

KK - AA

00278 Johari, G. P.; J. Chem. Eng. Data, 13(4), 541-543(1968)

P= 0.101 MPa

%AAD= 3.5311

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
			Acetone	(mPa s)					
	298.15	0.656026202	0	0.293	2.9300E-04	0.000305	4.242363	4.242363	
	298.15	0.66710435	0.1416	0.303	3.0300E-04	0.000296	-2.46505	2.465053	
	298.15	0.678562844	0.2707	0.3137	3.1370E-04	0.000289	-7.9564	7.956401	
	298.15	0.69041253	0.3888	0.3047	3.0470E-04	0.000284	-6.68285	6.68285	
	298.15	0.702691965	0.4974	0.2983	2.9830E-04	0.000282	-5.48389	5.483889	
	298.15	0.715411237	0.5975	0.3043	3.0430E-04	0.000281	-7.53655	7.536548	
	298.15	0.728600382	0.6901	0.3039	3.0390E-04	0.000283	-7.03423	7.034226	
	298.15	0.742283828	0.776	0.2984	2.9840E-04	0.000285	-4.35961	4.359614	
	298.15	0.756489562	0.8559	0.3113	3.1130E-04	0.00029	-6.84226	6.84226	
	298.15	0.771246517	0.9304	0.3144	3.1440E-04	0.000296	-5.71711	5.717107	
	298.15	0.78658055	1	0.3075	3.0750E-04	0.000305	-0.88302	0.883023	6.008661

ACETONE (1) - HEXANE (2)

KK - AA

00111 Wei, I. C.; Rowley, R. L.; J. Chem. Eng. Data, 29(3), 332-335(1984)

P= 0.101 MPa

Vol Frac	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
			Acetone	(mPa s)					
0	298.15	0.656026202	0	0.2933	2.9330E-04	0.000305	4.13574	4.13574	
0.1926	298.15	0.677690046	0.2614165	0.2789	2.7890E-04	0.000289	3.679066	3.679066	
0.3137	298.15	0.692059682	0.4041282	0.2786	2.7860E-04	0.000284	1.901791	1.901791	
0.4004	298.15	0.702727524	0.4976964	0.2791	2.7910E-04	0.000282	1.016626	1.016626	
0.5055	298.15	0.71610874	0.6026658	0.2809	2.8090E-04	0.000281	0.172611	0.172611	
0.6039	298.15	0.729107216	0.6934559	0.2826	2.8260E-04	0.000283	1.45E-05	1.45E-05	
0.6745	298.15	0.738727936	0.7545806	0.2839	2.8390E-04	0.000284	0.20848	0.20848	
0.7667	298.15	0.751681105	0.8298204	0.2875	2.8750E-04	0.000288	0.265	0.265	
0.891	298.15	0.769880417	0.9238314	0.2923	2.9230E-04	0.000296	1.18472	1.18472	
1	298.15	0.78658055	1	0.3025	3.0250E-04	0.000305	0.755274	0.755274	1.053539
							Average Error for Temp.		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
<i>Total Error for All Tei</i>									
								<i>kij</i>	<i>lij</i>
								0.979215	1.081364

ACETONE (1) - HEPTANE (2)

KK - AA

01372 Van den Kerchove, F. V.; De Vrijlder, M.; J. Chem. Eng. Data, 22(3), 333-347(1977)

P= 0.101 MPa

%AAD= 0.224394

Acetone (mPa.s)									
		Acetone							
295.65	0.683660683	0	0.395	3.9500E-04	0.000405	2.489879	2.489879		
295.65	0.688055244	0.0795	0.385	3.8500E-04	0.000385	0.026471	0.026471		
295.65	0.690749419	0.1252	0.377	3.7700E-04	0.000377	-0.01672	0.016717		
295.65	0.693514251	0.1699	0.37	3.7000E-04	0.000371	0.171484	0.171484		
295.65	0.699042465	0.2532	0.362	3.6200E-04	0.000362	-0.00305	0.003051		
295.65	0.702443676	0.3008	0.358	3.5800E-04	0.000358	0.043532	0.043532		
295.65	0.709815793	0.3956	0.351	3.5100E-04	0.000351	0.091307	0.091307		
295.65	0.71476957	0.4536	0.347	3.4700E-04	0.000347	-1.4E-05	1.38E-05		
295.65	0.719583521	0.5061	0.342	3.4200E-04	0.000343	0.2173	0.2173		
295.65	0.731201939	0.6193	0.333	3.3300E-04	0.000332	-0.17011	0.170108		
295.65	0.740475243	0.6981	0.328	3.2800E-04	0.000325	-0.91592	0.915922		
295.65	0.747271653	0.7504	0.321	3.2100E-04	0.00032	-0.17136	0.171365		
295.65	0.755979176	0.8116	0.316	3.1600E-04	0.000316	0.005068	0.005068		
295.65	0.764601306	0.8666	0.314	3.1400E-04	0.000313	-0.24563	0.245626		
295.65	0.772799186	0.9144	0.309	3.0900E-04	0.000312	0.961057	0.961057		
295.65	0.782848587	0.9678	0.311	3.1100E-04	0.000312	0.326891	0.326891		
295.65	0.789422994	1	0.311	3.1100E-04	0.000313	0.585075	0.585075		
<i>Average Error for Temp.</i>									
								0.224394	

Total Error for All Tei *kij* *lij*

1.129308 0.522771

BENZENE (1) - ACETONE (2)

AR - KK

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
(From Irving, NEL Report, 1977 - Howard, 1959)									
P= 0.101 MPa									
Wt Frac									
			Benzene	(cP)					
	293.15	0.7922251985	0	0.317	3.1700E-04	0.000321	1.310599	1.310599	%AAD= 1.787134
	293.15	0.802440215	0.1	0.344	3.4400E-04	0.000341	-0.82942	0.829424	
	293.15	0.812211062	0.2	0.356	3.5600E-04	0.000363	1.93961	1.93961	
	293.15	0.821589658	0.3	0.382	3.8200E-04	0.000387	1.230057	1.230057	
	293.15	0.830599161	0.4	0.411	4.1100E-04	0.000413	0.448946	0.448946	
	293.15	0.839260937	0.5	0.441	4.4100E-04	0.000442	0.162842	0.162842	
	293.15	0.847594738	0.6	0.474	4.7400E-04	0.000474	-0.05049	0.050486	
	293.15	0.855618843	0.7	0.512	5.1200E-04	0.000509	-0.48843	0.488426	
	293.15	0.863350203	0.8	0.554	5.5400E-04	0.00055	-0.80117	0.801172	
	293.15	0.87080455	0.9	0.6	6.0000E-04	0.000595	-0.88358	0.883584	
	293.15	0.87799651	1	0.65	6.5000E-04	0.000646	-0.64429	0.64429	0.759394
0	298.15	0.78658055	0	0.302	3.0200E-04	0.000305	0.922087	0.922087	
0.1	298.15	0.794445482	0.0763104	0.314	3.1400E-04	0.000319	1.529215	1.529215	
0.2	298.15	0.802469284	0.1567466	0.327	3.2700E-04	0.000335	2.307688	2.307688	
0.3	298.15	0.810656819	0.2416526	0.347	3.4700E-04	0.000352	1.548683	1.548683	
0.4	298.15	0.819013149	0.3314115	0.368	3.6800E-04	0.000373	1.289102	1.289102	
0.5	298.15	0.827543549	0.4284518	0.394	3.9400E-04	0.000396	0.572569	0.572569	
0.6	298.15	0.836253516	0.5272535	0.422	4.2200E-04	0.000424	0.404508	0.404508	
0.7	298.15	0.845148779	0.6343571	0.455	4.5500E-04	0.000456	0.258224	0.258224	
0.8	298.15	0.854235315	0.7483726	0.482	4.8200E-04	0.000495	2.727278	2.727278	
0.9	298.15	0.863519361	0.8699913	0.53	5.3000E-04	0.000543	2.39848	2.39848	1.448416
1	298.15	0.873007427	1	0.602	6.0200E-04	0.000602	-0.01747	0.017467	
0	310.95	0.771806457	0	0.268	2.6800E-04	0.000268	-0.05417	0.054171	
0.1	310.95	0.779807806	0.0763104	0.28	2.8000E-04	0.00028	-0.16606	0.166062	
0.2	310.95	0.787976793	0.1567466	0.292	2.9200E-04	0.000293	0.202027	0.202027	
0.3	310.95	0.796318743	0.2416526	0.308	3.0800E-04	0.000307	-0.22918	0.229176	
0.4	310.95	0.804839207	0.3314115	0.324	3.2400E-04	0.000324	6.25E-08	6.25E-08	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
0.5	310.95	0.813643978	0.4264618	0.341	3.4100E-04	0.000343	0.635211	0.635211	
0.6	310.95	0.822439102	0.6272535	0.367	3.6700E-04	0.000365	-0.43629	0.436295	
0.7	310.95	0.83153089	0.6343571	0.395	3.9500E-04	0.000392	-0.88242	0.882423	
0.8	310.95	0.840825939	0.7483726	0.429	4.2900E-04	0.000423	-1.48413	1.484134	
0.9	310.95	0.850331142	0.8699913	0.465	4.6500E-04	0.00046	-1.00534	1.005337	
1	310.95	0.860053707	1	0.508	5.0800E-04	0.000507	-0.22717	0.227166	0.560074
0	323.25	0.757234404	0	0.242	2.4200E-04	0.000238	-1.66358	1.663583	
0.1	323.25	0.765373627	0.0763104	0.25	2.5000E-04	0.000248	-0.84083	0.840832	
0.2	323.25	0.773689723	0.1567466	0.261	2.6100E-04	0.000259	-0.78967	0.789669	
0.3	323.25	0.782188519	0.2416526	0.274	2.7400E-04	0.000271	-0.98052	0.980521	
0.4	323.25	0.790876103	0.3314115	0.288	2.8800E-04	0.000285	-0.93852	0.938517	
0.5	323.25	0.799758837	0.4264518	0.305	3.0500E-04	0.000301	-1.23032	1.230318	
0.6	323.25	0.80884337	0.5272535	0.321	3.2100E-04	0.00032	-0.42514	0.425141	
0.7	323.25	0.818136658	0.6343571	0.342	3.4200E-04	0.000341	-0.26586	0.265863	
0.8	323.25	0.827645981	0.7483726	0.368	3.6800E-04	0.000366	-0.41442	0.414418	
0.9	323.25	0.83737896	0.8699913	0.4	4.0000E-04	0.000397	-0.75261	0.752608	
1	323.25	0.84734358	1	0.436	4.3600E-04	0.000434	-0.37792	0.377923	0.737543

BENZENE (1) - ACETONE (2)

(From Irving, NEL Report, 1977 - Mato and Hernandez, 1969)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	313.15	0.838781172	0.752	0.424	4.2400E-04	0.000413	-2.65785	2.657854	
	313.15	0.850328317	0.9	0.46	4.6000E-04	0.000458	-0.49852	0.498525	
	313.15	0.85138993	0.914	0.464	4.6400E-04	0.000462	-0.35338	0.353382	
	313.15	0.85779985	1	0.493	4.9300E-04	0.000493	-0.0666	0.066602	
									3.323284

BENZENE (1) - ACETONE (2)

AR - KK

(From Irving, NEL Report, 1977 - Swensen, 1961)

P= 0.101 MPa

	Benzene		(cP)	
313.15	0.769228187	0	0.258	2.5800E-04
313.15	0.779694794	0.1	0.269	2.6900E-04
313.15	0.789747122	0.2	0.284	2.8400E-04
313.15	0.799409291	0.3	0.301	3.0100E-04
313.15	0.808703583	0.4	0.319	3.1900E-04
313.15	0.817650614	0.5	0.339	3.3900E-04
313.15	0.826269491	0.6	0.361	3.6100E-04
313.15	0.834577942	0.7	0.383	3.8300E-04
313.15	0.842592441	0.8	0.406	4.0600E-04
313.15	0.850328317	0.9	0.431	4.3100E-04
313.15	0.85779985	1	0.46	4.6000E-04
			Average Error for Temp.	
				3.894093

Total Error for All T_{el} 93.18195 1.005325 0.985939

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
ACETIC ACID (1) - ACETOPHENONE (2)									
AC - KK Vis. units not stated; assumed units were Poise from pure component values									
01046 Kendall, J.; Brakeley, E.; J. Am. Chem. Soc., 43, 1826(1921)									
P= 1 atm									
Acetic Acid (Poise)									
298.15	1.025737638	0	0.01681	1.6810E-03	0.001297	-22.8721	22.87206	%AAD= 4.897821	
298.15	1.026579444	0.0998	0.017407	1.7407E-03	0.001427	-18.0143	18.01427		
298.15	1.027627003	0.2107	0.017536	1.7536E-03	0.001553	-11.4229	11.42288		
298.15	1.028499575	0.2935	0.01742	1.7420E-03	0.001625	-6.68969	6.689694		
298.15	1.030081673	0.4253	0.01703	1.7030E-03	0.001685	-1.06261	1.062614		
298.15	1.030940266	0.4885	0.01668	1.6680E-03	0.001685	1.009871	1.009871		
298.15	1.032653373	0.6003	0.01598	1.5980E-03	0.001637	2.440391	2.440391		
298.15	1.034431929	0.6998	0.01524	1.5240E-03	0.001547	1.503873	1.503873		
298.15	1.036533638	0.8002	0.0142	1.4200E-03	0.00142	-0.00035	0.000347		
298.15	1.039049589	0.9013	0.01293	1.2930E-03	0.001268	-1.93645	1.936452		
298.15	1.042012521	1	0.01121	1.1210E-03	0.001108	-1.13508	1.135077		
Average Error for Temp.								4.897821	
Total Error for All T_{oi}									
								k_{ij}	l_{ij}
								1.104832	0.967587

ISOBUTYL METHYL KETONE [4-Methyl-2-Pentanone] (1) - ACETIC ACID (2)

KK - AC

00735 Hafez, M.; Harland, S.; J. Chem. Eng. Data, 21(2), 179-182(1976)

P= 0.101 MPa									
Isobutyl Methyl K (mPa s)									
293.15	0.800734026	1	0.5848	5.8480E-04	0.000603	3.196566	3.196566	%AAD= 1.286009	
293.15	0.825217602	0.806	0.6691	6.6910E-04	0.000671	0.344379	0.344379		
293.15	0.850026109	0.647	0.7427	7.4270E-04	0.000743	0.021726	0.021726		
293.15	0.87523096	0.514	0.8105	8.1050E-04	0.000811	0.03389	0.03389		
293.15	0.899635462	0.406	0.8773	8.7730E-04	0.000871	-0.72682	0.726823		
293.15	0.92400649	0.314	0.9417	9.4170E-04	0.000927	-1.58266	1.582665		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	293.15	0.94857141	0.234	1.0043	1.0043E-03	0.000981	-2.35541	2.35541	
	293.15	0.97325558	0.164	1.0648	1.0648E-03	0.001034	-2.91492	2.914922	
	293.15	0.997733046	0.103	1.1219	1.1219E-03	0.001086	-3.1564	3.1564	
	293.15	1.022664152	0.048	1.1789	1.1789E-03	0.001141	-3.22304	3.223037	
	293.15	1.047068901	0	1.2258	1.2258E-03	0.001195	-2.49509	2.495089	1.595472
	298.15	0.796267974	1	0.5463	5.4630E-04	0.000564	3.251546	3.251546	
	298.15	0.820817014	0.805	0.6272	6.2720E-04	0.000629	0.299815	0.299815	
	298.15	0.845412347	0.647	0.688	6.8800E-04	0.000696	1.12343	1.12343	
	298.15	0.870547385	0.514	0.752	7.5200E-04	0.000759	0.90216	0.90216	
	298.15	0.894887978	0.408	0.8108	8.1080E-04	0.000814	0.413461	0.413461	
	298.15	0.919198805	0.314	0.8743	8.7430E-04	0.000865	-1.03711	1.037114	
	298.15	0.943706707	0.234	0.9325	9.3250E-04	0.000914	-1.9611	1.961099	
	298.15	0.968337287	0.164	0.9866	9.8660E-04	0.000962	-2.45658	2.456578	
	298.15	0.99276528	0.103	1.0371	1.0371E-03	0.00101	-2.60717	2.607167	
	298.15	1.01764975	0.048	1.0852	1.0852E-03	0.001059	-2.39315	2.393148	
	298.15	1.042012521	0	1.1302	1.1302E-03	0.001108	-1.93985	1.939853	1.465997
	308.15	0.787237703	1	0.4871	4.8710E-04	0.000495	1.714685	1.714685	
	308.15	0.811632802	0.805	0.5546	5.5460E-04	0.000555	-1.7E-05	1.69E-05	
	308.15	0.836081409	0.647	0.6078	6.0780E-04	0.000614	0.953763	0.953763	
	308.15	0.861074267	0.514	0.6636	6.6360E-04	0.000668	0.704749	0.704749	
	308.15	0.885284658	0.408	0.7072	7.0720E-04	0.000715	1.168468	1.166468	
	308.15	0.909472797	0.314	0.7592	7.5920E-04	0.000758	-0.11247	0.112471	
	308.15	0.93386446	0.234	0.803	8.0300E-04	0.000799	-0.49347	0.493475	
	308.15	0.958385752	0.164	0.8505	8.5050E-04	0.000839	-1.38138	1.381379	
	308.15	0.982712816	0.103	0.8955	8.9550E-04	0.000878	-1.96275	1.962748	
	308.15	1.007502117	0.048	0.9387	9.3870E-04	0.000918	-2.18252	2.182524	
	308.15	1.031779191	0	0.9795	9.7950E-04	0.000958	-2.15803	2.15803	0.995288
	318.15	0.778069797	1	0.4373	4.3730E-04	0.000438	0.208029	0.208029	
	318.15	0.802307269	0.805	0.4944	4.9440E-04	0.000492	-0.41976	0.419756	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
									$\frac{k_{ij}}{l_{ij}}$
Total Error for All T_{oi}									
									1.067465

METHYL ETHYL KETONE (1) - ETHYL ACETATE (2)

KK - ES *From DIPMIX - experimental density									
04821 Petrino, P. J.; Gaston-Bonhomme, Y. H.; Chevallier, J. L. E.; J. Chem. Eng. Data, 40(1), 136-140(1995)									
Density *	P=	1 atm						%AAD=	0.436259
(g/cm ³)			Methyl Ethyl Kei	(10 ⁻⁶ m ² /s)				%AD Density	
0.8948	298.15	0.893628329	0	0.4714	4.2181E-04	0.000411	-2.61568	2.615679	0.131
0.8818	298.15	0.881520459	0.1389	0.4703	4.1471E-04	0.000408	-1.66082	1.660815	0.032
0.8741	298.15	0.873671438	0.2272	0.4696	4.1048E-04	0.000407	-0.92098	0.920975	0.049
0.8658	298.15	0.865591887	0.3167	0.4673	4.0449E-04	0.000404	-0.00011	0.000107	0.001
0.8582	298.15	0.858169721	0.3977	0.4667	4.0052E-04	0.000401	0.214302	0.214302	0.004
0.8499	298.15	0.849750622	0.4882	0.4662	3.9622E-04	0.000397	0.166452	0.166452	0.018
0.8409	298.15	0.840956643	0.5812	0.4657	3.9161E-04	0.000392	0.013392	0.013392	0.007
0.831	298.15	0.830723728	0.6875	0.4654	3.8675E-04	0.000386	-0.24006	0.24006	0.033
0.822	298.15	0.821993651	0.7766	0.4654	3.8256E-04	0.000382	-0.17025	0.170249	0.001
0.8121	298.15	0.811179249	0.885	0.4654	3.7795E-04	0.00038	0.539975	0.539975	0.113
0.7996	298.15	0.799467695	1	0.4676	3.7389E-04	0.000385	2.954157	2.954157	0.017
Average Error for Temp.									
								0.436259	
Total Error for All T_{oi}									
								0.876541	1.365102

ISOBUTYL METHYL KETONE (1) - BUTYL ACETATE (2)

KK - ES									
04637 Fermeglia, M.; Lapasin, R.; Torriano, G.; J. Chem. Eng. Data, 35(3), 260-265(1990)									
	P=	1 atm						%AAD=	1.693308
			IsoButyl Methyl K	(mPa s)					
298.15	0.805435744	0.8902		0.556	5.5600E-04	0.000574	3.249515	3.249515	
298.15	0.813699511	0.7901		0.57	5.7000E-04	0.000583	2.310686	2.310686	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	298.15	0.820334841	0.3	0.443	4.4300E-04	0.000439	-0.91959	0.91959	
	299.15	0.827679968	0.4	0.455	4.5500E-04	0.000458	0.677783	0.677783	
	299.15	0.835037151	0.5	0.474	4.7400E-04	0.000477	0.702963	0.702963	
	299.15	0.842406419	0.6	0.497	4.9700E-04	0.000497	1.57E-05	1.57E-05	
	299.15	0.849787802	0.7	0.519	5.1900E-04	0.000518	-0.2689	0.268895	
	299.15	0.857181331	0.8	0.546	5.4600E-04	0.00054	-1.12107	1.121066	
	299.15	0.864587034	0.9	0.584	5.8400E-04	0.000565	-3.2876	3.2876	
	299.15	0.872004943	1	0.619	6.1900E-04	0.000594	-4.10167	4.101668	
Average Error for Temp.									1.204192
Total Error for All T_{el}									1.037142
									0.901697

ACETIC ACID (1) - METHYL ETHYL KETONE (2)

AC - KK
(From Irving, NEL Report, 1977 - Odovenko, 1939)

P=	Acetic Acid	(cP)	%AAD= 0.826561						
298.15	0.799467695	0	0.39	3.9000E-04	0.000385	-1.29786	1.29786		
298.15	0.815546146	0.1	0.428	4.2800E-04	0.000428	0.043534	0.043534		
298.15	0.832875895	0.2	0.474	4.7400E-04	0.000477	0.579319	0.579319		
298.15	0.851608931	0.3	0.526	5.2600E-04	0.000531	0.953252	0.953252		
298.15	0.871922893	0.4	0.584	5.8400E-04	0.000591	1.263957	1.263957		
298.15	0.894026725	0.5	0.656	6.5600E-04	0.000658	0.341404	0.341404		
298.15	0.918167888	0.6	0.732	7.3200E-04	0.000732	-3E-05	2.97E-05		
298.15	0.944641664	0.7	0.819	8.1900E-04	0.000813	-0.71635	0.716347		
298.15	0.973803296	0.8	0.908	9.0800E-04	0.000902	-0.6341	0.634103		
298.15	1.006084016	0.9	1.016	1.0160E-03	0.001	-1.55663	1.556631		
298.15	1.042012521	1	1.115	1.1150E-03	0.001108	-0.60307	0.603069		0.676508
308.15	0.788425794	0	0.355	3.5500E-04	0.000346	-2.64725	2.64725		
308.15	0.80449712	0.1	0.388	3.8800E-04	0.000382	-1.42194	1.421941		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	308.15	0.821828813	0.2	0.428	4.2800E-04	0.000424	-0.98725	0.987249	
	308.15	0.840575186	0.3	0.47	4.7000E-04	0.00047	-0.04149	0.041494	
	308.15	0.860916817	0.4	0.514	5.1400E-04	0.000521	1.343117	1.343117	
	308.15	0.883066381	0.5	0.569	5.6900E-04	0.000577	1.478208	1.478208	
	308.15	0.907276119	0.6	0.636	6.3600E-04	0.00064	0.58164	0.58164	
	308.15	0.93384748	0.7	0.712	7.1200E-04	0.000708	-0.53214	0.532138	
	308.15	0.963143742	0.8	0.79	7.9000E-04	0.000784	-0.81915	0.819149	
	308.15	0.995606718	0.9	0.88	8.8000E-04	0.000866	-1.53558	1.535579	
	308.15	1.031779191	1	0.961	9.6100E-04	0.000958	-0.2745	0.274496	0.971168
	318.15	0.777198014	0	0.321	3.2100E-04	0.000312	-2.90222	2.902221	
	318.15	0.793260588	0.1	0.352	3.5200E-04	0.000343	-2.46902	2.469025	
	318.15	0.810592839	0.2	0.384	3.8400E-04	0.000379	-1.39912	1.399118	
	318.15	0.829351503	0.3	0.42	4.2000E-04	0.000418	-0.4965	0.496504	
	318.15	0.849720226	0.4	0.46	4.6000E-04	0.000461	0.316321	0.316321	
	318.15	0.871915589	0.5	0.505	5.0500E-04	0.00051	0.90134	0.90134	
	318.15	0.896194843	0.6	0.556	5.5600E-04	0.000563	1.177768	1.177768	
	318.15	0.922865924	0.7	0.622	6.2200E-04	0.000621	-0.1821	0.182101	
	318.15	0.952300582	0.8	0.687	6.8700E-04	0.000685	-0.28026	0.280262	
	318.15	0.984951819	0.9	0.758	7.5800E-04	0.000756	-0.26561	0.265609	
	318.15	1.021377362	1	0.833	8.3300E-04	0.000835	0.221549	0.221549	0.832006
Average Error for Temp.									
Total Error for All Temp									
<div> <div>k_{ij}</div> <div>l_{ij}</div> </div>									
<div> <div>22.31714</div> <div>1.000547</div> <div>1.074137</div> </div>									

ACETIC ACID (1) - METHYL PROPYL KETONE (2)

AC - KK

(From Irving, NEL Report, 1977 - Odovenko, 1939)

P= 1 atm

Acetic Acid (cP)

298.15 0.803107631

0 0.467

4.6700E-04 0.000478 2.453757 2.453757

%AAD= 0.834769

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	298.15	0.816667992	0.1	0.507	5.0700E-04	0.000514	1.355965	1.355965	
	298.15	0.831400828	0.2	0.548	5.4800E-04	0.000554	1.175749	1.175749	
	298.15	0.847827328	0.3	0.592	5.9200E-04	0.0006	1.320089	1.320089	
	298.15	0.866118914	0.4	0.641	6.4100E-04	0.00065	1.377521	1.377521	
	298.15	0.88661235	0.5	0.7	7.0000E-04	0.000705	0.655765	0.655765	
	298.15	0.909730669	0.6	0.764	7.6400E-04	0.000765	0.080305	0.080305	
	298.15	0.936012686	0.7	0.84	8.4000E-04	0.000831	-1.05719	1.057187	
	298.15	0.966155521	0.8	0.924	9.2400E-04	0.000907	-1.88527	1.885269	
	298.15	1.001077341	0.9	1.016	1.0160E-03	0.000996	-1.98738	1.987377	
	298.15	1.042012521	1	1.115	1.1150E-03	0.001108	-0.60307	0.603069	1.210581
	308.15	0.793372263	0	0.42	4.2000E-04	0.000428	1.845406	1.845406	
	308.15	0.806775103	0.1	0.456	4.5600E-04	0.000457	0.125103	0.125103	
	308.15	0.821548619	0.2	0.488	4.8800E-04	0.00049	0.365883	0.365883	
	308.15	0.837914405	0.3	0.525	5.2500E-04	0.000527	0.400928	0.400928	
	308.15	0.856144542	0.4	0.563	5.6300E-04	0.000568	0.963802	0.963802	
	308.15	0.876576845	0.5	0.614	6.1400E-04	0.000614	-0.01649	0.01649	
	308.15	0.89963599	0.6	0.668	6.6800E-04	0.000664	-0.59051	0.590508	
	308.15	0.92586335	0.7	0.728	7.2800E-04	0.00072	-1.09016	1.090155	
	308.15	0.955960037	0.8	0.796	7.9600E-04	0.000784	-1.48187	1.481865	
	308.15	0.990850507	0.9	0.872	8.7200E-04	0.000861	-1.28161	1.28161	
	308.15	1.031779191	1	0.961	9.6100E-04	0.000958	-0.2745	0.274496	0.701816
	318.15	0.783489215	0	0.378	3.7800E-04	0.000384	1.679697	1.679697	
	318.15	0.796832598	0.1	0.406	4.0600E-04	0.000408	0.456047	0.456047	
	318.15	0.811544747	0.2	0.433	4.3300E-04	0.000435	0.496391	0.496391	
	318.15	0.827847663	0.3	0.466	4.6600E-04	0.000466	1.51E-05	1.51E-05	
	318.15	0.846014096	0.4	0.5	5.0000E-04	0.0005	0.069132	0.069132	
	318.15	0.86638293	0.5	0.539	5.3900E-04	0.000538	-0.1174	0.1174	
	318.15	0.889380521	0.6	0.584	5.8400E-04	0.000581	-0.58209	0.582089	
	318.15	0.915550864	0.7	0.635	6.3500E-04	0.000628	-1.07757	1.077572	
	318.15	0.945599176	0.8	0.692	6.9200E-04	0.000683	-1.27931	1.279307	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	318.15	0.980456398	0.9	0.759	7.5900E-04	0.00075	-1.24925	1.249246	
	318.15	1.021377362	1	0.833	8.3300E-04	0.000835	0.221549	0.221549	
							<i>Average Error for Temp.</i>		0.591911
							<i>Total Error for All Tei</i>		$\frac{k_{ij}}{l_{ij}}$ 0.960571 1.165401

METHYL ISOBUTYL KETONE (1) - ACETONE (2)

KK - KK

(From Irving, NEL Report, 1977 - Karr, 1951)

P= 1 atm

		Methyl Isobutyl K	(cP)					%AAD=	0.48525
298.15	0.78659055	0	0.299	2.9900E-04	0.000305	1.934684	1.934684		
298.15	0.788122379	0.1	0.325	3.2500E-04	0.000325	0.045245	0.045245		
298.15	0.789474018	0.2	0.344	3.4400E-04	0.000346	0.620326	0.620326		
298.15	0.790668614	0.3	0.367	3.6700E-04	0.000368	0.23008	0.23008		
298.15	0.791732032	0.4	0.391	3.9100E-04	0.00039	-0.14692	0.146923		
298.15	0.792684756	0.5	0.415	4.1500E-04	0.000414	-0.21913	0.219128		
298.15	0.793543215	0.6	0.44	4.4000E-04	0.000439	-0.19493	0.194935		
298.15	0.794320738	0.7	0.466	4.6600E-04	0.000466	-3.8E-07	3.78E-07		
298.15	0.795028256	0.8	0.491	4.9100E-04	0.000495	0.861896	0.861896		
298.15	0.795674818	0.9	0.517	5.1700E-04	0.000528	2.048714	2.048714		
298.15	0.796267974	1	0.542	5.4200E-04	0.000564	4.0707	4.0707		
							<i>Average Error for Temp.</i>		0.48525
							<i>Total Error for All Tei</i>		$\frac{k_{ij}}{l_{ij}}$ 1.040373 0.938363

METHYL ETHYL KETONE (1) - ACETONE (2)

KK - KK

(From Irving, NEL Report, 1977 - Toporov, 1956)

P= 1 atm

%AAD= 0.310539

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
Methyl Ethyl Ket									
			0	0.318	3.1800E-04	0.000321	0.992012	0.992012	
	293.15	0.792251985		0.326	3.2600E-04	0.000328	0.494376	0.494376	
	293.15	0.793766712	0.1	0.334	3.3400E-04	0.000335	0.271837	0.271837	
	293.15	0.795217053	0.2	0.342	3.4200E-04	0.000343	0.180456	0.180456	
	293.15	0.796607029	0.3	0.35	3.5000E-04	0.00035	0.088085	0.088085	
	293.15	0.79794033	0.4	0.357	3.5700E-04	0.000358	0.203114	0.203114	
	293.15	0.799220355	0.5	0.365	3.6500E-04	0.000365	-0.01889	0.018892	
	293.15	0.800450234	0.6	0.373	3.7300E-04	0.000372	-0.16251	0.162514	
	293.15	0.801632857	0.7	0.381	3.8100E-04	0.000381	-1.5E-07	1.52E-07	
	293.15	0.802770897	0.8	0.389	3.8900E-04	0.000392	0.77408	0.77408	
	293.15	0.803866827	0.9	0.397	3.9700E-04	0.000407	2.516356	2.516356	0.243706
	293.15	0.804922943	1						
Average Error for Temp.									
									0.377373
Methyl Ethyl Ket									
			0	0.266	2.6600E-04	0.000262	-1.44987	1.449873	
	313.15	0.769228187		0.272	2.7200E-04	0.000269	-1.07259	1.072594	
	313.15	0.770852518	0.1	0.278	2.7800E-04	0.000276	-0.58876	0.588763	
	313.15	0.772408412	0.2	0.284	2.8400E-04	0.000284	-0.14204	0.142035	
	313.15	0.773900105	0.3	0.29	2.9000E-04	0.00029	0.132473	0.132473	
	313.15	0.775331489	0.4	0.296	2.9600E-04	0.000296	0.158487	0.158487	
	313.15	0.776706151	0.5	0.302	3.0200E-04	0.000302	-0.04669	0.046688	
	313.15	0.778027396	0.6	0.308	3.0800E-04	0.000307	-0.35885	0.358848	
	313.15	0.779298277	0.7	0.314	3.1400E-04	0.000312	-0.55554	0.555537	
	313.15	0.780521622	0.8	0.32	3.2000E-04	0.000319	-0.34093	0.340933	
	313.15	0.781700048	0.9	0.326	3.2600E-04	0.000328	0.622306	0.622306	
	313.15	0.782835985	1						
Average Error for Temp.									
									0.377373

Total Error for All T_{o,i} **k_{ij}** **l_{ij}**
1.070483 0.736134

METHYL PROPYL KETONE (1) - ACETONE (2)

KK - KK

(From Irving, NEL Report, 1977 - Toporov, 1956)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
ETHYLENE GLYCOL [1,2-Ethanediol] (1) - WATER (2)									
PL - OI									
00041 Irandy, E. P.; J. Am. Chem. Soc., 65, 1392-1398(1943)									
P= 1 atm									
Ethylene Glyc (cP)									
			Ethylene Glyc						%AAD= 35.93236
293.15	0.996489202	0	1.005	1.0050E-03	0.000779	-22.4663	22.46631		
293.15	1.011357485	0.045	1.46	1.4600E-03	0.000881	-39.6711	39.67108		
293.15	1.027380757	0.104	2.25	2.2500E-03	0.001053	-53.1787	53.17866		
293.15	1.040262437	0.162	2.98	2.9800E-03	0.001274	-57.2645	57.2645		
293.15	1.05185359	0.225	3.96	3.9600E-03	0.001579	-60.1251	60.12511		
293.15	1.07577285	0.404	7.1	7.1000E-03	0.002933	-58.6886	58.68858		
293.15	1.090591904	0.569	10.3	1.0300E-02	0.004985	-51.5997	51.59968		
293.15	1.113714255	1	21.4	2.1400E-02	0.013219	-38.2287	38.22872		53.42127

ETHYLENE GLYCOL (1) - WATER (2)

PL - OI

00175 Jerome, F. S.; Tseng, J. T.; Fan, L. T.; J. Chem. Eng. Data, 13(4), 496(1968)

P= 1 atm

Wt. Frac.	Temp.	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
ETHYLENE GLYCOL (1) - WATER (2)									
PL - OI									
00325 Won, Y. S.; Chung, D. K.; Mills, A. F.; J. Chem. Eng. Data, 26, 140-141(1981)									
P= 1 atm									
Ethylene Glyc (cP)									
			Ethylene Glyc						
1	298.15	1.110188735	1	14.78	1.4780E-02	0.011581	-21.6455	21.64546	
0.8152	298.15	1.08687409	0.5615	8.36	8.3600E-03	0.004347	-47.9975	47.9975	
0.6309	298.15	1.064573205	0.3316	4.73	4.7300E-03	0.002068	-56.2712	56.27125	
0.4228	298.15	1.040464771	0.1753	2.58	2.5800E-03	0.001218	-52.796	52.79604	
0	298.15	0.994713268	0	0.8937	8.9370E-04	0.000723	-19.0675	19.0675	52.35493

ETHYLENE GLYCOL (1) - WATER (2)

PL - OI

00325 Won, Y. S.; Chung, D. K.; Mills, A. F.; J. Chem. Eng. Data, 26, 140-141(1981)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	P=	1 atm							
		<i>Ethylene Glyc</i>		(g/m s)					
	298.15	0.994713268	0	0.8953	8.9530E-04	0.000723	-19.2121	19.21214	
	298.15	1.011435154	0.052	1.3195	1.3195E-03	0.00083	-37.0645	37.06448	
	298.15	1.028922654	0.12	1.9477	1.9477E-03	0.001018	-47.7079	47.70789	
	298.15	1.045012847	0.2	2.8958	2.8958E-03	0.001322	-54.3403	54.34028	46.37088

ETHYLENE GLYCOL (1) - WATER (2)

PL - OI

00316 Bohne, D.; Fischer, S.; Obermeier, E.; Ber. Bunsenges. Phys. Chem., 88, 739-742(1984)

	P=	1 atm							
		<i>Ethylene Glyc</i>		(mPa s)					
262.95	1.134573998	1	105.5	1.0550E-01	0.031055	-70.5643	70.56429		
273.25	1.127540787	1	56.53	5.6530E-02	0.022951	-59.3998	59.39982		
282.45	1.12118856	1	34.15	3.4150E-02	0.017693	-48.1893	48.18931		
298.15	1.110188735	1	16.63	1.6630E-02	0.011581	-30.362	30.36199		
303.05	1.106712883	1	13.61	1.3610E-02	0.010196	-25.0815	25.08147		
313.15	1.098481566	1	9.407	9.4070E-03	0.007899	-16.0257	16.02573		
333.35	1.084736033	1	5.03	5.0300E-03	0.004877	-3.04507	3.045072		
353.15	1.069890163	1	3.068	3.0680E-03	0.00315	2.685067	2.685067		
373.35	1.054307773	1	2.016	2.0160E-03	0.002093	3.795617	3.795617		28.79426
263.25	1.121296871	0.744	32.43	3.2430E-02	0.017674	-45.5	45.49998		
273.45	1.114806444	0.744	18.91	1.8910E-02	0.01336	-29.3511	29.35112		
282.55	1.108919251	0.744	12.3	1.2300E-02	0.010512	-14.5374	14.53742		
292.65	1.102275634	0.744	8.139	8.1390E-03	0.008139	0.00117	0.00117		
302.25	1.095851358	0.744	5.8	5.8000E-03	0.006443	11.07939	11.07939		
312.65	1.088767779	0.744	4.207	4.2070E-03	0.005051	20.05471	20.05471		
333.15	1.074411813	0.744	2.433	2.4330E-03	0.003216	32.16449	32.16449		
352.95	1.060022888	0.744	1.664	1.6640E-03	0.002151	29.24824	29.24824		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	371.85	1.045773974	0.744	1.193	1.1930E-03	0.00151	26.54819	26.54819	23.16497
	263.95	1.10203371	0.499	12.22	1.2220E-02	0.008077	-33.9007	33.90068	
	273.15	1.096782812	0.499	8.057	8.0570E-03	0.008414	-20.3956	20.39562	
	282.55	1.0912831	0.499	5.366	5.3660E-03	0.005117	-4.63108	4.631083	
	292.45	1.085341049	0.499	3.78	3.7800E-03	0.004075	7.810418	7.810418	
	302.75	1.07899252	0.499	2.732	2.7320E-03	0.003249	18.91188	18.91188	
	312.75	1.072662972	0.499	2.069	2.0690E-03	0.002632	27.19493	27.19493	
	333.65	1.058888843	0.499	1.309	1.3090E-03	0.001743	33.15283	33.15283	
	353.45	1.045128174	0.499	0.92	9.2000E-04	0.001219	32.54342	32.54342	
	373.75	1.030256972	0.499	0.799	7.9900E-04	0.000873	9.223316	9.223316	20.86269
	266.15	1.069078435	0.25	5.024	5.0240E-03	0.003004	-40.2064	40.20636	
	282.55	1.06126904	0.25	2.591	2.5910E-03	0.002124	-18.0378	18.03776	
	292.45	1.056261438	0.25	1.892	1.8920E-03	0.001746	-7.74222	7.742217	
	302.35	1.051028438	0.25	1.448	1.4480E-03	0.001448	0.001413	0.001413	
	313.15	1.045057784	0.25	1.125	1.1250E-03	0.001193	6.024361	6.024361	
	333.15	1.033259268	0.25	0.769	7.6900E-04	0.000854	11.11798	11.11798	
	353.15	1.020460051	0.25	0.578	5.7800E-04	0.000631	9.240734	9.240734	
	362.95	1.013807748	0.25	0.517	5.1700E-04	0.00055	6.429282	6.429282	12.35001
	278.15	1.001288139	0	1.497	1.4970E-03	0.000986	-34.1022	34.10224	
	283.15	0.999775767	0	1.284	1.2840E-03	0.00091	-29.1323	29.13228	
	288.15	0.998176407	0	1.131	1.1310E-03	0.000841	-25.6268	25.62678	
	292.45	0.996730731	0	1.015	1.0150E-03	0.000788	-22.4132	22.41318	
	302.35	0.993152253	0	0.807	8.0700E-04	0.00068	-15.6794	15.67937	
	313.15	0.988843907	0	0.659	6.5900E-04	0.000585	-11.2	11.20005	
	332.85	0.979865966	0	0.486	4.8600E-04	0.000454	-6.59781	6.597812	
	352.95	0.969157294	0	0.39	3.9000E-04	0.000359	-7.84438	7.844384	
	362.75	0.963345929	0	0.362	3.6200E-04	0.000323	-10.6354	10.63541	18.13683

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
GLYCOL (1) - WATER (2)									
PL - OI based on viscosity of water at 25 C equal to 0.00891p (assumed ethylene glycol - JW)									
00015 Dunstan, A. E.; J. Chem. Soc., 87, 11-17(1905)									
P= 1 atm									
Ethylene Glyc (Poise)									
298.15	0.994713268	0	0.0089	8.9000E-04	0.000723	-18.731	18.73104		
298.15	1.009529541	0.0455113	0.0126	1.2600E-03	0.000815	-35.2834	35.28339		
298.15	1.030192184	0.1256208	0.0162	1.6200E-03	0.001037	-36.0042	36.00416		
298.15	1.043706564	0.192717	0.0286	2.8600E-03	0.00129	-54.8811	54.88114		
298.15	1.048765675	0.2218302	0.032	3.2000E-03	0.001423	-55.5305	55.5305		
298.15	1.06191358	0.3107874	0.0449	4.4900E-03	0.001927	-57.0874	57.0874		
298.15	1.072248314	0.3983156	0.0623	6.2300E-03	0.00259	-58.4264	58.42642		
298.15	1.079656766	0.474026	0.092	9.2000E-03	0.003317	-63.9438	63.94377		
298.15	1.110188735	1	0.1733	1.7330E-02	0.011581	-33.1748	33.17484		51.59382

ETHYLENE GLYCOL (1) - WATER (2)									
PL - OI *From DIPMIX - experimental density									
00272 Dizechi, M.; Marschell, E.; J. Chem. Eng. Data, 27(3), 358-363(1982)									
P= 1 atm									
Ethylene Glyc (10 ⁻⁶ m2/s)									
0.9957	303.15	0.992847701	0	0.804	8.0054E-04	0.000673	-15.9688	15.96878	0.286
1.0088	303.15	1.003829108	0.0334	1.026	1.0360E-03	0.000731	-29.3393	29.33929	0.493
1.0223	303.15	1.014992214	0.0725	1.298	1.3269E-03	0.000814	-38.6373	38.63727	0.715
1.0362	303.15	1.025639589	0.1158	1.646	1.7039E-03	0.000926	-45.682	45.68202	0.924
1.0478	303.15	1.036501435	0.1676	2.059	2.1574E-03	0.001089	-49.5341	49.53406	1.078
1.0599	303.15	1.047444015	0.2298	2.651	2.8098E-03	0.001334	-52.5157	52.51575	1.175
1.0749	303.15	1.062493179	0.3379	3.751	4.0319E-03	0.001914	-52.5275	52.52749	1.154
1.0796	303.15	1.067882106	0.3851	4.288	4.6293E-03	0.002238	-51.6572	51.65724	1.085
1.0845	303.15	1.07342456	0.4397	4.919	5.3347E-03	0.002672	-49.9053	49.90529	1.021

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
1.0889	303.15	1.078994438	0.502	5.703	6.2100E-03	0.003251	-47.6527	47.65267	0.910
1.0927	303.15	1.084156799	0.5678	6.546	7.1628E-03	0.003959	-44.6443	44.64428	0.782
1.0964	303.15	1.089753522	0.6499	7.638	8.3743E-03	0.004979	-40.5389	40.53887	0.606
1.1	303.15	1.095291932	0.7449	8.941	9.8351E-03	0.006319	-35.7491	35.74909	0.428
1.1033	303.15	1.101100988	0.8634	10.587	1.1681E-02	0.008131	-30.393	30.39303	0.199
1.1063	303.15	1.106641729	1	12.437	1.3759E-02	0.01017	-26.0836	26.08359	0.031
								43.75203	

ETHYLENE GLYCOL (1) - WATER (2)

PL - OI

00455 Hayduk, W.; Malik, V. K.; J. Chem. Eng. Data, 16(2), 143-146(1971)

P= 1 atm

	Ethylene Glyc		(cP)	
298.15	0.994713268	0	0.894	8.9400E-04
298.15	1.008297556	0.0414	1.22	1.2200E-03
298.15	1.028465162	0.118	1.97	1.9700E-03
298.15	1.036522661	0.1553	2.36	2.3600E-03
298.15	1.065425066	0.3385	4.73	4.7300E-03
298.15	1.067062689	0.3521	4.96	4.9600E-03
298.15	1.073814346	0.4133	5.94	5.9400E-03
298.15	1.084683575	0.5333	7.96	7.9600E-03
298.15	1.092233286	0.6376	9.9	9.9000E-03
298.15	1.100324588	0.7762	12.56	1.2560E-02
298.15	1.105165925	0.8769	14.49	1.4490E-02
298.15	1.106476485	0.907	15.05	1.5050E-02
298.15	1.110061258	0.9966	16.94	1.6940E-02
298.15	1.110188735	1	17.01	1.7010E-02
			Average Error for Temp.	
				44.4543

Total Error for All T_{el} 2006.362 0.990057 1.1598

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
1,2-ETHANEDIOL [ethylene glycol] (1) - WATER (2)									
PL - OI									
00627 Weber, W.; Rheol. Acta, 14, 1012-1025(1975)									
1,2-Ethanedik									
P (MPa)				(g/m s)					
1	293.1	1.113749404	1	21.02	2.1020E-02	0.013237	-37.028	37.02797	
1	323.1	1.092266721	1	6.97	6.9700E-03	0.0062	-11.044	11.04396	
1	353.1	1.06992817	1	3.117	3.1170E-03	0.003154	1.177917	1.177917	
1	373.1	1.054503484	1	2.054	2.0540E-03	0.002103	2.369051	2.369051	12.90472
9.9	293.1	1.113749404	1	21.95	2.1950E-02	0.013237	-39.696	39.69603	
9.9	323.1	1.092266721	1	7.23	7.2300E-03	0.0062	-14.2429	14.24293	
9.9	353.1	1.06992817	1	3.22	3.2200E-03	0.003154	-2.05852	2.05852	
9.9	373.1	1.054503484	1	2.12	2.1200E-03	0.002103	-0.81791	0.81791	14.20385
29.5	293.1	1.113749404	1	24	2.4000E-02	0.013237	-44.847	44.847	
29.5	323.1	1.092266721	1	7.77	7.7700E-03	0.0062	-20.2029	20.20288	
29.5	353.1	1.06992817	1	3.46	3.4600E-03	0.003154	-8.85215	8.852149	
29.5	373.1	1.054503484	1	2.27	2.2700E-03	0.002103	-7.37179	7.371793	20.31845
49.1	293.1	1.113749404	1	26.1	2.6100E-02	0.013237	-49.2846	49.28459	
49.1	323.1	1.092266721	1	8.36	8.3600E-03	0.0062	-25.8345	25.83449	
49.1	353.1	1.06992817	1	3.7	3.7000E-03	0.003154	-14.7644	14.76444	
49.1	373.1	1.054503484	1	2.415	2.4150E-03	0.002103	-12.9333	12.93332	25.70421
1	293.1	1.06368859	0.3033	5.035	5.0350E-03	5.08E-05	-98.9908	98.99082	
1	323.1	1.046442674	0.3033	2.113	2.1130E-03	5.56E-05	-97.368	97.36801	
1	353.1	1.027165279	0.3033	1.138	1.1380E-03	6.05E-05	-94.6803	94.6803	97.01304
9.9	293.1	1.06368859	0.3033	5.12	5.1200E-03	5.08E-05	-99.0076	99.00757	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
9.9	323.1	1.046442674	0.3033	2.14	2.1400E-03	5.56E-05	-97.4012	97.40122	
9.9	353.1	1.027165279	0.3033	1.153	1.1530E-03	6.05E-05	-94.7495	94.74951	97.05277
29.5	293.1	1.06368859	0.3033	5.27	5.2700E-03	5.08E-05	-99.0358	99.03582	
29.5	323.1	1.046442674	0.3033	2.21	2.2100E-03	5.56E-05	-97.4835	97.48353	
29.5	353.1	1.027165279	0.3033	1.186	1.1860E-03	6.05E-05	-94.8956	94.8956	97.13832
49.1	293.1	1.06368859	0.3033	5.44	5.4400E-03	5.08E-05	-99.066	99.06595	
49.1	323.1	1.046442674	0.3033	2.28	2.2800E-03	5.56E-05	-97.5608	97.56079	
49.1	353.1	1.027165279	0.3033	1.219	1.2190E-03	6.05E-05	-95.0338	95.03378	97.22017

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
n-BUTANOL (1) - n-PROPANOL (2)									
AL - AL									
(From Irving, NEL Report, 1977 - Trew, 1933)									
P=		0.101 MPa		%AAD= 1.741367					
n-Butanol				(cP)					
298.15	0.800354322		0	1.967	1.9670E-03	0.00179	-8.97779	8.977792	
298.15	0.800995373		0.1	2.02	2.0200E-03	0.001903	-5.80813	5.808132	
298.15	0.801608794		0.2	2.075	2.0750E-03	0.002008	-3.21858	3.218583	
298.15	0.802196333		0.3	2.131	2.1310E-03	0.002105	-1.23257	1.232568	
298.15	0.802759594		0.4	2.19	2.1900E-03	0.00219	0.013233	0.013233	
298.15	0.803300051		0.5	2.251	2.2510E-03	0.002263	0.552864	0.552864	
298.15	0.803819062		0.6	2.312	2.3120E-03	0.002323	0.492616	0.492616	
298.15	0.804317879		0.7	2.37	2.3700E-03	0.00237	-5.2E-05	5.17E-05	
298.15	0.804797658		0.8	2.435	2.4350E-03	0.002404	-1.28008	1.280082	
298.15	0.805259467		0.9	2.503	2.5030E-03	0.002426	-3.07417	3.074169	
298.15	0.805704299		1	2.575	2.5750E-03	0.002438	-5.30722	5.307225	
Average Error for Temp.									1.741367
Total Error for All Tei									15.6723
kij									1.025951
Iij									0.982994
n-BUTANOL (1) - ISO-PROPANOL [2-Propanol] (2)									
AL - AL									
(From Irving, NEL Report, 1977 - Trew, 1933)									
P=		0.101 MPa		%AAD= 1.672897					
n-Butanol				(cP)					
298.15	0.782236282		0	2.009	2.0090E-03	0.001808	-9.98786	9.987858	
298.15	0.784992114		0.1	2.005	2.0050E-03	0.001919	-4.26665	4.266653	
298.15	0.787643235		0.2	2.104	2.1040E-03	0.002025	-3.76275	3.762754	
298.15	0.790195503		0.3	2.154	2.1540E-03	0.002121	-1.51044	1.510436	
298.15	0.792654345		0.4	2.207	2.2070E-03	0.002207	-3.1E-05	3.09E-05	
298.15	0.795024799		0.5	2.263	2.2630E-03	0.00228	0.740602	0.740602	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	298.15	0.797311546	0.6	2.321	2.3210E-03	0.002339	0.764714	0.764714	
	298.15	0.799518944	0.7	2.382	2.3820E-03	0.002384	0.06776	0.06776	
	298.15	0.801651053	0.8	2.443	2.4430E-03	0.002415	-1.16283	1.162834	
	298.15	0.803711658	0.9	2.502	2.5020E-03	0.002432	-2.78028	2.780284	
	298.15	0.805704298	1	2.563	2.5630E-03	0.002438	-4.86387	4.863872	
Average Error for Temp.									1.672897
Total Error for All T_{ei}									$\frac{kJ}{IJ}$ 0.989457 1.032074

ETHANOL (1) - METHANOL (2)

AL - AL

(From Irving, NEL Report, 1977 - Hertz, 1908, 1918)

P= 0.101 MPa

Wt Frac	Ethanol (cP)	%AAD=
0	298.15 0.78961486 0	0.562
0.1	298.15 0.78924129 0.0717366	0.595
0.2	298.15 0.788868073 0.1481249	0.62
0.3	298.15 0.788495209 0.2296325	0.656
0.4	298.15 0.788122698 0.3167918	0.697
0.5	298.15 0.787750538 0.4102119	0.743
0.6	298.15 0.78737873 0.5105923	0.795
0.7	298.15 0.787007272 0.6187411	0.853
0.8	298.15 0.786636165 0.7355964	0.92
0.9	298.15 0.786265407 0.8622536	1
1	298.15 0.785894999 1	1.092
		3.216235

ETHANOL (1) - METHANOL (2)

AL - AL

(From Irving, NEL Report, 1977 - Bingham, 1913)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
		P=	0.101 MPa						
Wt Frac		Ethanol							
		(cP)							
0	308.15	0.779911892	0	0.478	4.7800E-04	0.00047	-1.65841	1.658412	
0.1	308.15	0.779606271	0.0717366	0.504	5.0400E-04	0.0005	-0.82235	0.822351	
0.2	308.15	0.779300889	0.1481249	0.536	5.3600E-04	0.000533	-0.50131	0.501307	
0.3	308.15	0.778995747	0.2296325	0.565	5.6500E-04	0.00057	0.933526	0.933526	
0.4	308.15	0.778690843	0.3167918	0.597	5.9700E-04	0.00061	2.192798	2.192798	
0.5	308.15	0.778386179	0.4102119	0.634	6.3400E-04	0.000651	2.734232	2.734232	
0.6	308.15	0.778081752	0.5105923	0.676	6.7600E-04	0.000691	2.275716	2.275716	
0.7	308.15	0.777777563	0.6187411	0.724	7.2400E-04	0.000726	0.26405	0.26405	
0.8	308.15	0.777473613	0.7355964	0.78	7.8000E-04	0.000748	-4.04969	4.049685	
0.9	308.15	0.777169899	0.8622536	0.845	8.4500E-04	0.00075	-11.2316	11.23156	
1	308.15	0.776866423	1	0.917	9.1700E-04	0.000721	-21.3897	21.38974	2.778359
0	318.15	0.769970587	0	0.42	4.2000E-04	0.000414	-1.35647	1.356471	
0.1	318.15	0.769733277	0.0717366	0.442	4.4200E-04	0.000437	-1.06341	1.063414	
0.2	318.15	0.769496113	0.1481249	0.465	4.6500E-04	0.000463	-0.44271	0.44271	
0.3	318.15	0.769259095	0.2296325	0.49	4.9000E-04	0.000491	0.204124	0.204124	
0.4	318.15	0.769022223	0.3167918	0.516	5.1600E-04	0.000521	0.941056	0.941056	
0.5	318.15	0.768785497	0.4102119	0.546	5.4600E-04	0.000551	0.964509	0.964509	
0.6	318.15	0.768548917	0.5105923	0.58	5.8000E-04	0.00058	0.010569	0.010569	
0.7	318.15	0.768312482	0.6187411	0.618	6.1800E-04	0.000604	-2.29993	2.299931	
0.8	318.15	0.768076193	0.7355964	0.661	6.6100E-04	0.000617	-6.59571	6.595713	
0.9	318.15	0.767840049	0.8622536	0.715	7.1500E-04	0.000614	-14.0818	14.08183	
1	318.15	0.76760405	1	0.766	7.6600E-04	0.000587	-23.332	23.33204	2.955984
0	328.15	0.759770686	0	0.371	3.7100E-04	0.000368	-0.82466	0.824659	
0.1	328.15	0.759602086	0.0717366	0.389	3.8900E-04	0.000386	-0.85305	0.853047	
0.2	328.15	0.759433561	0.1481249	0.408	4.0800E-04	0.000405	-0.6575	0.657498	
0.3	328.15	0.75926511	0.2296325	0.428	4.2800E-04	0.000427	-0.32758	0.327577	
0.4	328.15	0.759096735	0.3167918	0.45	4.5000E-04	0.000449	-0.23282	0.232816	
0.5	328.15	0.758928434	0.4102119	0.476	4.7600E-04	0.000471	-0.98435	0.98435	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%D	%AD	%AAD
0.6	328.15	0.758760208	0.5105923	0.502	5.0200E-04	0.000492	-2.01214	2.012141	
0.7	328.15	0.758692056	0.6187411	0.533	5.3300E-04	0.000508	-4.69923	4.699229	
0.8	328.15	0.758423978	0.7355964	0.566	5.6600E-04	0.000516	-8.90871	8.908712	
0.9	328.15	0.758255976	0.8622536	0.606	6.0600E-04	0.00051	-15.8699	15.86986	
1	328.15	0.758088047	1	0.645	6.4500E-04	0.000486	-24.7245	24.7245	3.83836
<i>Average Error for Temp.</i>									
Total Error for All Te <i>i</i>									
							k <i>fj</i>	l <i>jf</i>	
							0.999829	1.094174	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
METHANOL (1) - WATER (2)									
AL - OI									
00115 Isdale, J. D.; Eastale, A. J.; Woolf, L. A.; Int. J. Thermophys., 6(5), 439-450(1985)									
P=		0.1 MPa							%AAD= 18.15165
			<i>Methanol</i>	(mPa s)					
278.15	1.001288139	0	1.52	1.5200E-03	0.000986	-35.0994	35.09937		
278.15	0.981470661	0.0494	2.046	2.0460E-03	0.001143	-44.1343	44.13434		
278.15	0.964404914	0.0969	2.508	2.5080E-03	0.00129	-48.5448	48.54482		
278.15	0.933049402	0.199	3.035	3.0350E-03	0.001576	-48.0778	48.07779		
278.15	0.913347247	0.2755	3.039	3.0390E-03	0.001741	-42.7008	42.70081		
278.15	0.888077455	0.392	2.719	2.7190E-03	0.00188	-30.8478	30.84777		
278.15	0.855788602	0.5821	1.973	1.9730E-03	0.001769	-10.3157	10.31567		
278.15	0.82666621	0.8125	1.199	1.1990E-03	0.001219	1.634887	1.634887		
278.15	0.808374945	1	0.737	7.3700E-04	0.000722	-1.96759	1.967592		32.3223
METHANOL (1) - WATER (2)									
AL - OI									
01514 Wolf, D.; Kudish, A. I.; J. Phys. Chem., 84, 921-925(1980)									
P=		1 atm							
			<i>Methanol</i>	(cP)					
298.15	0.994713268	0	0.8904	8.9040E-04	0.000723	-18.7675	18.76755		
298.15	0.972305491	0.0519	1.1287	1.1287E-03	0.000838	-25.7466	25.74659		
298.15	0.959565989	0.0845	1.2638	1.2638E-03	0.000909	-28.0699	28.0699		
298.15	0.936237276	0.1511	1.467	1.4670E-03	0.001046	-28.6808	28.68077		
298.15	0.916143428	0.217	1.5764	1.5764E-03	0.001165	-26.1053	26.10527		27.15063

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
METHANOL (1) - WATER (2)									
AL - OI									
01989 Bhagwat, W. V.; Mandloi, K.; J. Indian Chem. Soc., 23, 349-352(1946)									
P= 1 atm									
			<i>Methanol</i>	(10-3 P)					
	298.15	0.880836257	0.3578	14.25	1.4250E-03	0.001329	-6.75061	6.750606	
	298.15	0.895517722	0.2948	14.26	1.4260E-03	0.001273	-10.7339	10.73393	
	298.15	0.902259467	0.2681	14.61	1.4610E-03	0.00124	-15.1025	15.10249	
	298.15	0.943883501	0.1282	12.47	1.2470E-03	0.001001	-19.7573	19.75726	13.08607

METHANOL (1) - WATER (2)									
AL - OI									
01495 Singh, R. P.; Haque, M. M.; Indian J. Chem. Sect. A, 20, 874-878(1981)									
P= 1 atm									
			<i>Methanol</i>	(cP)					
	303.15	0.972316067	0.0464	0.9845	9.9450E-04	0.000767	-22.8844	22.88438	
	303.15	0.951456173	0.0994	1.1537	1.1537E-03	0.000872	-24.3976	24.39764	
	303.15	0.93065548	0.1593	1.2846	1.2846E-03	0.000983	-23.4478	23.44777	
	303.15	0.90995383	0.2274	1.3788	1.3788E-03	0.001093	-20.742	20.74199	
	303.15	0.889156386	0.3063	1.445	1.4450E-03	0.001188	-17.7951	17.79507	
	303.15	0.868343902	0.3984	1.3556	1.3556E-03	0.001245	-8.16028	8.160282	
	303.15	0.847483928	0.5075	1.2161	1.2161E-03	0.00123	1.109543	1.109543	
	303.15	0.826617611	0.6385	0.9883	9.8830E-04	0.001102	11.45722	11.45722	
	303.15	0.805724997	0.7989	0.7364	7.3640E-04	0.000842	14.31158	14.31158	
	303.15	0.784792003	1	0.50985	5.0985E-04	0.000502	-1.49438	1.494375	16.03394

METHANOL (1) - WATER (2)
AL - OI

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
00627 Weber, W.; Rheol. Acta, 14, 1012-1025(1975)									
P (bar)			Methanol	(cP)					
1	273.15	0.812941409	1	0.793	7.9300E-04	0.000782	-1.33174	1.331735	
1	293.15	0.794382616	1	0.584	5.8400E-04	0.000577	-1.20453	1.20453	
1	323.15	0.764904336	1	0.3905	3.9050E-04	0.00039	-0.10844	0.108442	
1	353.15	0.732978255	1	0.276	2.7600E-04	0.000282	2.043565	2.043565	
1	373.15	0.709954461	1	0.221	2.2100E-04	0.000233	5.495884	5.495884	2.036831
99	293.15	0.794382616	1	0.613	6.1300E-04	0.000577	-5.87838	5.878377	
99	323.15	0.764904336	1	0.414	4.1400E-04	0.00039	-5.77861	5.778615	
99	353.15	0.732978255	1	0.294	2.9400E-04	0.000282	-4.204	4.204	
99	373.15	0.709954461	1	0.237	2.3700E-04	0.000233	-1.6262	1.626201	4.371798
295	293.15	0.794382616	1	0.669	6.6900E-04	0.000577	-13.757	13.75702	
295	323.15	0.764904336	1	0.454	4.5400E-04	0.00039	-14.0801	14.08006	
295	353.15	0.732978255	1	0.325	3.2500E-04	0.000282	-13.3415	13.34146	
295	373.15	0.709954461	1	0.265	2.6500E-04	0.000233	-12.0204	12.02041	13.29974
491	293.15	0.794382616	1	0.725	7.2500E-04	0.000577	-20.4185	20.41855	
491	323.15	0.764904336	1	0.493	4.9300E-04	0.00039	-20.877	20.87697	
491	353.15	0.732978255	1	0.355	3.5500E-04	0.000282	-20.6647	20.66472	
491	373.15	0.709954461	1	0.29	2.9000E-04	0.000233	-19.6049	19.60486	20.39127
1	273.15	0.897910172	0.3598897	3.348	3.3480E-03	0.002028	-39.4351	39.43514	
1	293.15	0.884031511	0.3598897	1.764	1.7640E-03	0.001442	-18.2416	18.24156	
1	323.15	0.860908062	0.3598897	0.848	8.4800E-04	0.000908	7.122055	7.122055	
1	353.15	0.834639607	0.3598897	0.49	4.9000E-04	0.000602	22.81168	22.81168	
1	373.15	0.815076692	0.3598897	0.364	3.6400E-04	0.000468	28.6916	28.6916	23.26041
99	293.15	0.884031511	0.3598897	1.8	1.8000E-03	0.001442	-19.8767	19.87673	
99	323.15	0.860908062	0.3598897	0.867	8.6700E-04	0.000908	4.774513	4.774513	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
99	353.15	0.834639607	0.3598897	0.501	5.0100E-04	0.000602	20.11521	20.11521	17.42077
99	373.15	0.815076692	0.3598897	0.375	3.7500E-04	0.000468	24.91665	24.91665	
295	293.15	0.884031511	0.3598897	1.87	1.8700E-03	0.001442	-22.876	22.87599	14.405
295	323.15	0.860908062	0.3598897	0.904	9.0400E-04	0.000908	0.486175	0.486175	
295	353.15	0.834639607	0.3598897	0.523	5.2300E-04	0.000602	15.06257	15.06257	13.13131
295	373.15	0.815076692	0.3598897	0.393	3.9300E-04	0.000468	19.19527	19.19527	
491	293.15	0.884031511	0.3598897	1.925	1.9250E-03	0.001442	-25.0795	25.07954	22.348
491	323.15	0.860908062	0.3598897	0.937	9.3700E-04	0.000908	-3.05283	3.052825	
491	353.15	0.834639607	0.3598897	0.545	5.4500E-04	0.000602	10.41784	10.41784	15.26945
491	373.15	0.815076692	0.3598897	0.411	4.1100E-04	0.000468	13.97504	13.97504	
1	273.15	0.917080895	0.2726323	3.665	3.6650E-03	0.001895	-48.3016	48.30161	14.34864
1	293.15	0.904445526	0.2726323	1.845	1.8450E-03	0.00135	-26.8095	26.80948	
1	323.15	0.883075192	0.2726323	0.86	8.6000E-04	0.000855	-0.63461	0.634614	13.13131
1	353.15	0.858452484	0.2726323	0.494	4.9400E-04	0.00057	15.28993	15.28993	
1	373.15	0.839950872	0.2726323	0.369	3.6900E-04	0.000445	20.70437	20.70437	15.26945
99	293.15	0.904445526	0.2726323	1.865	1.8650E-03	0.00135	-27.5944	27.59436	
99	323.15	0.883075192	0.2726323	0.875	8.7500E-04	0.000855	-2.33802	2.338021	13.13131
99	353.15	0.858452484	0.2726323	0.504	5.0400E-04	0.00057	13.00243	13.00243	
99	373.15	0.839950872	0.2726323	0.377	3.7700E-04	0.000445	18.143	18.143	14.34864
295	293.15	0.904445526	0.2726323	1.91	1.9100E-03	0.00135	-29.3003	29.30025	
295	323.15	0.883075192	0.2726323	0.903	9.0300E-04	0.000855	-5.3663	5.366299	14.34864
295	353.15	0.858452484	0.2726323	0.522	5.2200E-04	0.00057	9.105799	9.105799	
295	373.15	0.839950872	0.2726323	0.392	3.9200E-04	0.000445	13.62222	13.62222	14.34864
491	293.15	0.904445526	0.2726323	1.95	1.9500E-03	0.00135	-30.7505	30.75051	
491	323.15	0.883075192	0.2726323	0.929	9.2900E-04	0.000855	-8.01482	8.01482	14.34864
491	353.15	0.858452484	0.2726323	0.54	5.4000E-04	0.00057	5.468939	5.468939	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
491	373.15	0.839950872	0.2726323	0.407	4.0700E-04	0.000445	9.434671	9.434671	13.41723
1	273.15	0.937088095	0.1941697	3.69	3.6900E-03	0.001706	-53.7759	53.77586	
1	293.15	0.92582464	0.1941697	1.801	1.8010E-03	0.001219	-32.3061	32.30609	
1	323.15	0.906414049	0.1941697	0.832	8.3200E-04	0.000777	-6.65867	6.658668	
1	353.15	0.88366408	0.1941697	0.482	4.8200E-04	0.000522	8.308239	8.308239	
1	373.15	0.86639106	0.1941697	0.363	3.6300E-04	0.000411	13.22378	13.22378	22.85453
99	293.15	0.92582464	0.1941697	1.815	1.8150E-03	0.001219	-32.8282	32.82824	
99	323.15	0.906414049	0.1941697	0.842	8.4200E-04	0.000777	-7.76723	7.767235	
99	353.15	0.88366408	0.1941697	0.489	4.8900E-04	0.000522	6.757815	6.757815	
99	373.15	0.86639106	0.1941697	0.369	3.6900E-04	0.000411	11.38274	11.38274	14.68401
295	293.15	0.92582464	0.1941697	1.835	1.8350E-03	0.001219	-33.5604	33.56036	
295	323.15	0.906414049	0.1941697	0.86	8.6000E-04	0.000777	-9.69769	9.697688	
295	353.15	0.88366408	0.1941697	0.503	5.0300E-04	0.000522	3.786424	3.786424	
295	373.15	0.86639106	0.1941697	0.382	3.8200E-04	0.000411	7.592231	7.592231	13.65918
491	293.15	0.92582464	0.1941697	1.86	1.8600E-03	0.001219	-34.4534	34.45337	
491	323.15	0.906414049	0.1941697	0.879	8.7900E-04	0.000777	-11.6496	11.64961	
491	353.15	0.88366408	0.1941697	0.517	5.1700E-04	0.000522	0.97596	0.97596	
491	373.15	0.86639106	0.1941697	0.394	3.9400E-04	0.000411	4.31531	4.31531	12.84856

METHANOL (1) - WATER (2)

AL - Ol Vls of 1.969m2/s at 20C and .8739molf was assumed to be 0.969m2/s.
00272 Dizachi, M.; Marschell, E.; J. Chem. Eng. Data, 27(3), 358-363(1982)

P= 0.101 MPa

		Methanol (g/m s)		
283.1	0.99979132	0	1.2896	1.2896E-03 0.000911 -29.3838 29.38377
283.1	0.990171681	0.0228	1.469	1.4690E-03 0.000977 -33.5138 33.51384

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{red} (Pa·s)	%D	%AD	%AAD
	283.1	0.980900304	0.046	1.6624	1.6624E-03	0.001044	-37.2133	37.21329	
	283.1	0.96163983	0.0985	2.059	2.0590E-03	0.001193	-42.0766	42.07656	
	283.1	0.942359768	0.1578	2.3548	2.3548E-03	0.00135	-42.6678	42.66777	
	283.1	0.924569478	0.2197	2.5067	2.5067E-03	0.001494	-40.3943	40.39426	
	283.1	0.900889089	0.3153	2.436	2.4360E-03	0.001658	-31.9194	31.91938	
	283.1	0.880814598	0.4112	2.2772	2.2772E-03	0.001734	-23.8651	23.86508	
	283.1	0.861718522	0.5187	1.8893	1.8893E-03	0.0017	-10.0112	10.01119	
	283.1	0.842225333	0.6496	1.5037	1.5037E-03	0.001506	0.174253	0.174253	
	283.1	0.823538212	0.8015	1.1116	1.1116E-03	0.00115	3.432253	3.432253	
	283.1	0.815807404	0.8739	0.9324	9.3240E-04	0.000965	3.547808	3.547808	
	283.1	0.810159991	0.931	0.8093	8.0930E-04	0.000825	1.984882	1.984882	
	283.1	0.80380719	1	0.6839	6.8390E-04	0.000669	-2.1404	2.140398	22.56671
	283.1	0.996506511	0	1.0032	1.0032E-03	0.00078	-22.2685	22.26854	
	283.1	0.986507895	0.0228	1.1248	1.1248E-03	0.000835	-25.7666	25.76659	
	283.1	0.976879128	0.046	1.2534	1.2534E-03	0.000891	-28.9106	28.91066	
	283.1	0.956900863	0.0985	1.516	1.5160E-03	0.001015	-33.0199	33.01987	
	283.1	0.936935544	0.1578	1.7208	1.7208E-03	0.001147	-33.3497	33.34974	
	283.1	0.918542399	0.2197	1.8349	1.8349E-03	0.001267	-30.9368	30.9368	
	283.1	0.8941033	0.3153	1.8215	1.8215E-03	0.001404	-22.9056	22.90559	
	283.1	0.87342465	0.4112	1.6979	1.6979E-03	0.001467	-13.6191	13.61912	
	283.1	0.853786999	0.5187	1.4742	1.4742E-03	0.001438	-2.46712	2.467115	
	283.1	0.833774215	0.6496	1.2091	1.2091E-03	0.001275	5.474889	5.474889	
	283.1	0.814620437	0.8015	0.9125	9.1250E-04	0.000978	7.152565	7.152565	
	283.1	0.80670556	0.8739	0.7878	7.8780E-04	0.000824	4.626613	4.626613	
	283.1	0.800927003	0.931	0.6923	6.9230E-04	0.000708	2.198267	2.198267	
	283.1	0.794430023	1	0.5934	5.9340E-04	0.000577	-2.69994	2.699937	17.53564
	303.1	0.992866803	0	0.8005	8.0050E-04	0.000673	-15.9041	15.90413	
	303.1	0.982490459	0.0228	0.8837	8.8370E-04	0.00072	-18.5735	18.57353	
	303.1	0.972506201	0.046	0.9739	9.7390E-04	0.000767	-21.2786	21.27859	
	303.1	0.951816163	0.0985	1.1511	1.1511E-03	0.000871	-24.322	24.32202	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa-s)	%D	%AD	%AAD
	303.1	0.931174273	0.1578	1.2916	1.2916E-03	0.000981	-24.0091	24.00913	
	303.1	0.912188492	0.2197	1.3772	1.3772E-03	0.001082	-21.4055	21.40553	
	303.1	0.887007322	0.3153	1.3795	1.3795E-03	0.001197	-13.2234	13.22342	
	303.1	0.865741111	0.4112	1.3116	1.3116E-03	0.001249	-4.78291	4.782912	
	303.1	0.845579607	0.5187	1.1614	1.1614E-03	0.001224	5.385925	5.385925	
	303.1	0.825067083	0.6496	0.9752	9.7520E-04	0.001087	11.47447	11.47447	
	303.1	0.805467193	0.8015	0.7614	7.6140E-04	0.000838	10.03506	10.03506	
	303.1	0.797377142	0.8739	0.668	6.6800E-04	0.000709	6.188358	6.188358	
	303.1	0.791474075	0.931	0.5928	5.9280E-04	0.000612	3.175711	3.175711	
	303.1	0.784840511	1	0.5151	5.1510E-04	0.000503	-2.4328	2.432796	13.65455
	313.1	0.98886484	0	0.6568	6.5680E-04	0.000586	-10.8421	10.84212	
	313.1	0.978111376	0.0228	0.7181	7.1810E-04	0.000625	-12.9965	12.99653	
	313.1	0.967426692	0.0468	0.7813	7.8130E-04	0.000666	-14.7688	14.7688	
	313.1	0.946721451	0.0976	0.9032	9.0320E-04	0.000751	-16.8279	16.82787	
	313.1	0.925065232	0.1578	1.0035	1.0035E-03	0.000846	-15.7233	15.72327	
	313.1	0.905288615	0.2204	1.0664	1.0664E-03	0.000932	-12.647	12.64702	
	313.1	0.878577451	0.3194	1.0788	1.0788E-03	0.00103	-4.52838	4.528383	
	313.1	0.858506952	0.4076	1.0381	1.0381E-03	0.001069	3.020601	3.020601	
	313.1	0.83748858	0.5164	0.9345	9.3450E-04	0.00105	12.31697	12.31697	
	313.1	0.816497785	0.6468	0.806	8.0600E-04	0.000936	16.13358	16.13358	
	313.1	0.796098375	0.8012	0.6431	6.4310E-04	0.000724	12.50769	12.50769	
	313.1	0.787631592	0.8755	0.5679	5.6790E-04	0.000613	7.903661	7.903661	
	313.1	0.78161162	0.9327	0.511	5.1100E-04	0.000531	3.83749	3.83749	
	313.1	0.775021934	1	0.4485	4.4850E-04	0.000441	-1.63859	1.638593	11.10099
	323.1	0.984492835	0	0.5514	5.5140E-04	0.000513	-6.95485	6.954845	
	323.1	0.973362037	0.0228	0.5915	5.9150E-04	0.000546	-7.64065	7.640651	
	323.1	0.962312049	0.0468	0.6367	6.3670E-04	0.000581	-8.71728	8.717281	
	323.1	0.940926144	0.0976	0.723	7.2300E-04	0.000653	-9.61663	9.616633	
	323.1	0.918596361	0.1578	0.7944	7.9440E-04	0.000733	-7.67395	7.673948	
	323.1	0.89823882	0.2204	0.8503	8.5030E-04	0.000806	-5.21842	5.218416	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	323.1	0.870794691	0.3194	0.8531	8.5310E-04	0.000889	4.183502	4.183502	
	323.1	0.850212401	0.4076	0.8545	8.5450E-04	0.000922	7.866551	7.866551	
	323.1	0.828693798	0.5164	0.7644	7.6440E-04	0.000904	18.3113	18.3113	
	323.1	0.805755823	0.6568	0.6834	6.8340E-04	0.000798	16.77422	16.77422	
	323.1	0.786425035	0.8012	0.5454	5.4540E-04	0.000629	15.28766	15.28766	
	323.1	0.77779589	0.8755	0.4883	4.8830E-04	0.000535	9.638153	9.638153	
	323.1	0.771664056	0.9327	0.4437	4.4370E-04	0.000466	5.021552	5.021552	
	323.1	0.764955327	1	0.3933	3.9330E-04	0.00039	-0.76073	0.760728	9.662489

METHANOL (1) - WATER (2)

AL - OI

00135 Mikhail, S. Z.; Kimel, W. R.; J. Chem. Eng. Data, 6(4), 533-537(1961)

P= 1 atm

			Methanol	(10-3P)					
298.15	0.994713268	0	8.95	8.9500E-04	0.000723	-19.1851	19.18506		
298.15	0.969528966	0.0588	11.55	1.1550E-03	0.000853	-26.1261	26.12615		
298.15	0.945568535	0.1233	13.92	1.3920E-03	0.000991	-28.8342	28.83421		
298.15	0.922766073	0.1943	15.4	1.5400E-03	0.001126	-26.8553	26.85534		
298.15	0.901074172	0.2727	15.95	1.5950E-03	0.001246	-21.8608	21.8608		
298.15	0.8803742	0.3599	15.34	1.5340E-03	0.00133	-13.2902	13.29016		
298.15	0.860575277	0.4576	14.01	1.4010E-03	0.001351	-3.5423	3.542295		
298.15	0.841670139	0.5675	12.18	1.2180E-03	0.001282	5.270507	5.270507		
298.15	0.823577961	0.6922	10.05	1.0050E-03	0.001106	10.0786	10.0786		
298.15	0.806236926	0.835	7.82	7.8200E-04	0.000838	7.215986	7.215986		
298.15	0.797840212	0.9144	6.59	6.5900E-04	0.000687	4.257774	4.257774		
298.15	0.78961486	1	5.41	5.4100E-04	0.000538	-0.60632	0.606324		14.7332
303.15	0.992847701	0	8	8.0000E-04	0.000673	-15.9118	15.91177		
303.15	0.967204887	0.0588	10.15	1.0150E-03	0.000792	-21.9794	21.97943		
303.15	0.942833094	0.1233	12.06	1.2060E-03	0.000918	-23.891	23.89096		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	303.15	0.919661637	0.1943	13.36	1.3360E-03	0.001042	-21.9812	21.98123	
	303.15	0.897639037	0.2727	13.81	1.3810E-03	0.001152	-16.5734	16.57344	
	303.15	0.87664194	0.3599	13.37	1.3370E-03	0.001229	-8.09903	8.099028	
	303.15	0.856575668	0.4576	12.39	1.2390E-03	0.001248	0.714338	0.714338	
	303.15	0.837430597	0.5675	10.85	1.0850E-03	0.001184	9.135261	9.135261	
	303.15	0.819122828	0.6922	9.07	9.0700E-04	0.001023	12.76813	12.76813	
	303.15	0.801588013	0.835	7.14	7.1400E-04	0.000778	8.903294	8.903294	
	303.15	0.793101988	0.9144	6.12	6.1200E-04	0.000639	4.41392	4.41392	
	303.15	0.784792003	1	5.07	5.0700E-04	0.000502	-0.94065	0.940645	12.8459
	308.15	0.990891567	0	7.21	7.2100E-04	0.000627	-13.0587	13.05871	
	308.15	0.964790968	0.0588	8.94	8.9400E-04	0.000736	-17.6367	17.63671	
	308.15	0.940009548	0.1233	10.62	1.0620E-03	0.000852	-19.7782	19.77817	
	308.15	0.916471618	0.1943	11.72	1.1720E-03	0.000966	-17.5657	17.56568	
	308.15	0.894121446	0.2727	12.13	1.2130E-03	0.001067	-12.0564	12.05635	
	308.15	0.872830822	0.3599	11.8	1.1800E-03	0.001137	-3.66038	3.660381	
	308.15	0.852501153	0.4576	10.98	1.0980E-03	0.001154	5.103656	5.103656	
	308.15	0.833120355	0.5675	9.74	9.7400E-04	0.001095	12.45015	12.45015	
	308.15	0.814601378	0.6922	8.29	8.2900E-04	0.000947	14.25869	14.25869	
	308.15	0.796877283	0.835	6.67	6.6700E-04	0.000722	8.315863	8.315863	
	308.15	0.788304222	0.9144	5.66	5.6600E-04	0.000596	5.212664	5.212664	
	308.15	0.779911892	1	4.74	4.7400E-04	0.00047	-0.82852	0.828525	11.60383
	313.15	0.988843907	0	6.54	6.5400E-04	0.000585	-10.5212	10.52115	
	313.15	0.962286024	0.0588	8	8.0000E-04	0.000686	-14.2672	14.26724	
	313.15	0.937096518	0.1233	9.41	9.4100E-04	0.000792	-15.8221	15.82206	
	313.15	0.913194476	0.1943	10.34	1.0340E-03	0.000897	-13.2537	13.25365	
	313.15	0.890519722	0.2727	10.74	1.0740E-03	0.000989	-7.89001	7.890007	
	313.15	0.868939043	0.3599	10.46	1.0460E-03	0.001053	0.704678	0.704678	
	313.15	0.848349819	0.4576	9.81	9.8100E-04	0.001069	8.958641	8.958641	
	313.15	0.828737395	0.5675	8.76	8.7600E-04	0.001015	15.82612	15.82612	
	313.15	0.810011497	0.6922	7.52	7.5200E-04	0.000879	16.83859	16.83859	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	313.15	0.792102531	0.835	6.12	6.1200E-04	0.000672	9.883476	9.883476	
	313.15	0.783444667	0.9144	5.32	5.3200E-04	0.000556	4.516313	4.516313	
	313.15	0.774972235	1	4.5	4.5000E-04	0.000441	-2.02835	2.028347	
	323.15	0.984470031	0	5.49	5.4900E-04	0.000513	-6.60825	6.608246	10.79608
	323.15	0.956998013	0.0588	6.56	6.5600E-04	0.000598	-8.82348	8.823483	
	323.15	0.930996087	0.1233	7.59	7.5900E-04	0.000688	-9.34039	9.340393	
	323.15	0.90637216	0.1943	8.23	8.2300E-04	0.000777	-5.61984	5.619835	
	323.15	0.883056574	0.2727	8.54	8.5400E-04	0.000855	0.07007	0.07007	
	323.15	0.860905652	0.3599	8.41	8.4100E-04	0.000908	8.014158	8.014158	
	323.15	0.83980835	0.4576	7.95	7.9500E-04	0.000921	15.84529	15.84529	
	323.15	0.819744532	0.5675	7.22	7.2200E-04	0.000875	21.1427	21.1427	
	323.15	0.80061724	0.6922	6.3	6.3000E-04	0.00076	20.57348	20.57348	
	323.15	0.782351377	0.835	5.22	5.2200E-04	0.000586	12.20964	12.20964	
	323.15	0.773530419	0.9144	4.58	4.5800E-04	0.000487	6.431576	6.431576	
	323.15	0.764904336	1	3.96	3.9600E-04	0.00039	-1.49582	1.495825	10.80706

METHANOL (1) - WATER (2)

AL - OI

00014 Dunstan, A. E.; J. Chem. Soc., 85, 817-827(1904)

P= 1 atm

	Methanol	(Poise)	
298.15	0.994713268	0	0.00891
298.15	0.977374041	0.0395839	0.01055
298.15	0.969358361	0.0592276	0.01157
298.15	0.942170885	0.1332334	0.01403
298.15	0.909826007	0.2396351	0.016
298.15	0.905673249	0.255068	0.01575
298.15	0.899588665	0.278521	0.0157
298.15	0.888155596	0.3255155	0.0157

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	298.15	0.861267867	0.3558452	0.01532	1.5320E-03	0.001328	-13.3461	13.34606	
	298.15	0.877733127	0.3720503	0.0154	1.5400E-03	0.001337	-13.1759	13.17592	
	298.15	0.874705862	0.3862926	0.0149	1.4900E-03	0.001344	-9.81823	9.818229	
	298.15	0.869680225	0.4107126	0.01475	1.4750E-03	0.001351	-8.39788	8.397877	
	298.15	0.863405807	0.4426412	0.01427	1.4270E-03	0.001353	-5.16492	5.164925	
	298.15	0.858547313	0.4685397	0.0137	1.3700E-03	0.001349	-1.5484	1.548395	
	298.15	0.848146409	0.5277616	0.01282	1.2820E-03	0.001318	2.804438	2.804438	
	298.15	0.835818048	0.6055013	0.01167	1.1670E-03	0.001238	6.069342	6.069342	
	298.15	0.828190189	0.6583086	0.01105	1.1050E-03	0.001162	5.160347	5.160347	
14.19913									

14.19913

METHANOL (1) - WATER (2)

AL - Ol *From DIPMIX - experimental density

00178 Noda, K.; Ohashi, M.; Ishida, K.; J. Chem. Eng. Data, 27(3), 326-328(1982)

Density *	P=	1 atm	Methanol	(10 ⁻⁶ m ² /s)	%AD Density
(g/cm ³)					
0.9971	298.15	0.994713268	0	0.893	0.239
0.9834	298.15	0.97279293	0.0507	1.126	1.079
0.9669	298.15	0.949345965	0.1125	1.385	1.815
0.9602	298.15	0.939530762	0.1411	1.48	2.153
0.9411	298.15	0.913150544	0.2276	1.657	2.970
0.9257	298.15	0.896036099	0.2927	1.683	3.204
0.8984	298.15	0.867861145	0.4198	1.593	3.399
0.8845	298.15	0.855453273	0.4856	1.505	3.284
0.8699	298.15	0.843795544	0.5542	1.396	3.001
0.8377	298.15	0.820810424	0.7133	1.149	2.016
0.821	298.15	0.809740032	0.804	0.992	1.371
0.816	298.15	0.806292377	0.8345	0.952	1.190
0.8001	298.15	0.79788057	0.914	0.825	0.277
0.7867	298.15	0.78961486	1	0.689	0.371

14.11674

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
METHANOL (1) - WATER (2)									
AL - OI									
00034 Herz, W.; Z. Anorg. Chem., 104, 47-52(1918)									
P= 1 atm									
			<i>Methanol</i>	(P)					
	298.15	0.994713268	0	0.00895	8.9500E-04	0.000723	-19.1851	19.18506	
	298.15	0.96805965	0.0624965	0.01162	1.1620E-03	0.000861	-25.875	25.87497	
	298.15	0.921095904	0.1999292	0.0149	1.4900E-03	0.001136	-23.7437	23.7437	
	298.15	0.907046122	0.2499159	0.01585	1.5850E-03	0.001215	-23.32	23.32002	
	298.15	0.886367169	0.3332375	0.01558	1.5580E-03	0.001311	-15.8741	15.87409	
	298.15	0.852925564	0.4998803	0.01314	1.3140E-03	0.001336	1.670546	1.670546	
	298.15	0.827045499	0.6665761	0.0106	1.0600E-03	0.001149	8.384646	8.384646	
	298.15	0.79140983	0.9806012	0.00807	8.0700E-04	0.00057	-29.3891	29.38905	
	298.15	0.78981486	1	0.00562	5.6200E-04	0.000538	-4.32032	4.320323	18.32243

METHANOL (1) - WATER (2)									
AL - OI									
00344 Mato, F.; Hernandez, J. L.; An. R. Soc. Esp. Fis. Quim. Ser. B, 65, 9-18(1969)									
P= 1 atm									
			<i>Methanol</i>	(cP)					
	288.15	0.998176407	0	1.014	1.0140E-03	0.000841	-17.0453	17.04525	
	288.15	0.975381463	0.055	1.452	1.4520E-03	0.000986	-32.0751	32.07507	
	288.15	0.948887489	0.129	1.926	1.9260E-03	0.001174	-39.0386	39.03859	
	288.15	0.934107592	0.176	2.066	2.0660E-03	0.001283	-37.8941	37.89409	
	288.15	0.918224144	0.232	2.128	2.1280E-03	0.001397	-34.3573	34.35729	
	288.15	0.911923769	0.256	2.121	2.1210E-03	0.001439	-32.1514	32.15145	
	288.15	0.863127525	0.487	1.762	1.7620E-03	0.001582	-10.2272	10.2272	
	288.15	0.854111908	0.541	1.603	1.6030E-03	0.001541	-3.89436	3.894363	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	288.15	0.84142836	0.626	1.383	1.3830E-03	0.001427	3.158223	3.158223	
	288.15	0.839038952	0.642	1.321	1.3210E-03	0.001397	5.779105	5.779105	
	288.15	0.808278706	0.903	0.814	8.1400E-04	0.000825	1.291083	1.291083	
	288.15	0.799097296	1	0.629	6.2900E-04	0.00062	-1.35829	1.358294	19.98665
	293.15	0.996489202	0	1.005	1.0050E-03	0.000779	-22.4663	22.46631	
	293.15	0.973260871	0.055	1.262	1.2620E-03	0.000912	-27.7365	27.73652	
	293.15	0.94629146	0.129	1.651	1.6510E-03	0.001084	-34.3563	34.35634	
	293.15	0.931259626	0.176	1.748	1.7480E-03	0.001183	-32.297	32.29695	
	293.15	0.915115742	0.232	1.836	1.8360E-03	0.001287	-29.8766	29.8766	
	293.15	0.908715118	0.256	1.822	1.8220E-03	0.001326	-27.2214	27.22138	
	293.15	0.859200377	0.487	1.555	1.5550E-03	0.001456	-6.37354	6.373542	
	293.15	0.850063225	0.541	1.418	1.4180E-03	0.001418	1.51E-05	1.51E-05	
	293.15	0.837214601	0.625	0.642	6.4200E-04	0.001314	104.617	104.617	
	293.15	0.834794881	0.642	1.186	1.1860E-03	0.001287	8.498531	8.498531	
	293.15	0.803666151	0.903	0.745	7.4500E-04	0.000763	2.467903	2.467903	
	293.15	0.794382616	1	0.581	5.8100E-04	0.000577	-0.6944	0.694398	27.34447
	303.15	0.992847701	0	0.801	8.0100E-04	0.000673	-16.0167	16.01674	
	303.15	0.968755459	0.055	0.978	9.7800E-04	0.000784	-19.8092	19.80923	
	303.15	0.940842077	0.129	1.245	1.2450E-03	0.000929	-25.4192	25.41922	
	303.15	0.92531148	0.176	1.313	1.3130E-03	0.001012	-22.912	22.91205	
	303.15	0.90205596	0.256	1.37	1.3700E-03	0.001132	-17.3964	17.39636	
	303.15	0.851133681	0.487	1.218	1.2180E-03	0.001239	1.751553	1.751553	
	303.15	0.841759887	0.541	1.126	1.1260E-03	0.001207	7.212306	7.212306	
	303.15	0.828590634	0.625	0.996	9.9600E-04	0.001119	12.38237	12.38237	
	303.15	0.826112117	0.642	0.974	9.7400E-04	0.001097	12.60518	12.60518	
	303.15	0.794271731	0.903	0.63	6.3000E-04	0.000658	4.50961	4.50961	
	303.15	0.784792003	1	0.509	5.0900E-04	0.000502	-1.32988	1.329876	13.77754
	313.15	0.988843907	0	0.656	6.5600E-04	0.000585	-10.794	10.79395	
	313.15	0.963890333	0.055	0.78	7.8000E-04	0.000679	-12.896	12.896	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	313.15	0.935040934	0.129	0.974	9.7400E-04	0.000801	-17.7519	17.75188	
	313.15	0.919018253	0.176	1.021	1.0210E-03	0.000872	-14.6366	14.63662	
	313.15	0.901855733	0.232	1.078	1.0780E-03	0.000945	-12.3428	12.34277	
	313.15	0.89506415	0.256	1.067	1.0670E-03	0.000972	-8.89516	8.895161	
	313.15	0.842771852	0.487	0.973	9.7300E-04	0.001062	9.098983	9.098983	
	313.15	0.833169672	0.541	0.911	9.1100E-04	0.001034	13.52301	13.52301	
	313.15	0.819692027	0.625	0.815	8.1500E-04	0.00096	17.78206	17.78206	
	313.15	0.817157097	0.642	0.807	8.0700E-04	0.000941	16.59361	16.59361	
	313.15	0.78463774	0.903	0.545	5.4500E-04	0.000572	5.016147	5.016147	
	313.15	0.774972235	1	0.453	4.5300E-04	0.000441	-2.67717	2.677166	12.85362
	323.15	0.984470031	0	0.549	5.4900E-04	0.000513	-6.60825	6.608246	
	323.15	0.958655865	0.055	0.64	6.4000E-04	0.000593	-7.39846	7.398459	
	323.15	0.928876547	0.129	0.785	7.8500E-04	0.000696	-11.3749	11.37489	
	323.15	0.912367436	0.176	0.818	8.1800E-04	0.000755	-7.66596	7.66596	
	323.15	0.894707618	0.232	0.857	8.5700E-04	0.000817	-4.63792	4.637923	
	323.15	0.887726011	0.256	0.849	8.4900E-04	0.00084	-1.04409	1.044093	
	323.15	0.83409877	0.487	0.796	7.9600E-04	0.000915	14.90007	14.90007	
	323.15	0.824276045	0.541	0.746	7.4600E-04	0.000891	19.47253	19.47253	
	323.15	0.810501669	0.625	0.678	6.7800E-04	0.000828	22.16878	22.16878	
	323.15	0.8079126	0.642	0.673	6.7300E-04	0.000812	20.68734	20.68734	
	323.15	0.774745601	0.903	0.475	4.7500E-04	0.000501	5.5221	5.5221	
	323.15	0.764904336	1	0.404	4.0400E-04	0.00039	-3.4464	3.446402	11.48721

METHANOL (1) - WATER (2)

AL - OI

00322 Konobeav, B. I.; Lyapin, V. V.; J. Appl. Chem. USSR, 43(4), 806-813(1970)

P= 1 atm

Methanol (10-6 N s/m2)

293.15	0.996489202	0	1002	1.0020E-03	0.000779	-22.2342	22.23417
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Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	293.15	0.947640387	0.125	1620	1.6200E-03	0.001075	-33.6494	33.6494	18.92806
	293.15	0.904352626	0.273	1850	1.8500E-03	0.001351	-26.9795	26.9795	
	293.15	0.864427996	0.458	1609	1.6090E-03	0.001466	-8.90492	8.904925	
	293.15	0.828126609	0.691	1131	1.1310E-03	0.001201	6.178483	6.178483	
	293.15	0.794382616	1	579	5.7900E-04	0.000577	-0.35137	0.351374	
	313.15	0.988843907	0	656	6.5600E-04	0.000585	-10.794	10.79395	12.42233
	313.15	0.936480762	0.125	951	9.5100E-04	0.000795	-16.4246	16.42461	
	313.15	0.890439394	0.273	1088	1.0880E-03	0.00099	-9.04813	9.048125	
	313.15	0.848272162	0.458	986	9.8600E-04	0.001069	8.399707	8.399707	
	313.15	0.810176648	0.691	760	7.6000E-04	0.00088	15.81686	15.81686	
	313.15	0.774972235	1	446	4.4600E-04	0.000441	-1.14968	1.149677	14.22139
	333.15	0.979717812	0	469	4.6900E-04	0.000452	-3.56665	3.566653	
	333.15	0.923865021	0.125	630	6.3000E-04	0.000603	-4.21952	4.219515	
	333.15	0.875149006	0.273	690	6.9000E-04	0.000743	7.641702	7.641702	
	333.15	0.830851706	0.458	659	6.5900E-04	0.000798	21.07898	21.07898	
	333.15	0.791091784	0.691	534	5.3400E-04	0.000662	23.94537	23.94537	14.22139
	333.15	0.754566639	1	346	3.4600E-04	0.000348	0.483089	0.483089	

METHANOL (1) - WATER (2)

AL - OI

00348 Kikuchi, M.; Oikawa, E.; Nippon Kagaku Zasshi, 88, 1259-1267(1967)

P= 1 atm

	Methanol		(cP)	
283.05	0.999806864	0	1.308	1.3080E-03
293.1	0.996506511	0	1.005	1.0050E-03
303.16	0.992843879	0	0.8007	8.0070E-04
313.21	0.988818775	0	0.6606	6.6060E-04
323.05	0.984515629	0	0.5529	5.5290E-04
			-30.3216	0.000911
			-22.4078	0.00078
			-15.9973	0.000673
			-11.4872	0.000585
			-7.14749	0.000513
			30.32164	0.000911
			22.40776	0.00078
			15.9973	0.000673
			11.48722	0.000585
			7.147489	0.000513

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	283.05	0.976202588	0.0583	1.781	1.7810E-03	0.00108	-39.3595	39.35951	17.47228
	293.1	0.97198238	0.0583	1.313	1.3130E-03	0.000921	-29.8872	29.88724	
	303.16	0.967403394	0.0583	1.013	1.0130E-03	0.000791	-21.9361	21.93608	
	313.21	0.962465719	0.0583	0.8215	8.2150E-04	0.000684	-16.6843	16.68435	
	323.05	0.95726996	0.0583	0.6624	6.6240E-04	0.000598	-9.69238	9.692377	23.51191
	283.05	0.95343893	0.1229	2.224	2.2240E-03	0.00126	-43.3336	43.33365	
	293.1	0.948379222	0.1229	1.6	1.6000E-03	0.001071	-33.0605	33.06048	
	303.16	0.942968184	0.1229	1.209	1.2090E-03	0.000917	-24.1534	24.1534	
	313.21	0.937206258	0.1229	0.9519	9.5190E-04	0.000791	-16.9243	16.92429	
	323.05	0.931208638	0.1229	0.763	7.6300E-04	0.000689	-9.76184	9.761842	25.44673
	283.05	0.933177837	0.1889	2.486	2.4860E-03	0.001427	-42.6093	42.60927	
	293.1	0.927410116	0.1889	1.784	1.7840E-03	0.00121	-32.1772	32.1772	
	303.16	0.92130081	0.1889	1.337	1.3370E-03	0.001033	-22.7055	22.70548	
	313.21	0.914850706	0.1889	1.042	1.0420E-03	0.000889	-14.7012	14.70123	
	323.05	0.908187133	0.1889	0.8288	8.2880E-04	0.000772	-6.89963	6.899631	23.81856
	283.05	0.911159281	0.2719	2.541	2.5410E-03	0.001595	-37.2224	37.22245	
	293.1	0.904663873	0.2719	1.838	1.8380E-03	0.00135	-26.5271	26.52715	
	303.16	0.897840541	0.2719	1.384	1.3840E-03	0.001151	-16.8351	16.83515	
	313.21	0.890690449	0.2719	1.085	1.0850E-03	0.000988	-8.97814	8.978137	
	323.05	0.883353191	0.2719	0.8647	8.6470E-04	0.000855	-1.10333	1.10333	18.13324
	283.05	0.891330709	0.3592	2.393	2.3930E-03	0.001706	-28.6918	28.69184	
	293.1	0.884217094	0.3592	1.766	1.7660E-03	0.001443	-18.2942	18.2942	
	303.16	0.876790378	0.3592	1.344	1.3440E-03	0.001228	-8.62172	8.621717	
	313.21	0.869052043	0.3592	1.066	1.0660E-03	0.001052	-1.30529	1.305292	
	323.05	0.8611519	0.3592	0.8553	8.5530E-04	0.000909	6.330169	6.330169	12.64864
	283.05	0.872306716	0.4571	2.104	2.1040E-03	0.001736	-17.4832	17.48323	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	293.1	0.864632943	0.4571	1.594	1.5940E-03	0.001467	-7.96064	7.960642	
	303.16	0.866662349	0.4571	1.238	1.2380E-03	0.001248	0.786916	0.786916	
	313.21	0.848396685	0.4571	0.9935	9.9350E-04	0.001068	7.497591	7.497591	
	323.05	0.839994819	0.4571	0.8034	8.0340E-04	0.000922	14.81021	14.81021	9.707717
	283.05	0.85424568	0.5663	1.777	1.7770E-03	0.001648	-7.2358	7.2358	
	293.1	0.8460699	0.5663	1.38	1.3800E-03	0.001393	0.951669	0.951669	
	303.16	0.837614465	0.5663	1.091	1.0910E-03	0.001185	8.622787	8.622787	
	313.21	0.828881332	0.5663	0.8938	8.9380E-04	0.001015	13.52453	13.52453	
	323.05	0.820037294	0.5663	0.737	7.3700E-04	0.000877	18.96161	18.96161	9.859279
	283.05	0.836764782	0.6913	1.429	1.4290E-03	0.001419	-0.70302	0.703016	
	293.1	0.828130696	0.6913	1.124	1.1240E-03	0.001201	6.876513	6.876513	
	303.16	0.819235018	0.6913	0.913	9.1300E-04	0.001024	12.16411	12.16411	
	313.21	0.810079847	0.6913	0.7637	7.6370E-04	0.000879	15.10126	15.10126	
	323.05	0.800839019	0.6913	0.6387	6.3870E-04	0.000762	19.2578	19.2578	10.82054
	283.05	0.820018161	0.8341	1.307	1.3070E-03	0.001067	-18.3346	18.33465	
	293.1	0.810970404	0.8341	0.854	8.5400E-04	0.000908	6.369095	6.369095	
	303.16	0.801679572	0.8341	0.717	7.1700E-04	0.000779	8.654717	8.654717	
	313.21	0.792147844	0.8341	0.6146	6.1460E-04	0.000673	9.544348	9.544348	
	323.05	0.782555224	0.8341	0.527	5.2700E-04	0.000588	11.51051	11.51051	10.88266
	283.05	0.803853567	1	0.688	6.8800E-04	0.00067	-2.64946	2.649463	
	293.1	0.794430023	1	0.594	5.9400E-04	0.000577	-2.79822	2.79822	
	303.16	0.7847823	1	0.513	5.1300E-04	0.000502	-2.11239	2.112394	
	313.21	0.774912588	1	0.4502	4.5020E-04	0.000441	-2.14602	2.146019	
	323.05	0.765006312	1	0.3927	3.9270E-04	0.000391	-0.55009	0.550093	2.051238

METHANOL (1) - WATER (2)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
AL - OI									
Bingham, E. C.; White, G. F.; Thomas, A.; Cadwell, J. L.; Z. Phys. Chem. Stoichiomet. Verwandtschaftsl., 83, 641-673(1913)									
P= 1 atm									
<i>Methanol</i>									
(P-1)									
	298.15	0.994713268	0	111.7	8.9526E-04	0.000723	-19.2081	19.20809	16.96894
	298.15	0.942309985	0.1328226	70.28	1.4229E-03	0.00101	-29.0181	29.01808	
	298.15	0.885752139	0.3359174	64.08	1.5605E-03	0.001313	-15.8699	15.86992	
	298.15	0.838710254	0.5864611	84.06	1.1896E-03	0.001261	6.018818	6.018818	
	298.15	0.78961486	1	182.4	5.4825E-04	0.000538	-1.91991	1.919911	
	308.15	0.990891567	0	138.5	7.2202E-04	0.000627	-13.1817	13.18173	13.15027
	308.15	0.936643162	0.1328226	91.71	1.0904E-03	0.000868	-20.3736	20.37364	
	308.15	0.878358698	0.3359174	83.22	1.2016E-03	0.001122	-6.58983	6.589829	
	308.15	0.830088747	0.5864611	104.39	9.5795E-04	0.001078	12.48734	12.48734	
	308.15	0.779911892	1	209.9	4.7642E-04	0.00047	-1.33172	1.331721	
	318.15	0.986703734	0	166.3	6.0132E-04	0.000547	-8.98682	8.986819	10.76187
	318.15	0.930619465	0.1328226	115.7	8.6430E-04	0.000751	-13.0579	13.05786	
	318.15	0.870638659	0.3359174	104.9	9.5329E-04	0.000966	1.282139	1.282139	
	318.15	0.821178938	0.5864611	127.32	7.8542E-04	0.000926	17.9456	17.9456	
	318.15	0.769970587	1	238	4.2017E-04	0.000414	-1.39593	1.395929	
	328.15	0.982141751	0	196.9	5.0787E-04	0.000481	-5.26089	5.260891	32.49885
	328.15	0.924226632	0.1328226	142.36	7.0244E-04	0.000655	-6.82365	6.823651	
	328.15	0.862576308	0.3359174	129.08	7.7471E-04	0.000835	7.824626	7.824626	
	328.15	0.81196277	0.5864611	21.41	4.6707E-03	0.000801	-82.8483	82.84826	
	328.15	0.759770686	1	269.5	3.7106E-04	0.000368	-0.84003	0.840032	
	338.15	0.9771971	0	228.9	4.3687E-04	0.000426	-2.53314	2.533143	2.059788
	338.15	0.917450805	0.1328226	170.77	5.8558E-04	0.000574	-2.05979	2.059788	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
WATER (1) - METHYL ALCOHOL (2)									
AL - OI calibrated with viscosity of water at 15C = 0.01136 poise									
00063 Tower, O. F.; J. Am. Chem. Soc., 38, 833-844(1911)									
P= 1 atm									
			Water	(Poise)					
288.15	0.799097296		0	0.00629	6.2900E-04	0.00062	-1.35829	1.358294	
288.15	0.800313573	0.0134732		0.00652	6.5200E-04	0.000647	-0.7702	0.770202	
288.15	0.801062414	0.0216696		0.00671	6.7100E-04	0.000663	-1.12786	1.127862	
288.15	0.803064583	0.043223		0.00708	7.0800E-04	0.000708	-0.02919	0.029189	
288.15	0.806582419	0.0798661		0.00782	7.8200E-04	0.000786	0.574834	0.574834	
288.15	0.812223482	0.1355689		0.00891	8.9100E-04	0.000912	2.380587	2.380587	
288.15	0.817371665	0.1833783		0.00995	9.9500E-04	0.001023	2.836016	2.836016	
288.15	0.823981157	0.240916		0.01111	1.1110E-03	0.001156	4.042202	4.042202	1.680127

WATER (1) - METHYL ALCOHOL (2)									
AL - OI calibrated with viscosity of water at 15C = 0.01136 poise									
00045 Mathews, J. H.; Cooke, R. D.; J. Phys. Chem., 18, 559-573(1914)									
P= 1 atm									
			Water	(P-1)					
273.15	0.924980372	0.7597313		27.31	3.6617E-03	0.001824	-50.1909	50.19089	
298.15	0.909653116	0.7597313		63.12	1.5843E-03	0.001201	-24.1764	24.17645	
313.15	0.899480028	0.7597313		96.13	1.0403E-03	0.000955	-8.23301	8.233008	
328.15	0.888522036	0.7597313		131.8	7.5873E-04	0.000769	1.381967	1.381967	
343.15	0.876725283	0.7597313		173	5.7803E-04	0.000628	8.603787	8.603787	18.51722

METHANOL (1) - WATER (2)
AL - OI

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
00274 Yergovich, T. W.; Swift, G. W.; Kurata, F.; J. Chem. Eng. Data, 16(2), 222-226(1971)									
P= 1 atm									
<i>Methanol</i>									
				(cP)					
	283.15	0.803840585	0.9991	0.6795	6.7950E-04	0.000671	-1.29938	1.29938	
	273.15	0.813019299	0.9991	0.7966	7.9660E-04	0.000785	-1.48734	1.487338	
	263.15	0.822013647	0.9991	0.9425	9.4250E-04	0.000927	-1.61407	1.614075	
	253.15	0.83083517	0.9991	1.135	1.1350E-03	0.001107	-2.46708	2.467076	
	243.15	0.839494824	0.9991	1.38	1.3800E-03	0.001336	-3.20519	3.205186	
	233.15	0.848002135	0.9991	1.715	1.7150E-03	0.00163	-4.95631	4.956308	
	223.15	0.856365833	0.9991	2.174	2.1740E-03	0.002013	-7.42112	7.421119	
	213.15	0.864593863	0.9991	2.868	2.8680E-03	0.002516	-12.2571	12.25709	
	203.15	0.872693481	0.9991	3.899	3.8990E-03	0.003189	-18.2148	18.21476	
	193.15	0.88067133	0.9991	5.596	5.5960E-03	0.0041	-26.7366	26.73662	
	183.15	0.888533514	0.9991	8.624	8.6240E-03	0.005356	-37.8974	37.89741	10.68694
	283.15	0.819822096	0.8351	1.023	1.0230E-03	0.001063	3.916045	3.916045	
	273.15	0.828611893	0.8351	1.25	1.2500E-03	0.001258	0.647535	0.647535	
	263.15	0.837197094	0.8351	1.556	1.5560E-03	0.001502	-3.50129	3.501292	
	253.15	0.84558891	0.8351	1.971	1.9710E-03	0.001808	-8.27432	8.274319	
	243.15	0.853797368	0.8351	2.546	2.5460E-03	0.002197	-13.7054	13.70543	
	233.15	0.861831469	0.8351	3.384	3.3840E-03	0.002696	-20.3258	20.32582	
	223.15	0.869699313	0.8351	4.665	4.6650E-03	0.003343	-28.3335	28.33354	
	213.15	0.877408212	0.8351	6.705	6.7050E-03	0.004192	-37.4774	37.47736	
	203.15	0.884964777	0.8351	10.22	1.0220E-02	0.005321	-47.9379	47.93792	
	193.15	0.892374997	0.8351	16.9	1.6900E-02	0.006844	-59.5034	59.50342	
	183.15	0.899644307	0.8351	31.32	3.1320E-02	0.008935	-71.4711	71.4711	
	173.15	0.906777642	0.8351	31.32	3.1320E-02	0.011864	-62.1191	62.11907	
	163.15	0.913779486	0.8351	189.7	1.8970E-01	0.016063	-91.5322	91.53222	34.51885
	283.15	0.836590264	0.692	1.394	1.3940E-03	0.001415	1.505574	1.505574	
	273.15	0.844948914	0.692	1.772	1.7720E-03	0.001682	-5.07293	5.072935	
	263.15	0.853082944	0.692	2.302	2.3020E-03	0.002015	-12.4665	12.46647	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	253.15	0.861002962	0.692	3.074	3.0740E-03	0.002433	-20.8405	20.84045	
	243.15	0.868718413	0.692	4.231	4.2310E-03	0.002964	-29.9511	29.95109	
	233.15	0.876237727	0.692	6.061	6.0610E-03	0.003643	-39.8967	39.89672	
	223.15	0.883568447	0.692	9.124	9.1240E-03	0.004522	-50.441	50.441	
	213.15	0.890717329	0.692	14.65	1.4650E-02	0.005673	-61.2759	61.27593	
	203.15	0.897690434	0.692	25.68	2.5680E-02	0.007202	-71.9553	71.95535	
	193.15	0.904493203	0.692	50.24	5.0240E-02	0.009264	-81.5614	81.56139	
	183.15	0.911130517	0.692	115.3	1.1530E-01	0.012094	-89.511	89.51096	
	173.15	0.917606754	0.692	333.3	3.3330E-01	0.016061	-95.1813	95.18131	46.63826
	283.15	0.853982833	0.5675	1.76	1.7600E-03	0.001644	-6.59146	6.591463	
	273.15	0.861869356	0.5675	2.32	2.3200E-03	0.001957	-15.6442	15.64419	
	263.15	0.869511779	0.5675	3.144	3.1440E-03	0.002347	-25.353	25.35304	
	253.15	0.876920143	0.5675	4.42	4.4200E-03	0.002836	-35.8271	35.82709	
	243.15	0.884103361	0.5675	6.478	6.4780E-03	0.003457	-46.6372	46.63725	
	233.15	0.891069359	0.5675	9.991	9.9910E-03	0.004251	-57.4511	57.45106	
	223.15	0.897825198	0.5675	16.46	1.6460E-02	0.005279	-67.9262	67.92619	
	213.15	0.904377171	0.5675	29.56	2.9560E-02	0.006628	-77.579	77.57903	
	203.15	0.910730894	0.5675	58.96	5.8960E-02	0.008421	-85.7173	85.71727	
	193.15	0.916891368	0.5675	135.3	1.3530E-01	0.010846	-91.9835	91.98354	
	183.15	0.922863049	0.5675	376.4	3.7640E-01	0.014189	-96.2304	96.23043	55.17641
	283.15	0.872034423	0.4582	2.103	2.1030E-03	0.001733	-17.5973	17.59734	
	273.15	0.879404151	0.4582	2.865	2.8650E-03	0.002063	-27.99	27.98998	
	263.15	0.886511061	0.4582	4.043	4.0430E-03	0.002474	-38.8017	38.80173	
	253.15	0.893364663	0.4582	5.961	5.9610E-03	0.002991	-49.8275	49.82754	
	243.15	0.899973385	0.4582	9.261	9.2610E-03	0.003646	-60.6308	60.63077	
	233.15	0.906344714	0.4582	15.34	1.5340E-02	0.004486	-70.756	70.75595	
	223.15	0.912485305	0.4582	27.55	2.7550E-02	0.005576	-79.7601	79.76013	
	213.15	0.91840108	0.4582	54.43	5.4430E-02	0.00701	-87.1214	87.12142	
	203.15	0.924097307	0.4582	121.8	1.2180E-01	0.008925	-92.6725	92.67249	58.35082

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
283.15	0.891030112	0.3603	2.388	2.388E-03	0.001704	-28.6261	28.6261		
273.15	0.89782663	0.3603	3.349	3.349E-03	0.002028	-39.4411	39.44105		
263.15	0.904342417	0.3603	4.912	4.912E-03	0.002432	-50.4967	50.49674		
253.15	0.910586468	0.3603	7.587	7.587E-03	0.002939	-61.2602	61.2602		
243.15	0.91656677	0.3603	12.46	1.246E-02	0.003584	-71.2333	71.23335		
233.15	0.922290422	0.3603	22.1	2.210E-02	0.004414	-80.0285	80.02848		
223.15	0.927763748	0.3603	42.74	4.274E-02	0.005494	-87.1462	87.14616		59.74744

METHANOL (1) - WATER (2)

AL - OI Only values at isothermal maxima tabulated, the rest were plotted.

00275 Schott, H.; J. Chem. Eng. Data, 14(2), 237-239(1969)

P= 1 atm

	Methanol (P-1)								
298.15	0.867821413	0.42	68.5	1.4599E-03	0.001353	-7.34389	7.343892		
303.15	0.865947243	0.41	77.3	1.2937E-03	0.001248	-3.55551	3.555505		
308.15	0.861993662	0.41	87.5	1.1429E-03	0.001154	0.977541	0.977541		
313.15	0.860078574	0.4	97.6	1.0246E-03	0.001067	4.158004	4.158004		
323.15	0.851822235	0.4	121.2	8.2508E-04	0.00092	11.48723	11.48723		5.504434

METHANOL (1) - WATER (2)

AL - OI Reported vis of 9.0124P at 30C and 20wt% was assumed to be .0124P

00550 Traube, J.; Ber. Dtsch. Chem. Ges., 19, 871-892(1886)

P= 1 atm

	Methanol (P)								
293.15	0.971765504	0.058797	0.01338	1.3380E-03	0.000921	-31.1617	31.16167		
293.15	0.948238948	0.1232359	0.01639	1.6390E-03	0.001071	-34.659	34.65905		
293.15	0.92582464	0.1941697	0.01829	1.8290E-03	0.001219	-33.3424	33.34241		
293.15	0.915010218	0.2323869	0.01876	1.8760E-03	0.001288	-31.337	31.33699		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	293.15	0.910331502	0.2498356	0.0189	1.8900E-03	0.001317	-30.3439	30.34389	
	293.15	0.904445526	0.2726323	0.01881	1.8810E-03	0.00135	-28.2103	28.21025	
	293.15	0.884031511	0.3598897	0.01816	1.8160E-03	0.001442	-20.5827	20.58266	
	293.15	0.864518687	0.4575083	0.01629	1.6290E-03	0.001466	-10.0171	10.01713	
	293.15	0.827968001	0.6922057	0.01142	1.1420E-03	0.001199	4.958479	4.958479	
	293.15	0.794382616	1	0.00607	6.0700E-04	0.000577	-4.94802	4.948015	24.95695
	303.15	0.967206091	0.058797	0.01056	1.0560E-03	0.000792	-25.0092	25.00921	
	303.15	0.942855608	0.1232359	0.0124	1.2400E-03	0.000918	-25.9875	25.98752	
	303.15	0.91970113	0.1941697	0.01378	1.3780E-03	0.001042	-24.3744	24.37435	
	303.15	0.897656654	0.2726323	0.01417	1.4170E-03	0.001152	-18.6986	18.69856	
	303.15	0.876644228	0.3598897	0.01378	1.3780E-03	0.001229	-10.8338	10.83381	
	303.15	0.856593036	0.4575083	0.01273	1.2730E-03	0.001248	-1.97431	1.974314	
	303.15	0.819122059	0.6922057	0.00933	9.3300E-04	0.001023	9.624645	9.624645	
	303.15	0.784792003	1	0.00541	5.4100E-04	0.000502	-7.16619	7.166187	16.6432
	313.15	0.96228727	0.058797	0.00823	8.2300E-04	0.000686	-16.6638	16.66378	
	313.15	0.937119765	0.1232359	0.0096	9.6000E-04	0.000792	-17.4986	17.49865	
	313.15	0.913235175	0.1941697	0.01064	1.0640E-03	0.000897	-15.7161	15.71607	
	313.15	0.890537844	0.2726323	0.01091	1.0910E-03	0.000989	-9.33137	9.331374	
	313.15	0.868941393	0.3598897	0.01073	1.0730E-03	0.001053	-1.82982	1.829815	
	313.15	0.848367626	0.4575083	0.01004	1.0040E-03	0.001069	6.464004	6.464004	
	313.15	0.81001071	0.6922057	0.00769	7.6900E-04	0.000879	14.2547	14.2547	
	313.15	0.774972235	1	0.00463	4.6300E-04	0.000441	-4.77917	4.779171	11.67977
	323.15	0.956999301	0.058797	0.00688	6.8800E-04	0.000598	-13.0649	13.06487	
	323.15	0.931020059	0.1232359	0.00788	7.8800E-04	0.000688	-12.6877	12.68774	
	323.15	0.908414049	0.1941697	0.00867	8.6700E-04	0.000777	-10.4268	10.42677	
	323.15	0.883075192	0.2726323	0.00884	8.8400E-04	0.000855	-3.33232	3.332317	
	323.15	0.860908062	0.3598897	0.00875	8.7500E-04	0.000908	3.816574	3.816574	
	323.15	0.839826581	0.4575083	0.00817	8.1700E-04	0.000921	12.72738	12.72738	
	323.15	0.800616437	0.6922057	0.0065	6.5000E-04	0.00076	16.86255	16.86255	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	323.15	0.764904336	1	0.00406	4.0600E-04	0.00039	-3.92204	3.922036	10.41689
	333.15	0.951331453	0.058797	0.00565	5.6500E-04	0.000525	-7.08069	7.080687	
	333.15	0.924543726	0.1232359	0.00645	6.4500E-04	0.000601	-6.75767	6.757669	
	333.15	0.899223284	0.1941697	0.00699	6.9900E-04	0.000677	-3.21218	3.212183	
	333.15	0.875252785	0.2726323	0.00717	7.1700E-04	0.000742	3.552408	3.552408	
	333.15	0.852527077	0.3598897	0.0073	7.3000E-04	0.000788	7.914118	7.914118	
	333.15	0.83095165	0.4575083	0.00685	6.8500E-04	0.000798	16.49204	16.49204	
	333.15	0.790919133	0.6922057	0.00569	5.6900E-04	0.000661	16.12166	16.12166	
	333.15	0.754566639	1	0.00361	3.6100E-04	0.000348	-3.69211	3.692109	8.732967

METHANOL (1) - WATER (2)

AL - Oil Units not published and were surmised from values for pure components.
01238 Subnlis, S. W.; Bhagwat, W. V.; Kanugo, R. B.; J. Indian Chem. Soc. 25(12), 575-578(1948)

P=		1 atm							
		Methanol		(10-3 P)					
303.15	0.992847701	0	8	8.0000E-04	0.000673	-15.9118	15.91177		
303.15	0.946889807	0.1119	11.33	1.1330E-03	0.000896	-20.8928	20.89276		
303.15	0.896989629	0.2752	13.04	1.3040E-03	0.001155	-11.4238	11.42385		
303.15	0.855989881	0.4607	12.13	1.2130E-03	0.001247	2.824445	2.824445		
303.15	0.818332142	0.6981	9.27	9.2700E-04	0.001013	9.330615	9.330615		
303.15	0.80190234	0.8322	7.46	7.4600E-04	0.000783	4.899537	4.899537		
303.15	0.784792003	1	5.6	5.6000E-04	0.000502	-10.3159	10.31591		9.87424
313.15	0.988843907	0	6.56	6.5600E-04	0.000585	-10.794	10.79395		
313.15	0.941285831	0.1119	8.58	8.5800E-04	0.000774	-9.80044	9.800439		
313.15	0.889851707	0.2752	9.82	9.8200E-04	0.000992	0.988347	0.988347		
313.15	0.847749276	0.4607	9.65	9.6500E-04	0.001068	10.71171	10.71171		
313.15	0.809203384	0.6981	7.82	7.8200E-04	0.000871	11.35434	11.35434		
313.15	0.792423339	0.8322	6.29	6.2900E-04	0.000677	7.579036	7.579036		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	313.15	0.774972235	1	4.1	4.1000E-04	0.000441	7.529863	7.529863	
	323.15	0.984470031	0	5.49	5.4900E-04	0.000513	-6.60825	6.608246	8.086774
	323.15	0.935316837	0.1119	7.44	7.4400E-04	0.000673	-9.58325	9.583252	
	323.15	0.882370328	0.2752	7.88	7.8800E-04	0.000857	8.71267	8.71267	
	323.15	0.839193513	0.4607	7.7	7.7000E-04	0.000921	19.54767	19.54767	
	323.15	0.799792455	0.6981	6.27	6.2700E-04	0.000753	20.09551	20.09551	
	323.15	0.782678346	0.8322	5.39	5.3900E-04	0.000589	9.32546	9.32546	
	323.15	0.764904336	1	3.99	3.9900E-04	0.00039	-2.23646	2.236457	13.45291
<i>Average Error for Temp.</i>									
<div> <div>Total Error for All T_{el}</div> <div> <div>k_{ij}</div> <div>l_{ij}</div> </div> </div>									
							8049.96	1.160536	1.101318

METHANOL (1) - TOLUENE (2)

AL - AR

00257 Hammond, L. W.; Howard, K. S.; McAllister, R. A.; J. Phys. Chem., 62, 637-639(1958)

P= 1 atm %AAD= 10.46767

	Methanol	(cP)	
293.15	0.868489849	0	0.6786
293.15	0.86639733	0.071	0.6672
293.15	0.86417053	0.14	0.6683
293.15	0.86172492	0.209	0.6738
293.15	0.858486677	0.291	0.6849
293.15	0.855712316	0.354	0.6914
293.15	0.849295366	0.479	0.7134
293.15	0.847719058	0.506	0.7176
293.15	0.840891065	0.6095	0.7338
293.15	0.830358133	0.736	0.7486
293.15	0.826155676	0.778	0.7528
293.15	0.819484267	0.837	0.7542
293.15	0.810998026	0.901	0.7524
			6.7860E-04
			6.6720E-04
			6.6830E-04
			6.7380E-04
			6.8490E-04
			6.9140E-04
			7.1340E-04
			7.1760E-04
			7.3380E-04
			7.4860E-04
			7.5280E-04
			7.5420E-04
			7.5240E-04
			-14.3522
			-8.10144
			-4.08838
			-1.34745
			0.230312
			0.917774
			-1.21785
			-1.96942
			-5.95943
			-12.105
			-14.3624
			-17.1353
			-19.7562

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	293.15	0.805358263	0.938	0.7471	7.4710E-04	0.000592	-20.7006	20.70057	
	293.15	0.794382616	1	0.7373	7.3730E-04	0.000577	-21.7462	21.74616	8.299349
	298.15	0.8639333615	0	0.6414	6.4140E-04	0.000548	-14.6368	14.6368	
	298.15	0.863389952	0.019	0.6348	6.3480E-04	0.000556	-12.4914	12.49144	
	298.15	0.861490803	0.082	0.6284	6.2840E-04	0.000581	-7.60682	7.606821	
	298.15	0.860595671	0.11	0.6275	6.2750E-04	0.000591	-5.82477	5.824769	
	298.15	0.857880505	0.189	0.6314	6.3140E-04	0.000617	-2.29833	2.29833	
	298.15	0.854063118	0.287	0.641	6.4100E-04	0.000641	-0.00013	0.000133	
	298.15	0.849539329	0.387	0.6543	6.5430E-04	0.000655	0.059562	0.059562	
	298.15	0.843568671	0.498	0.6703	6.7030E-04	0.000656	-2.17251	2.172506	
	298.15	0.8361332	0.611	0.6852	6.8520E-04	0.000642	-6.33403	6.334031	
	298.15	0.826869596	0.734	0.7009	7.0090E-04	0.000612	-12.6179	12.61786	
	298.15	0.816570632	0.822	0.704	7.0400E-04	0.000586	-16.7597	16.75974	
	298.15	0.815260949	0.833	0.7049	7.0490E-04	0.000583	-17.3511	17.35109	
	298.15	0.806267873	0.901	0.7025	7.0250E-04	0.000562	-20.012	20.01197	
	298.15	0.798645985	0.95	0.6991	6.9910E-04	0.000549	-21.5342	21.5342	
	298.15	0.78961486	1	0.6914	6.9140E-04	0.000538	-22.2274	22.2274	9.620189
	310.95	0.852126763	0	0.5621	5.6210E-04	0.000473	-15.8421	15.84212	
	310.95	0.851223221	0.031	0.5533	5.5330E-04	0.000483	-12.6869	12.6869	
	310.95	0.849370095	0.091	0.548	5.4800E-04	0.000501	-8.53452	8.534519	
	310.95	0.847881667	0.136	0.5482	5.4820E-04	0.000513	-6.33662	6.336622	
	310.95	0.845898052	0.192	0.5487	5.4870E-04	0.000527	-3.99831	3.998315	
	310.95	0.841981172	0.291	0.5542	5.5420E-04	0.000544	-1.80703	1.807034	
	310.95	0.833577036	0.463	0.57	5.7000E-04	0.000553	-2.98346	2.983455	
	310.95	0.82441135	0.606	0.5829	5.8290E-04	0.000539	-7.54207	7.542069	
	310.95	0.81788159	0.688	0.5904	5.9040E-04	0.000523	-11.3384	11.33838	
	310.95	0.815792057	0.7115	0.5931	5.9310E-04	0.000518	-12.6169	12.61695	
	310.95	0.809244306	0.778	0.5959	5.9590E-04	0.000502	-15.698	15.69799	
	310.95	0.802129131	0.84	0.5982	5.9820E-04	0.000487	-18.6293	18.62929	
	310.95	0.793411558	0.9045	0.5977	5.9770E-04	0.000471	-21.1708	21.17083	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	310.95	0.777153173	1	0.5908	5.9080E-04	0.000453	-23.2603	23.2603	10.27853
	323.2	0.840623436	0	0.5009	5.0090E-04	0.000415	-17.1989	17.19895	
	323.2	0.839798295	0.028	0.4938	4.9380E-04	0.000422	-14.556	14.55599	
	323.2	0.837896076	0.089	0.4876	4.8760E-04	0.000436	-10.5021	10.5021	
	323.2	0.835835841	0.15	0.4852	4.8520E-04	0.000449	-7.46426	7.464258	
	323.2	0.834090288	0.198	0.4845	4.8450E-04	0.000457	-5.60331	5.603314	
	323.2	0.831735158	0.258	0.4865	4.8650E-04	0.000466	-4.28226	4.282264	
	323.2	0.828159032	0.34	0.4887	4.8870E-04	0.000473	-3.25523	3.255228	
	323.2	0.823933445	0.425	0.4938	4.9380E-04	0.000475	-3.87548	3.875479	
	323.2	0.812793182	0.603	0.5056	5.0560E-04	0.000461	-8.88739	8.887394	
	323.2	0.806057547	0.687	0.5103	5.1030E-04	0.000447	-12.4107	12.41068	
	323.2	0.795490417	0.794	0.5152	5.1520E-04	0.000426	-17.3749	17.37493	
	323.2	0.782212362	0.898	0.5163	5.1630E-04	0.000405	-21.6056	21.60564	
	323.2	0.764853338	1	0.5138	5.1380E-04	0.00039	-24.1251	24.1251	9.983389
	333.26	0.831016914	0	0.4592	4.5920E-04	0.000374	-18.467	18.46705	
	333.26	0.830241954	0.026	0.453	4.5300E-04	0.00038	-16.1378	16.13784	
	333.26	0.828287884	0.088	0.4454	4.4540E-04	0.000392	-11.9979	11.99794	
	333.26	0.824477905	0.196	0.441	4.4100E-04	0.000409	-7.32249	7.32249	
	333.26	0.821809689	0.263	0.4404	4.4040E-04	0.000416	-5.57548	5.575477	
	333.26	0.818725451	0.333	0.4426	4.4260E-04	0.00042	-5.03765	5.037654	
	333.26	0.814710015	0.414	0.4455	4.4550E-04	0.000421	-5.40485	5.404852	
	333.26	0.807985714	0.529	0.4499	4.4990E-04	0.000416	-7.62621	7.626207	
	333.26	0.803151646	0.599	0.4537	4.5370E-04	0.000408	-10.0424	10.04241	
	333.26	0.796310549	0.684	0.4575	4.5750E-04	0.000396	-13.4632	13.46317	
	333.26	0.788421641	0.766	0.4601	4.6010E-04	0.000382	-16.9891	16.9891	
	333.26	0.783647833	0.809	0.461	4.6100E-04	0.000374	-18.8121	18.81212	
	333.26	0.772036554	0.8975	0.4621	4.6210E-04	0.000359	-22.2416	22.24159	
	333.26	0.754451335	1	0.459	4.5900E-04	0.000347	-24.3475	24.34749	11.7209
	343.35	0.821227141	0	0.4238	4.2380E-04	0.000339	-19.8967	19.89668	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	343.35	0.819802352	0.0465	0.4125	4.1250E-04	0.000347	-15.7762	15.77616	
	343.35	0.818139828	0.0975	0.4086	4.0860E-04	0.000355	-13.0547	13.05474	14.41545
	353.5	0.811212494	0	0.3922	3.9220E-04	0.000309	-21.2125	21.21251	
	353.5	0.809676438	0.0492	0.3839	3.8390E-04	0.000316	-17.7149	17.7149	17.7149

TOLUENE (1) - METHYL ALCOHOL (2)

AR - AL The pure component data is less consistent with literature data than expected.

01986 Sabnis, M. V.; Bhagwat, W. V.; Silawat, H. G.; J. Indian Chem. Soc., 26(11), 533-538(1949)

P= 1 atm

		Toluene		(10-3 P)					
		Toluene		(10-3 P)					
303.15	0.784792003	0	5.6	5.6000E-04	0.000502	-10.3159	10.31591		
303.15	0.797474086	0.0724	5.88	5.8800E-04	0.000517	-12.0338	12.03381		
303.15	0.810092401	0.1636	5.88	5.8800E-04	0.000542	-7.81422	7.814219		
303.15	0.828598096	0.3517	5.69	5.6900E-04	0.000591	3.882386	3.882386		
303.15	0.839347176	0.5095	5.44	5.4400E-04	0.000612	12.56774	12.56774		
303.15	0.844877541	0.6126	5.39	5.3900E-04	0.000612	13.5405	13.5405		
303.15	0.850228357	0.7321	5.32	5.3200E-04	0.000597	12.19441	12.19441		
303.15	0.854793085	0.8541	5.27	5.2700E-04	0.000567	7.576224	7.576224		
303.15	0.859346482	1	5.38	5.3800E-04	0.000517	-3.98652	3.98652		9.944183
313.15	0.774972235	0	4.9	4.9000E-04	0.000441	-10.026	10.02603		
313.15	0.787729259	0.0724	5	5.0000E-04	0.000453	-9.40657	9.406566		
313.15	0.800429651	0.1636	5.03	5.0300E-04	0.000474	-5.81814	5.818137		
313.15	0.819069291	0.3517	4.87	4.8700E-04	0.000516	6.002127	6.002127		
313.15	0.82990359	0.5095	4.85	4.8500E-04	0.000536	10.54678	10.54678		
313.15	0.835479925	0.6126	4.8	4.8000E-04	0.000537	11.95022	11.95022		
313.15	0.840876593	0.7321	4.75	4.7500E-04	0.000526	10.82258	10.82258		
313.15	0.845481507	0.8541	4.64	4.6400E-04	0.000503	8.357289	8.357289		
313.15	0.850075971	1	4.81	4.8100E-04	0.000462	-4.00443	4.004428		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	337.25	0.790843892	0.7	0.347	3.4700E-04	0.000375	8.162268	8.162268	
	337.05	0.786222112	0.75	0.347	3.4700E-04	0.000368	6.074919	6.074919	
	336.95	0.780912708	0.8	0.346	3.4600E-04	0.00036	4.074614	4.074614	
	336.85	0.774903371	0.85	0.344	3.4400E-04	0.000352	2.390277	2.390277	
	336.65	0.768152699	0.9	0.343	3.4300E-04	0.000345	0.681961	0.681961	
	336.85	0.759949387	0.95	0.337	3.3700E-04	0.000338	0.339366	0.339366	
	337.65	0.749820153	1	0.328	3.2800E-04	0.000331	0.872576	0.872576	9.486561

METHANOL (1) - TOLUENE (2)

AL - AR

00314 Chaturvedi, B. R.; Pandey, J. D.; Chem. Scr., 15, 172-175(1979)

P= 1 atm

			Methanol	(cP)					
293.16	0.868480766	0	0.5883	5.8830E-04	0.000581	-1.2178	1.217795		
293.16	0.829336373	0.7465	0.6073	6.0730E-04	0.000655	7.79635	7.79635		
293.16	0.821754547	0.8178	0.6149	6.1490E-04	0.000631	2.67562	2.67562		
293.16	0.801140223	0.9632	0.6049	6.0490E-04	0.000585	-3.22102	3.221018		
293.16	0.794373134	1	0.5835	5.8350E-04	0.000577	-1.13402	1.13402		4.564329
298.16	0.863924472	0	0.553	5.5300E-04	0.000547	-1.00271	1.002709		
298.16	0.848726899	0.4032	0.5406	5.4060E-04	0.000656	21.29008	21.29008		
298.16	0.824878745	0.7442	0.5644	5.6440E-04	0.000609	7.983533	7.983533		
298.16	0.79650857	0.9625	0.5599	5.5990E-04	0.000545	-2.58199	2.581985		
298.16	0.78960527	1	0.5438	5.4380E-04	0.000538	-1.13181	1.131811		10.61853

METHANOL (1) - TOLUENE (2)

AL - AR

00060 Teitelbaum, B. Ya.; Gortajova, T. A.; Ganelina, S. G.; J. Gen. Chem. USSR, 20, 1481-1485(1950)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
P= 1 atm									
<i>Methanol</i>									
			0	0.593	5.9300E-04	0.000581	-1.98867	1.988672	
293.15	0.868489849			0.582	5.8200E-04	0.000704	20.95195	20.95195	
293.15	0.86258248	0.418234		0.601	6.0100E-04	0.00068	13.09642	13.09642	
293.15	0.837247372	0.6571912		0.62	6.2000E-04	0.000633	2.171651	2.171651	
293.15	0.822454189	0.8117975		0.623	6.2300E-04	0.000598	-4.04381	4.043812	
293.15	0.808174704	0.9200158		0.578	5.7800E-04	0.000577	-0.17897	0.178971	
293.15	0.794382616		1						10.06596
<i>Average Error for Temp.</i>									
<i>Total Error for All Tei</i>							<i>kij</i>	<i>lij</i>	
							1127.822	1.017589	1.20799

METHANOL (1) - BENZENE (2)

AL - AR

00060 Teitelbaum, B. Ya.; Gortalova, T. A.; Ganelina, S. G.; J. Gen. Chem. USSR, 20, 1481-1485(1950)

P=	1 atm	Methanol	(g/m s)	%AAD=	3.863232
293.1	0.878046207	0	0.646	0.042308	0.042308
293.1	0.876337088	0.044	0.622	2.832149	2.832149
293.1	0.874331811	0.093	0.613	3.325808	3.325808
293.1	0.868810241	0.215	0.619	0.494489	0.494489
293.1	0.859803412	0.381	0.626	-2.26866	2.268664
293.1	0.842406374	0.621	0.626	-4.62748	4.627485
293.1	0.825686771	0.787	0.61	-4.02537	4.025372
293.1	0.794430023	1	0.578	-0.10751	0.107514
					2.928994

%AAD= 3.863232

METHANOL (1) - BENZENE (2)

AL - AR

00019 Findlay, A.; Z. Phys. Chem. Stoechiom. Verwandtschaftsl., 69, 203-217(1909)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
P= 1 atm									
<i>Methanol</i>									
			0	0.326	3.2600E-04	0.00037	13.56215	13.56215	
	336.9	0.832910433		0.347	3.4700E-04	0.000386	11.16282	11.16282	
	333	0.820827513	0.3507	0.354	3.5400E-04	0.000389	9.746811	9.746811	
	331.4	0.810864309	0.5297	0.359	3.5900E-04	0.000386	7.447364	7.447364	
	330.8	0.803047586	0.6346	0.359	3.5900E-04	0.000382	6.377577	6.377577	
	330.5	0.79632526	0.7099	0.361	3.6100E-04	0.000375	3.750914	3.750914	
	330.4	0.785723517	0.8079	0.36	3.6000E-04	0.00037	2.870149	2.870149	
	330.5	0.779986009	0.8529	0.362	3.6200E-04	0.000365	0.88543	0.88543	
	330.8	0.773339865	0.899	0.362	3.6200E-04	0.000355	-1.90222	1.902221	
	332.1	0.762856039	0.9583	0.359	3.5900E-04	0.000352	-1.88912	1.889122	
	332.7	0.761101931	0.9651	0.317	3.1700E-04	0.000283	-10.5773	10.57733	
	362.5	0.733700859	1						5.114712

BENZENE (1) - METHYL ALCOHOL (2)

AR - AL The pure component data is less consistent with literature data than expected.

01986 Sabnis, M. V.; Bhagwat, W. V.; Silawat, H. G.; J. Indian Chem. Soc., 26(11), 533-538(1949)

P= 1 atm									
<i>Benzene</i>									
(10-3 P)									
			0	5.6	5.6000E-04	0.000502	-10.3159	10.31591	
	303.15	0.784792003		5.62	5.6200E-04	0.000504	-10.2483	10.2483	
	303.15	0.794604376	0.0572	5.64	5.6400E-04	0.00051	-9.49383	9.493826	
	303.15	0.80936457	0.1598	5.6	5.6000E-04	0.000517	-7.61737	7.617367	
	303.15	0.820585864	0.2552	5.63	5.6300E-04	0.000524	-6.95159	6.951593	
	303.15	0.829475072	0.3449	5.59	5.5900E-04	0.00053	-5.10332	5.103323	
	303.15	0.838104919	0.4474	5.46	5.4600E-04	0.000544	-0.42482	0.424816	
	303.15	0.856670072	0.7425	5.4	5.4000E-04	0.000548	1.446577	1.446577	
	303.15	0.860800768	0.8277	5.7	5.7000E-04	0.000562	-1.4009	1.400903	
	303.15	0.867979124	1						5.897972
	313.15	0.774972235	0	4.9	4.9000E-04	0.000441	-10.026	10.02603	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
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METHANOL (1) - BENZENE (2)

AR - AL

00344 Mato, F.; Hernandez, J. L.; An. R. Soc. Esp. Fis. Quim. Ser. B, 65, 9-18(1969)

P= 1 atm

Comp %AAD= 2.596103

Methanol (cP)

293.15	0.87799651	0	0.644	6.4400E-04	0.000646	0.281385	0.281385		
293.15	0.871712291	0.152	0.615	6.1500E-04	0.000627	1.926903	1.926903		
293.15	0.865884591	0.272	0.613	6.1300E-04	0.000618	0.774687	0.774687		
293.15	0.855770999	0.444	0.619	6.1900E-04	0.000608	-1.80002	1.800018		
293.15	0.841393109	0.632	0.624	6.2400E-04	0.000596	-4.50694	4.506941		
293.15	0.828041919	0.766	0.619	6.1900E-04	0.000586	-5.25924	5.259243		
293.15	0.810693803	0.901	0.604	6.0400E-04	0.000579	-4.1511	4.151103		
293.15	0.794382616	1	0.581	5.8100E-04	0.000577	-0.6944	0.694398		3.069816
303.15	0.867979124	0	0.559	5.5900E-04	0.000562	0.53933	0.53933		
303.15	0.861723096	0.152	0.534	5.3400E-04	0.000549	2.808613	2.808613		
303.15	0.855922104	0.272	0.532	5.3200E-04	0.000543	2.08116	2.08116		
303.15	0.84585615	0.444	0.536	5.3600E-04	0.000536	0.012145	0.012145		
303.15	0.8315488	0.632	0.535	5.3500E-04	0.000525	-1.78439	1.784394		
303.15	0.818266071	0.766	0.534	5.3400E-04	0.000516	-3.41328	3.413281		
303.15	0.801011165	0.901	0.527	5.2700E-04	0.000507	-3.8708	3.870796		
303.15	0.784792003	1	0.509	5.0900E-04	0.000502	-1.32988	1.329876		2.328398
313.15	0.85779985	0	0.494	4.9400E-04	0.000493	-0.2689	0.268897		
313.15	0.85156628	0.152	0.468	4.6800E-04	0.000484	3.50086	3.50086		
313.15	0.845786777	0.272	0.461	4.6100E-04	0.000481	4.340512	4.340512		
313.15	0.835759633	0.444	0.469	4.6900E-04	0.000476	1.572029	1.572029		
313.15	0.821510763	0.632	0.467	4.6700E-04	0.000467	-2.6E-06	2.56E-06		
313.15	0.808285813	0.766	0.466	4.6600E-04	0.000457	-1.87193	1.871928		
313.15	0.791110976	0.901	0.464	4.6400E-04	0.000447	-3.66683	3.666825		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	313.15	0.774972235	1	0.453	4.5300E-04	0.000441	-2.67717	2.677166	2.492026
	323.15	0.847448009	0	0.44	4.4000E-04	0.000435	-1.16365	1.16365	
	323.15	0.841230434	0.152	0.416	4.1600E-04	0.00043	3.452692	3.452692	
	323.15	0.835466543	0.272	0.414	4.1400E-04	0.000429	3.632616	3.632616	
	323.15	0.825468271	0.444	0.415	4.1500E-04	0.000426	2.733498	2.733498	
	323.15	0.811264322	0.632	0.414	4.1400E-04	0.000418	0.985144	0.985144	
	323.15	0.798085154	0.766	0.412	4.1200E-04	0.000408	-0.86106	0.86106	
	323.15	0.780975646	0.901	0.411	4.1100E-04	0.000397	-3.30002	3.300017	
	323.15	0.764904336	1	0.404	4.0400E-04	0.00039	-3.4464	3.446402	2.494171

BENZENE (1) - METHANOL (2)

AL - AR

00252 Irving, H. M. N. H.; Simpson, R. B.; J. Inorg. Nucl. Chem., 34, 2241-2247(1972)

P= 1 atm

Benzene		(cP)					
283.15	0.887861661	1	0.7604	7.6040E-04	0.000748	-1.654	1.654002
283.15	0.885025668	0.92849	0.7331	7.3310E-04	0.000734	0.069552	0.069552
283.15	0.878412498	0.78165	0.7232	7.2320E-04	0.000714	-1.33673	1.336729
283.15	0.868534872	0.60296	0.7311	7.3110E-04	0.000698	-4.48842	4.488416
283.15	0.856623973	0.42162	0.7348	7.3480E-04	0.000685	-6.73939	6.739393
283.15	0.836216205	0.22164	0.7206	7.2060E-04	0.000672	-6.76532	6.765324
283.15	0.811443575	0.04357	0.6873	6.8730E-04	0.000667	-2.88552	2.885524
283.15	0.803760807	0	0.6756	6.7560E-04	0.000669	-1.01355	1.013546
3.714156							
283.15	0.87799651	1	0.6485	6.4850E-04	0.000646	-0.41448	0.414477
283.15	0.875175403	0.92849	0.6252	6.2520E-04	0.000636	1.652725	1.652725
283.15	0.868597363	0.78165	0.6138	6.1380E-04	0.000621	1.237539	1.237539
283.15	0.858773291	0.60296	0.6164	6.1640E-04	0.000611	-0.95632	0.956317
283.15	0.845934353	0.42162	0.6197	6.1970E-04	0.0006	-3.2509	3.250896

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	293,15	0.826638933	0.22164	0.6132	6.1320E-04	0.000586	-4.49759	4.497587	2.290639
	293,15	0.802016992	0.04357	0.59	5.9000E-04	0.000577	-2.14877	2.14877	
	293,15	0.794382616	0	0.5821	5.8210E-04	0.000577	-0.88206	0.882057	
	303,15	0.867979124	1	0.5608	5.6080E-04	0.000562	0.216628	0.216628	
	303,15	0.865170595	0.92849	0.5399	5.3990E-04	0.000555	2.767656	2.767656	2.051228
	303,15	0.858622376	0.78165	0.5278	5.2780E-04	0.000545	3.341784	3.341784	
	303,15	0.84884413	0.60296	0.5296	5.2960E-04	0.000538	1.60304	1.60304	
	303,15	0.836067406	0.42162	0.5315	5.3150E-04	0.000529	-0.48418	0.484178	
	303,15	0.816870444	0.22164	0.528	5.2800E-04	0.000515	-2.48815	2.488149	2.499278
	303,15	0.792382778	0.04357	0.5121	5.1210E-04	0.000504	-1.62256	1.622565	
	303,15	0.784792003	0	0.5054	5.0540E-04	0.000502	-0.62704	0.627042	
	313,15	0.85779985	1	0.4922	4.9220E-04	0.000493	0.095825	0.095825	
	313,15	0.855001311	0.92849	0.4736	4.7360E-04	0.000488	3.033274	3.033274	3.360947
	313,15	0.848476966	0.78165	0.4611	4.6110E-04	0.000482	4.606986	4.606986	
	313,15	0.838735891	0.60296	0.4593	4.5930E-04	0.000478	4.044488	4.044488	
	313,15	0.82601048	0.42162	0.4613	4.6130E-04	0.00047	1.942306	1.942306	
	313,15	0.806896453	0.22164	0.4585	4.5850E-04	0.000456	-0.47672	0.476718	3.360947
	313,15	0.78252475	0.04357	0.4473	4.4730E-04	0.000443	-0.89189	0.891894	
	313,15	0.774972235	0	0.4423	4.4230E-04	0.000441	-0.32276	0.322758	
	323,15	0.847448009	1	0.4363	4.3630E-04	0.000435	-0.32548	0.325478	
	323,15	0.844656542	0.92849	0.4198	4.1980E-04	0.000432	2.938859	2.938859	3.360947
	323,15	0.838149371	0.78165	0.4073	4.0730E-04	0.00043	5.460302	5.460302	
	323,15	0.828435722	0.60296	0.4034	4.0340E-04	0.000427	5.952696	5.952696	
	323,15	0.815749359	0.42162	0.4039	4.0390E-04	0.000421	4.265058	4.265058	
	323,15	0.736700832	0.22164	0.4016	4.0160E-04	0.000407	1.459734	1.459734	3.360947
	323,15	0.772424566	0.04357	0.3935	3.9350E-04	0.000393	-0.08903	0.089035	
	323,15	0.764904336	0	0.3907	3.9070E-04	0.00039	-0.15958	0.159576	
							Average Error for Temp.		3.360947

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac. 1 atm	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
									<i>kij</i> <i>lij</i>
									<i>Total Error for All T_{ei}</i> 1.10427 0.822175

METHANOL (1) - ETHYL BENZENE (2)

AL - AR

00326 Rattan, V. K.; Singh, S.; Sethi, B. P. S.; Raju, K. S. N.; Indian J. Technol., 25, 253-258(1987)

P= 1 atm *%AAD=* 6.612401

<i>Methanol</i> (cP)									
298.15	0.8635796	0	0.6283	6.2830E-04	0.000661	5.162386	5.162386		
298.15	0.85978998	0.1406	0.6135	6.1350E-04	0.000658	7.202824	7.202824		
298.15	0.853131318	0.3326	0.6134	6.1340E-04	0.000657	7.044303	7.044303		
298.15	0.843645183	0.5278	0.6258	6.2580E-04	0.000633	1.176706	1.176706		
298.15	0.833731468	0.6721	0.6323	6.3230E-04	0.000596	-5.69899	5.698991		
298.15	0.823394351	0.7828	0.6247	6.2470E-04	0.000565	-9.57113	9.571131		
298.15	0.820189382	0.8113	0.618	6.1800E-04	0.000558	-9.75189	9.751888		
298.15	0.81053712	0.8848	0.5991	5.9910E-04	0.000543	-9.35258	9.352579		
298.15	0.78961486	1	0.545	5.4500E-04	0.000538	-1.33582	1.335819		7.11406
308.15	0.854964783	0	0.5537	5.5370E-04	0.000589	6.464693	6.464693		
308.15	0.85111087	0.1406	0.5252	5.2620E-04	0.00059	12.13581	12.13581		
308.15	0.84434148	0.3326	0.5283	5.2830E-04	0.000592	12.07313	12.07313		
308.15	0.834702522	0.5278	0.5395	5.3950E-04	0.000572	5.977995	5.977995		
308.15	0.824635277	0.6721	0.5368	5.3680E-04	0.000537	-1.1E-06	1.1E-06		
308.15	0.814144793	0.7828	0.525	5.2500E-04	0.000506	-3.69716	3.697159		
308.15	0.810893666	0.8113	0.5202	5.2020E-04	0.000498	-4.24685	4.246853		
308.15	0.80110637	0.8848	0.5052	5.0520E-04	0.000482	-4.64423	4.644235		
308.15	0.779911892	1	0.4745	4.7450E-04	0.00047	-0.93303	0.933028		6.110741

Average Error for Temp.

<i>Total Error for All T_{ei}</i>	<i>kij</i>	<i>lij</i>
92.57361	1.196964	0.64706

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
METHANOL (1) - m-XYLENE (2)									
AL - BR									
00060 Teitelbaum, B. Ya.; Gortalova, T. A.; Ganelina, S. G.; J. Gen. Chem. USSR, 20, 1481-1485(1950)									
P=		1 atm						%AAD=	6.975142
			Methanol	(cP)					
	293.15	0.864310836	0	0.627	6.2700E-04	0.000642	2.46012	2.46012	
	293.15	0.849357289	0.4530542	0.622	6.2200E-04	0.000708	13.7523	13.7523	
	293.15	0.834912385	0.688366	0.636	6.3600E-04	0.00066	3.799599	3.799599	
	293.15	0.827872633	0.768161	0.646	6.4600E-04	0.000636	-1.51135	1.511347	
	293.15	0.820950608	0.832496	0.662	6.6200E-04	0.000617	-6.84814	6.848139	
	293.15	0.81414338	0.8854672	0.654	6.5400E-04	0.000602	-8.02459	8.024587	
	293.15	0.807448117	0.9298411	0.641	6.4100E-04	0.00059	-7.91488	7.914876	
	293.15	0.794382616	1	0.578	5.7800E-04	0.000577	-0.17897	0.178971	
				Average Error for Temp.				6.975142	
METHANOL (1) - CYCLOHEXANE (2)									
AL - CA original data, specific viscosity ((vis. sol'n/vis. solvt')-1)									
00799 Staveley, L. A. K.; Taylor, P. F.; J. Chem. Soc., 200-209(1956)									
P=		0.101 MPa						%AAD=	43.3987
			Methanol	(g/m s)					
	293.15	0.777593066	0.0034	0.5871	5.8710E-04	0.000912	55.27983	55.27983	
	293.15	0.77762399	0.0083	0.5839	5.8390E-04	0.000854	46.26143	46.26143	
	293.15	0.777649376	0.0123	0.5818	5.8180E-04	0.00081	39.29017	39.29017	
	293.15	0.777674252	0.0162	0.5804	5.8040E-04	0.000771	32.76338	32.76338	
				Average Error for Temp.				43.3987	
Total Error for All Tei									
				kij	ijj				
				1.151879	0.863064				

Total Error for All Tei 173.5948
kij 0.5
ijj 0.5

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%D	%AD	%AAD
METHANOL (1) - HEPTANE (2)									
AL - AA original data, specific viscosity ((vis. sol'n/vis. solv't)-1)									
00799 Staveley, L. A. K.; Taylor, P. F.; J. Chem. Soc., 200-209(1956)									
P= 0.101 MPa									
			<i>Methanol</i>	(g/m s)				%AAD=	17.42792
	293.15	0.685904659	0.0047	0.5885	5.8850E-04	0.000432	-26.5345	26.53447	
	293.15	0.686107915	0.0114	0.5872	5.8720E-04	0.000458	-22.0607	22.06068	
	293.15	0.686313168	0.0181	0.5865	5.8650E-04	0.000484	-17.407	17.40704	
	293.15	0.686514231	0.0246	0.586	5.8600E-04	0.000512	-12.6618	12.6618	
	293.15	0.686685873	0.0301	0.5858	5.8580E-04	0.000536	-8.47559	8.475594	
Average Error for Temp.								17.42792	
Total Error for All Tei								87.13958	1.5
kij								1.5	1.5

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
ETHANOL (1) - WATER (2)									
AL - OI									
00014 Dunstan, A. E.; J. Chem. Soc., 85, 817-827(1904)									
P= 1 atm									
%AAD= 22.16172									
			Ethanol	(Poise)					
298.15	0.994713268	0	0.00891	8.9100E-04	0.000723	-18.8223	18.8225		
298.15	0.985288517	0.0143931	0.0096	9.6000E-04	0.000771	-19.6392	19.63921		
298.15	0.98143977	0.0205408	0.01013	1.0130E-03	0.000792	-21.8036	21.80358		
298.15	0.962737437	0.0529078	0.01356	1.3560E-03	0.000901	-33.5229	33.52285		
298.15	0.954149314	0.0693212	0.01552	1.5520E-03	0.000957	-38.3399	38.33994		
298.15	0.933544192	0.1134712	0.01851	1.8510E-03	0.001106	-40.2529	40.25286		
298.15	0.922115861	0.1413751	0.02129	2.1290E-03	0.001199	-43.6627	43.66271		
298.15	0.915866959	0.1578404	0.02162	2.1620E-03	0.001254	-41.9856	41.98565		
298.15	0.904821045	0.1893165	0.0229	2.2900E-03	0.001358	-40.6876	40.68758		
298.15	0.902922423	0.1950597	0.02301	2.3010E-03	0.001377	-40.1532	40.15319		
298.15	0.896543463	0.2151383	0.02327	2.3270E-03	0.001442	-38.0146	38.01458		
298.15	0.886018948	0.2511598	0.02368	2.3680E-03	0.001557	-34.2436	34.24361		
298.15	0.882780526	0.2630456	0.02354	2.3540E-03	0.001594	-32.2851	32.28507		
298.15	0.877648003	0.282735	0.02337	2.3370E-03	0.001654	-29.2363	29.2363		
298.15	0.866716354	0.3285387	0.02273	2.2730E-03	0.001784	-21.5297	21.52966		
298.15	0.866214995	0.3307776	0.02273	2.2730E-03	0.00179	-21.2684	21.2684		
298.15	0.86286085	0.3460958	0.02247	2.2470E-03	0.001829	-18.6046	18.60464		
298.15	0.857642216	0.3711663	0.02243	2.2430E-03	0.001888	-15.8201	15.82014		
298.15	0.857602922	0.3713611	0.0224	2.2400E-03	0.001889	-15.6881	15.68813		
298.15	0.856974704	0.3744879	0.02226	2.2260E-03	0.001895	-14.8494	14.84942		
298.15	0.855857967	0.3801055	0.02212	2.2120E-03	0.001907	-13.7667	13.76671		
298.15	0.847526348	0.4245716	0.02104	2.1040E-03	0.001987	-5.55014	5.550143		
298.15	0.846587215	0.4298854	0.02112	2.1120E-03	0.001995	-5.5523	5.552297		
298.15	0.837702563	0.4835587	0.01995	1.9950E-03	0.002043	2.407152	2.407152		
298.15	0.831451239	0.5254385	0.01957	1.9570E-03	0.002043	4.40601	4.40601		
298.15	0.819978012	0.6129919	0.01744	1.7440E-03	0.001938	11.10532	11.10532		
298.15	0.785884999	1	0.01114	1.1140E-03	0.000898	-19.3913	19.39126		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
									24.17501

ETHANOL (1) - WATER (2)

AL - OI

00322 Konobeev, B. I.; Lyapin, V. V.; J. Appl. Chem. USSR, 43(4), 806-813(1970)

P= 1 atm

Ethanol (10⁻⁶ N s/m²)

293.15	0.996489202	0	1002	1.0020E-03	0.000779	-22.2342	22.23417	
293.15	0.947104263	0.089	2210	2.2100E-03	0.001108	-49.8656	49.86563	
293.15	0.912410943	0.176	2820	2.8200E-03	0.001428	-49.3654	49.3654	
293.15	0.898898882	0.218	2870	2.8700E-03	0.00158	-44.9609	44.96086	
293.15	0.862811063	0.276	2810	2.8100E-03	0.001782	-36.5829	36.58286	
293.15	0.862679573	0.365	2640	2.6400E-03	0.002053	-22.2206	22.22059	
293.15	0.824441911	0.61	2020	2.0200E-03	0.002152	6.546878	6.546878	
293.15	0.790327145	1	1203	1.2030E-03	0.001008	-16.2264	16.22642	34.9237
313.15	0.988843907	0	656	6.5600E-04	0.000585	-10.794	10.79395	
313.15	0.936353162	0.089	1175	1.1750E-03	0.000816	-30.5952	30.5952	
313.15	0.899710159	0.176	1446	1.4460E-03	0.001036	-28.3543	28.35429	
313.15	0.865490216	0.218	1498	1.4980E-03	0.001138	-24.0108	24.01084	
313.15	0.868597019	0.276	1508	1.5080E-03	0.001271	-15.6839	15.68395	
313.15	0.847410278	0.365	1468	1.4680E-03	0.001441	-1.81714	1.817136	
313.15	0.807645328	0.61	1219	1.2190E-03	0.001453	19.19248	19.19248	
313.15	0.772266639	1	833	8.3300E-04	0.000649	-22.0351	22.03507	19.94232
333.15	0.979717812	0	469	4.6900E-04	0.000452	-3.56665	3.566653	
333.15	0.924169746	0.089	725	7.2500E-04	0.000617	-14.9272	14.92721	
333.15	0.885643192	0.176	860	8.6000E-04	0.000772	-10.2641	10.2641	
333.15	0.87074741	0.218	883	8.8300E-04	0.000842	-4.6182	4.618202	
333.15	0.853091169	0.276	910	9.1000E-04	0.000932	2.417275	2.417275	
333.15	0.831008385	0.365	908	9.0800E-04	0.001042	14.71142	14.71142	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
333.15	0.789743705	0.61	790	7.9000E-04	0.001021	29.25175	29.25175	29.25175	
333.15	0.753227966	1	592	5.9200E-04	0.000444	-25.0224	-25.0224	25.02236	12.69833

ETHANOL (1) - WATER (2)

AL - OI

00365 Noda, K.; Aono, Y.; Ishida, K.; Kagaku Kogaku Ronbunshu, 9(3), 237-240(1983)

P= 1 atm

		Ethanol		Ethanol					
				(mPa s)					
298.15	0.994713268	0	0.89	8.9000E-04	0.000723	-18.731	18.73104		
298.15	0.969443066	0.0408	1.286	1.2860E-03	0.00086	-33.0886	33.08863		
298.15	0.948508999	0.0807	1.697	1.6970E-03	0.000995	-41.3413	41.34133		
298.15	0.921716717	0.1424	2.152	2.1520E-03	0.001203	-44.1058	44.10582		
298.15	0.902582131	0.1961	2.317	2.3170E-03	0.00138	-40.4196	40.41957		
298.15	0.877682242	0.2826	2.322	2.3220E-03	0.001653	-28.7965	28.79652		
298.15	0.857574915	0.3715	2.172	2.1720E-03	0.001889	-13.0344	13.03437		
298.15	0.83833843	0.4795	1.969	1.9690E-03	0.002041	3.667498	3.667498		
298.15	0.819904947	0.6136	1.694	1.6940E-03	0.001936	14.31459	14.31459		
298.15	0.802956927	0.7764	1.42	1.4200E-03	0.001487	4.696669	4.696669		
298.15	0.785894999	1	1.091	1.0910E-03	0.000898	-17.6919	17.6919		24.82945

ETHANOL (1) - WATER (2)

AL - OI

Bingham, E. C.; White, G. F.; Thomas, A.; Cadwell, J. L.; Z. Phys. Chem. Stoechiom. Verwandtschaftsl., 83, 641-673(1913)

P= 1 atm

		Ethanol		Ethanol					
				(P-1)					
298.16	0.994709627	0	111.73	8.9501E-04	0.000723	-19.1983	19.19826		
298.16	0.959451043	0.0590549	66.5	1.5038E-03	0.000922	-38.6812	38.68117		
298.16	0.92879049	0.1247365	47.93	2.0864E-03	0.001144	-45.1892	45.18921		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	298.16	0.889105544	0.2401723	43.93	2.2763E-03	0.001522	-33.1263	33.12634	
	298.16	0.873789727	0.2982411	42.6	2.3474E-03	0.001699	-27.6214	27.62136	
	298.16	0.85203248	0.3999051	45.85	2.1810E-03	0.001946	-10.7676	10.76768	
	298.16	0.835153013	0.5001428	50.44	1.9826E-03	0.002047	3.238319	3.238319	
	298.16	0.810401969	0.6990368	63.65	1.5711E-03	0.001724	9.702234	9.702234	
	298.16	0.785886082	1	90.95	1.0995E-03	0.000898	-18.3471	18.34714	24.0466
	303.17	0.992840057	0	124.97	8.0019E-04	0.000673	-15.956	15.956	
	303.17	0.957023582	0.0590549	77.05	1.2979E-03	0.000854	-34.1667	34.16672	
	303.17	0.925915821	0.1247365	56.82	1.7599E-03	0.001057	-39.9681	39.96809	
	303.17	0.870201054	0.2982411	50.2	1.9920E-03	0.001558	-21.7702	21.77024	
	303.17	0.84819257	0.3999051	53.34	1.8748E-03	0.001776	-5.24289	5.242894	
	303.17	0.831130359	0.5001428	58.63	1.7056E-03	0.00186	9.045457	9.045457	
	303.17	0.806130549	0.6990368	71.83	1.3922E-03	0.001556	11.78416	11.78416	
	303.17	0.781390739	1	99.8	1.0020E-03	0.000803	-19.8881	19.88813	20.32959
	308.17	0.990883559	0	138.27	7.2322E-04	0.000627	-13.3501	13.35005	
	308.17	0.954512712	0.0590549	88.03	1.1360E-03	0.000793	-30.1666	30.16659	
	308.17	0.92296206	0.1247365	66.53	1.5031E-03	0.000978	-34.9345	34.93446	
	308.17	0.882231134	0.2401723	57.94	1.7259E-03	0.00129	-25.2748	25.27477	
	308.17	0.866543551	0.2982411	58.56	1.7077E-03	0.001432	-16.1361	16.13609	
	308.17	0.844288655	0.3999051	61.07	1.6375E-03	0.001625	-0.76146	0.761464	
	308.17	0.827047697	0.5001428	67.03	1.4919E-03	0.001694	13.5579	13.5579	
	308.17	0.801805343	0.6990368	80.46	1.2429E-03	0.001409	13.40583	13.40583	
	308.17	0.776848138	1	109.47	9.1349E-04	0.000721	-21.1214	21.12139	19.17673
	313.17	0.988835531	0	152.3	6.5660E-04	0.000585	-10.8995	10.89949	
	313.17	0.951912435	0.0590549	99.92	1.0008E-03	0.000738	-26.275	26.27503	
	313.17	0.919922101	0.1247365	76.91	1.3002E-03	0.000907	-30.2554	30.25536	
	313.17	0.862808345	0.2982411	67.43	1.4830E-03	0.001318	-11.1033	11.10335	
	313.17	0.840311237	0.3999051	70.28	1.4229E-03	0.001489	4.666844	4.666844	
	313.17	0.822895074	0.5001428	76.12	1.3137E-03	0.001547	17.72168	17.72168	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	313.17	0.797415768	0.6990358	90.19	1.1088E-03	0.00128	15.45779	15.45779	
	313.17	0.772247116	1	119.66	8.3570E-04	0.000649	-22.3189	22.31891	17.58001
	318.17	0.986694986	0	166.7	5.9988E-04	0.000547	-8.79202	8.792021	
	318.17	0.949221448	0.0590549	112.43	8.8944E-04	0.000687	-22.7101	22.71009	
	318.17	0.916794399	0.1247365	87.97	1.1368E-03	0.000842	-25.9063	25.90629	
	318.17	0.875041758	0.2401723	76.59	1.3057E-03	0.0011	-15.7332	15.73324	
	318.17	0.858993529	0.2982411	77.1	1.2970E-03	0.001216	-6.26813	6.26813	
	318.17	0.836258281	0.3999051	79.74	1.2541E-03	0.001367	9.044132	9.044132	
	318.17	0.818670359	0.5001428	85.91	1.1640E-03	0.001415	21.54949	21.54949	
	318.17	0.792959558	0.6990358	99.96	1.0004E-03	0.001166	16.55229	16.55229	
	318.17	0.767585278	1	130.55	7.6599E-04	0.000587	-23.3613	23.36133	16.82338
	323.17	0.984460907	0	181.7	5.5036E-04	0.000513	-6.86263	6.86263	
	323.17	0.946438375	0.0590549	125.18	7.9885E-04	0.000642	-19.6875	19.68752	
	323.17	0.913577316	0.1247365	99.82	1.0018E-03	0.000784	-21.785	21.785	
	323.17	0.871321829	0.2401723	87.44	1.1438E-03	0.001019	-10.9243	10.92434	
	323.17	0.855097064	0.2982411	87.64	1.1410E-03	0.001123	-1.58344	1.583436	
	323.17	0.832127607	0.3999051	90.58	1.1040E-03	0.001258	13.95214	13.95214	
	323.17	0.81437127	0.5001428	96.15	1.0400E-03	0.001297	24.72232	24.72232	
	323.17	0.788434288	0.6990358	110.95	9.0131E-04	0.001065	18.15711	18.15711	
	323.17	0.762860067	1	142.53	7.0161E-04	0.000533	-24.0588	24.05875	15.83027
	328.16	0.982136999	0	196.8	5.0813E-04	0.000481	-5.32088	5.320882	
	328.16	0.943567614	0.0590549	138.37	7.2270E-04	0.0006	-17.0024	17.00243	
	328.16	0.910275811	0.1247365	111.44	8.9734E-04	0.00073	-18.625	18.62504	
	328.16	0.867523383	0.2401723	98.6	1.0142E-03	0.000945	-6.83548	6.835483	
	328.16	0.851124804	0.2982411	98.63	1.0139E-03	0.001039	2.493504	2.493504	
	328.16	0.82792538	0.3999051	101.52	9.8503E-04	0.00116	17.72859	17.72859	
	328.16	0.81000419	0.5001428	107.54	9.2989E-04	0.001192	28.18774	28.18774	
	328.16	0.783846629	0.6990358	122.55	8.1599E-04	0.000976	19.5506	19.5506	
	328.16	0.758078397	1	155	6.4516E-04	0.000485	-24.7571	24.75709	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	333,15	0.979717812	0	211.2	4.7348E-04	0.000452	-4.48007	4.48007	15.77477
	333,15	0.94060217	0.0590549	152.05	6.5768E-04	0.000562	-14.5968	14.59676	
	333,15	0.906881689	0.1247365	123.93	8.0691E-04	0.000682	-15.5353	15.53526	
	333,15	0.863636852	0.2401723	110.49	9.0506E-04	0.000878	-3.01565	3.01565	
	333,15	0.847066703	0.2982411	110.25	9.0703E-04	0.000963	6.192872	6.192872	
	333,15	0.823640918	0.3999051	112.96	8.8527E-04	0.001071	20.97272	20.97272	
	333,15	0.805557981	0.5001428	119.65	8.3577E-04	0.001098	31.3343	31.3343	
	333,15	0.779184829	0.6990358	134.86	7.4151E-04	0.000896	20.83588	20.83588	
	333,15	0.753227966	1	167.7	5.9630E-04	0.000444	-25.5634	25.5634	16.06906
	338,13	0.977207377	0	228.9	4.3687E-04	0.000426	-2.50994	2.509935	
	338,13	0.937546665	0.0590549	167.1	5.9844E-04	0.000527	-11.9649	11.96492	
	338,13	0.903400057	0.1247365	137.4	7.2780E-04	0.000637	-12.4513	12.45127	
	338,13	0.85966792	0.2401723	122.72	8.1486E-04	0.000817	0.237257	0.237257	
	338,13	0.842928647	0.2982411	122.64	8.1539E-04	0.000894	9.682852	9.682852	
	338,13	0.819280377	0.3999051	125.25	7.9840E-04	0.000991	24.11382	24.11382	
	338,13	0.801038989	0.5001428	131.93	7.5798E-04	0.001013	33.64721	33.64721	
	338,13	0.774455483	0.6990358	148.26	6.7449E-04	0.000825	22.35632	22.35632	
	338,13	0.748315582	1	181.5	5.5096E-04	0.000407	-26.0643	26.06429	16.35052
	343,11	0.974599805	0	245.5	4.0733E-04	0.000402	-1.38311	1.383108	
	343,11	0.934393552	0.0590549	181.6	5.5066E-04	0.000495	-10.1251	10.12505	
	343,11	0.8998221	0.1247365	151.43	6.8037E-04	0.000597	-9.66042	9.660418	
	343,11	0.855606342	0.2401723	135.69	7.3697E-04	0.000761	3.287866	3.287866	
	343,11	0.8386999	0.2982411	135.69	7.3697E-04	0.000832	12.85622	12.85622	
	343,11	0.814832371	0.3999051	138.6	7.2150E-04	0.000919	27.30604	27.30604	
	343,11	0.79643537	0.5001428	145.16	6.8890E-04	0.000937	35.98359	35.98359	
	343,11	0.769646133	0.6990358	162	6.1728E-04	0.000762	23.45808	23.45808	
	343,11	0.743328248	1	195.8	5.1073E-04	0.000375	-26.5474	26.54745	17.52532
	348,11	0.971882855	0	262.9	3.8037E-04	0.000379	-0.2689	0.268905	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	348.11	0.931127764	0.0590549	197	5.0761E-04	0.000465	-8.30135	8.301353	
	348.11	0.896130593	0.1247365	165.1	6.0569E-04	0.000559	-7.67296	7.672955	
	348.11	0.851432482	0.2401723	148.94	6.7141E-04	0.00071	5.784112	5.784112	
	348.11	0.834360005	0.2982411	149.3	6.6979E-04	0.000774	15.62554	15.62554	
	348.11	0.810275378	0.3999051	152	6.5789E-04	0.000853	29.59652	29.59652	
	348.11	0.791724845	0.5001428	159.4	6.2735E-04	0.000868	38.31605	38.31605	
	348.11	0.764733512	0.6990358	175.4	5.7013E-04	0.000705	23.70411	23.70411	
	348.11	0.738241848	1	212.6	4.7037E-04	0.000347	-26.3298	26.32976	18.42866
	353.11	0.969065574	0	280.3	3.5676E-04	0.000359	0.564399	0.564399	
	353.11	0.892337251	0.1247365	182.3	5.4855E-04	0.000525	-4.30314	4.303144	
	353.11	0.829922579	0.2982411	163.7	6.1087E-04	0.000722	18.22723	18.22723	
	353.11	0.805623671	0.3999051	167.3	5.9773E-04	0.000793	32.63154	32.63154	18.38731

WATER (1) - ETHYL ALCOHOL (2)

OI - AL Calibrated with viscosity of water at 15C = 0.01136 poise
00063 Tower, O. F.; J. Am. Chem. Soc., 38, 833-844(1911)
P= 1 atm

	Water	(Poise)							
288.15	0.794707215	0	0.01317	1.3170E-03	0.001135	-13.8057	13.80573		
288.15	0.795964654	0.0195824	0.01383	1.3830E-03	0.001181	-14.6096	14.60961		
288.15	0.797757885	0.0466124	0.01443	1.4430E-03	0.00125	-13.3707	13.37066		
288.15	0.80142965	0.0988939	0.01545	1.5450E-03	0.001403	-9.1984	9.1984		
288.15	0.805817667	0.1564894	0.01678	1.6780E-03	0.001597	-4.80683	4.806835		
288.15	0.81000822	0.207095	0.01805	1.8050E-03	0.001784	-1.15972	1.159716		
288.15	0.813111585	0.2420953	0.01891	1.8910E-03	0.001917	1.351032	1.351032		
288.15	0.81629522	0.2760133	0.01973	1.9730E-03	0.002043	3.540035	3.540035		6.862327

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
WATER (1) - ETHYL ALCOHOL (2)									
OI - AL									
00045 Mathews, J. H.; Cooke, R. D.; J. Phys. Chem., 18, 559-573(1914)									
P= 1 atm									
			Water	(1/P)					
	273.15	0.904363533	0.7576073	14.42	6.9348E-03	0.002389	-65.5564	65.55638	
	298.15	0.888479215	0.7576073	42.37	2.3602E-03	0.00153	-35.1927	35.19275	
	313.15	0.878035491	0.7576073	70.56	1.4172E-03	0.001196	-15.6279	15.62791	
	328.15	0.866852176	0.7576073	103.2	9.6899E-04	0.000949	-2.07897	2.078966	
	343.15	0.854872746	0.7576073	145	6.8966E-04	0.000764	10.73203	10.73203	25.83761

WATER (1) - ETHANOL (2)									
OI - AL									
00017 Ernst, R. C.; Watkins, C. H.; Ruwe, H. H.; J. Phys. Chem., 40(5), 627-635(1936)									
P= 1 atm									
			Water	(cP)					
	298.15	0.994713268	1	0.893	8.9300E-04	0.000723	-19.0041	19.00406	
	298.15	0.968967077	0.9583599	1.33	1.3300E-03	0.000863	-35.0867	35.08672	
	298.15	0.944620039	0.9109451	1.76	1.7600E-03	0.001024	-41.8376	41.83763	
	298.15	0.921276241	0.8564649	2.13	2.1300E-03	0.001207	-43.3506	43.35064	
	298.15	0.899148983	0.7932127	2.34	2.3400E-03	0.001415	-39.5159	39.51591	
	298.15	0.878059703	0.7188846	2.33	2.3300E-03	0.001649	-29.2314	29.23144	
	298.15	0.857937037	0.6302922	2.24	2.2400E-03	0.001865	-15.8524	15.85236	
	298.15	0.838716018	0.5228934	2.04	2.0400E-03	0.00204	4.51E-08	4.51E-08	
	298.15	0.820337373	0.3899889	1.72	1.7200E-03	0.001943	12.9894	12.9894	
	298.15	0.802746913	0.2212686	1.41	1.4100E-03	0.001479	4.920706	4.920706	
	298.15	0.785894999	0	1.1	1.1000E-03	0.000898	-18.3653	18.36533	24.75409

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
ETHANOL (1) - WATER (2)									
AL - OI based on vis water @ 20 C = 0.01002									
00016 Dunstan, A. E.; Thole, F. B.; J. Chem. Soc., 95, 1556-1561(1909)									
P= 1 atm									
Ethanol (Poise)									
293.15	0.79163739	0.9797937	0.01241	1.2410E-03	0.001051	-15.3125	15.31249	29.04272	
293.15	0.827853104	0.5822419	0.02004	2.0040E-03	0.002202	9.869448	9.869448		
293.15	0.858051358	0.3879947	0.0251	2.5100E-03	0.00211	-15.9387	15.93867		
293.15	0.8906192	0.2466422	0.02797	2.7970E-03	0.001681	-39.8995	39.89951		
293.15	0.903083587	0.204402	0.02789	2.7890E-03	0.001531	-45.1125	45.11251		
293.15	0.945414683	0.0926726	0.02162	2.1620E-03	0.001122	-48.1237	48.12371		
293.15	0.996489202	0	0.01002	1.0020E-03	0.000779	-22.2342	22.23417		
298.15	0.787217071	0.9797937	0.01115	1.1150E-03	0.000937	-15.9212	15.92115	25.89508	
298.15	0.823785203	0.5822419	0.01804	1.8040E-03	0.00199	10.31647	10.31647		
298.15	0.854315014	0.3879947	0.02173	2.1730E-03	0.001924	-11.4734	11.47338		
298.15	0.887278919	0.2466422	0.02351	2.3510E-03	0.001543	-34.3707	34.37067		
298.15	0.899905472	0.204402	0.02343	2.3430E-03	0.001408	-39.9245	39.92453		
298.15	0.942831117	0.0926726	0.01829	1.8290E-03	0.001036	-43.3643	43.36428		
298.15	0.994713268	0	0.00891	8.9100E-04	0.000723	-18.8223	18.82225		
303.15	0.78274235	0.9797937	0.009905	9.9050E-04	0.000839	-15.2667	15.26671	22.54278	
303.15	0.819653835	0.5822419	0.0153	1.5300E-03	0.001803	17.85784	17.85784		
303.15	0.850508374	0.3879947	0.01834	1.8340E-03	0.001757	-4.18538	4.185375		
303.15	0.883861871	0.2466422	0.01987	1.9870E-03	0.001419	-28.6011	28.60113		
303.15	0.896648388	0.204402	0.01936	1.9360E-03	0.001297	-33.0316	33.03163		
303.15	0.940162386	0.0926726	0.01505	1.5050E-03	0.000958	-36.314	36.31398		
303.15	0.992847701	0	0.00798	7.9800E-04	0.000673	-15.701	15.70102		

ETHANOL (1) - WATER (2)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
AL - OI based on vis water @ 20 C = 0.01002									
00348 Kikuchi, M.; Oikawa, E.; Nippon Kagaku Zasshi, 88, 1259-1267(1967)									
P= 1 atm									
<i>Ethanol</i> (cP)									
			0	1.1404	1.1404E-03	0.000841	-26.2513	26.25125	
288.16	0.998173121			1.627	1.6270E-03	0.000975	-40.0897	40.08968	
288.16	0.977959275		0.0332	2.282	2.2820E-03	0.00113	-50.4847	50.48471	
288.16	0.957873487		0.0714	2.95	2.9500E-03	0.001314	-55.4568	55.45676	
288.16	0.937551282		0.1167	3.375	3.3750E-03	0.001534	-54.5608	54.56084	
288.16	0.917085468		0.171	3.461	3.4610E-03	0.001795	-48.1453	48.14531	
288.16	0.896693486		0.2365	3.274	3.2740E-03	0.002098	-35.9214	35.92139	
288.16	0.87632157		0.3173	2.922	2.9220E-03	0.002393	-18.1012	18.10123	
288.16	0.855981957		0.4194	2.454	2.4540E-03	0.002478	0.971289	0.971289	
288.16	0.835516083		0.5537	1.932	1.9320E-03	0.002	3.522051	3.522051	
288.16	0.815185859		0.7355	1.327	1.3270E-03	0.001135	-14.4759	14.47595	
288.16	0.794698505		1						34.13925
293.18	0.996478811		0	1.005	1.0050E-03	0.000779	-22.5014	22.50141	
293.18	0.975925252		0.0332	1.398	1.3980E-03	0.000901	-35.5633	35.56332	
293.18	0.955517494		0.0714	1.906	1.9060E-03	0.001042	-45.3168	45.31685	
293.18	0.934885311		0.1167	2.423	2.4230E-03	0.00121	-50.0712	50.07122	
293.18	0.914123412		0.171	2.744	2.7440E-03	0.001409	-48.6528	48.65284	
293.18	0.893452389		0.2365	2.832	2.8320E-03	0.001645	-41.9308	41.93081	
293.18	0.872817629		0.3173	2.726	2.7260E-03	0.001915	-29.7425	29.74248	
293.18	0.852231449		0.4194	2.469	2.4690E-03	0.002173	-11.9778	11.97777	
293.18	0.831533454		0.5537	2.104	2.1040E-03	0.002236	6.265056	6.265056	
293.18	0.810988496		0.7355	1.698	1.6980E-03	0.001793	5.611061	5.611061	
293.18	0.790300709		1	1.2	1.2000E-03	0.001007	-16.076	16.07602	
									30.57016
298.16	0.994709627		0	0.8937	8.9370E-04	0.000723	-19.0794	19.07939	
298.16	0.973820555		0.0332	1.2145	1.2145E-03	0.000835	-31.2739	31.27386	
298.16	0.953095445		0.0714	1.617	1.6170E-03	0.000964	-40.393	40.39296	
298.16	0.932158382		0.1167	2.015	2.0150E-03	0.001117	-44.586	44.58602	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	298.16	0.911105871	0.171	2.271	2.2710E-03	0.001298	-42.8583	42.85836	
	298.16	0.890161617	0.2365	2.361	2.3610E-03	0.001511	-36.0172	36.01716	
	298.16	0.86927012	0.3173	2.296	2.2960E-03	0.001753	-23.6554	23.65543	
	298.16	0.848443733	0.4194	2.114	2.1140E-03	0.001979	-6.38087	6.380867	
	298.16	0.827520243	0.5637	1.833	1.8330E-03	0.002024	10.41367	10.41367	
	298.16	0.806767323	0.7355	1.505	1.5050E-03	0.001614	7.245021	7.245021	
	298.16	0.785886082	1	1.09	1.0900E-03	0.000898	-17.6351	17.63509	26.98037
	303.16	0.992843879	0	0.8007	8.0070E-04	0.000673	-15.9973	15.9973	
	303.16	0.971619315	0.0332	1.0625	1.0625E-03	0.000775	-27.0934	27.09342	
	303.16	0.950577508	0.0714	1.3836	1.3836E-03	0.000893	-35.4793	35.47932	
	303.16	0.929336841	0.1167	1.697	1.6970E-03	0.001032	-39.1801	39.18007	
	303.16	0.907995582	0.171	1.907	1.9070E-03	0.001197	-37.2364	37.23642	
	303.16	0.886780492	0.2365	1.992	1.9920E-03	0.00139	-30.2413	30.24128	
	303.16	0.865635148	0.3173	1.956	1.9560E-03	0.001607	-17.863	17.86301	
	303.16	0.844571894	0.4194	1.819	1.8190E-03	0.001805	-0.75868	0.758685	
	303.16	0.823426693	0.5637	1.603	1.6030E-03	0.001836	14.51335	14.51335	
	303.16	0.802469948	0.7355	1.335	1.3350E-03	0.001456	9.093726	9.093726	
	303.16	0.781399767	1	0.9933	9.9330E-04	0.000803	-19.1684	19.16838	23.49548
	308.17	0.990883559	0	0.7225	7.2250E-04	0.000627	-13.2634	13.26338	
	308.17	0.969324051	0.0332	0.94	9.4000E-04	0.00072	-23.3895	23.38954	
	308.17	0.947966721	0.0714	1.2015	1.2015E-03	0.000828	-31.0699	31.06989	
	308.17	0.926424226	0.1167	1.452	1.4520E-03	0.000956	-34.1899	34.18988	
	308.17	0.904796565	0.171	1.629	1.6290E-03	0.001106	-32.1258	32.1258	
	308.17	0.883313495	0.2365	1.701	1.7010E-03	0.00128	-24.7363	24.73633	
	308.17	0.861917626	0.3173	1.685	1.6850E-03	0.001475	-12.4684	12.46844	
	308.17	0.840621254	0.4194	1.581	1.5810E-03	0.00165	4.334974	4.334974	
	308.17	0.819258505	0.5537	1.414	1.4140E-03	0.001669	18.00215	18.00215	
	308.17	0.798102424	0.7355	1.191	1.1910E-03	0.001318	10.6461	10.6461	
	308.17	0.776848138	1	0.9082	9.0820E-04	0.000721	-20.6617	20.66174	21.21812

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	313.18	0.988831343	0	0.656	6.5600E-04	0.000585	-10.8303	10.83026	
	313.18	0.966937941	0.0332	0.8381	8.3810E-04	0.000671	-19.9748	19.97484	
	313.18	0.945266737	0.0714	1.054	1.0540E-03	0.00077	-26.9732	26.97318	
	313.18	0.923424655	0.1167	1.255	1.2550E-03	0.000886	-29.3853	29.38535	
	313.18	0.901513385	0.171	1.401	1.4010E-03	0.001023	-26.9721	26.97215	
	313.18	0.879765607	0.2365	1.464	1.4640E-03	0.001181	-19.298	19.29797	
	313.18	0.858122931	0.3173	1.459	1.4590E-03	0.001356	-7.03218	7.032179	
	313.18	0.836597553	0.4194	1.3835	1.3835E-03	0.00151	9.162702	9.162702	
	313.18	0.815021759	0.5537	1.25	1.2500E-03	0.00152	21.61993	21.61993	
	313.18	0.793671133	0.7355	1.066	1.0660E-03	0.001196	12.18692	12.18692	
	313.18	0.772237854	1	0.8305	8.3050E-04	0.000649	-21.8484	21.84843	19.17836
	318.16	0.98669936	0	0.5983	5.9830E-04	0.000547	-8.53907	8.539065	
	318.16	0.964474911	0.0332	0.753	7.5300E-04	0.000626	-16.8665	16.86652	
	318.16	0.942493173	0.0714	0.9237	9.2370E-04	0.000717	-22.3909	22.39092	
	318.16	0.920355358	0.1167	1.095	1.0950E-03	0.000824	-24.7819	24.78187	
	318.16	0.898164798	0.171	1.216	1.2160E-03	0.000949	-21.9798	21.9798	
	318.16	0.876157004	0.2365	1.268	1.2680E-03	0.001093	-13.8281	13.82808	
	318.16	0.854272553	0.3173	1.274	1.2740E-03	0.00125	-1.86818	1.868183	
	318.16	0.832523495	0.4194	1.218	1.2180E-03	0.001386	13.80658	13.80658	
	318.16	0.810740277	0.5537	1.108	1.1080E-03	0.001389	25.37244	25.37244	
	318.16	0.789200908	0.7355	0.9555	9.5550E-04	0.001089	13.98229	13.98229	
	318.16	0.767594664	1	0.7592	7.5920E-04	0.000587	-22.6606	22.66062	17.20852
	323.17	0.984460907	0	0.5484	5.4940E-04	0.000513	-6.70027	6.70027	
	323.17	0.961904049	0.0332	0.6807	6.8070E-04	0.000585	-14.0543	14.05433	
	323.17	0.93961118	0.0714	0.8252	8.2520E-04	0.000669	-18.9891	18.98908	
	323.17	0.917177743	0.1167	0.9631	9.6310E-04	0.000766	-20.4241	20.42409	
	323.17	0.894708677	0.171	1.067	1.0670E-03	0.000881	-17.4545	17.45451	
	323.17	0.872442276	0.2365	1.114	1.1140E-03	0.001012	-9.18411	9.184105	
	323.17	0.850318027	0.3173	1.122	1.1220E-03	0.001154	2.82753	2.82753	
	323.17	0.82834779	0.4194	1.079	1.0790E-03	0.001274	18.07748	18.07748	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	323.17	0.806360145	0.5537	0.9889	9.8890E-04	0.001272	28.58401	28.58401	
	323.17	0.784635446	0.7355	0.8631	8.6310E-04	0.000994	15.18363	15.18363	
	323.17	0.762860067	1	0.6966	6.9660E-04	0.000533	-23.5129	23.51294	16.08653

ETHANOL (1) - WATER (2)

AL - OI

00272 Dizechi, M.; Marschell, E.; J. Chem. Eng. Data, 27(3), 358-363(1982)

P= 1 atm

		Ethanol		(g m/s)					
283.15	0.999775767	0	1.2896	1.2896E-03	0.00091	-29.44	29.44002		
283.15	0.995410124	0.0069	1.3962	1.3962E-03	0.00094	-32.6562	32.65621		
283.15	0.991597245	0.0131	1.5107	1.5107E-03	0.00098	-35.9507	35.95069		
283.15	0.988367775	0.0185	1.6328	1.6328E-03	0.00091	-39.2778	39.27785		
283.15	0.98369223	0.0265	1.7523	1.7523E-03	0.001027	-41.3945	41.39454		
283.15	0.980070044	0.0329	1.8905	1.8905E-03	0.001055	-44.174	44.17404		
283.15	0.960620982	0.0704	2.7101	2.7101E-03	0.001223	-54.8812	54.8812		
283.15	0.940823605	0.115	3.5669	3.5669E-03	0.001422	-60.1285	60.12854		
283.15	0.922607238	0.1633	4.1181	4.1181E-03	0.001638	-60.2312	60.23116		
283.15	0.898036418	0.2431	4.1918	4.1918E-03	0.001991	-52.5114	52.51136		
283.15	0.878355721	0.3236	3.8759	3.8759E-03	0.002327	-39.9705	39.97048		
283.15	0.858520576	0.426	3.3918	3.3918E-03	0.002656	-21.7008	21.7008		
283.15	0.83861213	0.56	2.8169	2.8169E-03	0.002746	-2.52647	2.526468		
283.15	0.819019762	0.7387	2.191	2.1910E-03	0.002224	1.495135	1.495135		
283.15	0.811290963	0.8278	1.9175	1.9175E-03	0.001855	-3.24556	3.245563		
283.15	0.805506937	0.9037	1.7103	1.7103E-03	0.001569	-8.26516	8.26516		
283.15	0.799037076	1	1.4521	1.4521E-03	0.001283	-11.624	11.624		33.22728
293.15	0.996489202	0	1.0032	1.0032E-03	0.000779	-22.3272	22.3272		
293.15	0.991971858	0.0069	1.0748	1.0748E-03	0.000804	-25.1554	25.15544		
293.15	0.987463955	0.014	1.1616	1.1616E-03	0.00083	-28.5063	28.50634		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	293.15	0.984677641	0.0185	1.2293	1.2293E-03	0.000847	-31.0976	31.0976	
	293.15	0.979854253	0.0265	1.3138	1.3138E-03	0.000876	-33.2851	33.28515	
	293.15	0.975764839	0.0335	1.4115	1.4115E-03	0.000902	-36.0713	36.07135	
	293.15	0.956630869	0.0712	1.9219	1.9219E-03	0.001042	-46.782	46.78196	
	293.15	0.935027251	0.1164	2.4246	2.4246E-03	0.001209	-50.1254	50.12545	
	293.15	0.915087415	0.1683	2.743	2.7430E-03	0.0014	-48.9675	48.96753	
	293.15	0.908137594	0.1887	2.8141	2.8141E-03	0.001474	-47.619	47.61903	
	293.15	0.893500531	0.2364	2.841	2.8410E-03	0.001645	-42.0973	42.09727	
	293.15	0.870583632	0.3273	2.7628	2.7628E-03	0.001947	-29.5329	29.53293	
	293.15	0.848911756	0.4386	2.4578	2.4578E-03	0.002206	-10.2552	10.25522	
	293.15	0.830721775	0.56	2.1146	2.1146E-03	0.002231	5.494564	5.494564	
	293.15	0.811311093	0.7324	1.7323	1.7323E-03	0.001805	4.190096	4.190096	
	293.15	0.802788868	0.8282	1.5425	1.5425E-03	0.001478	-4.16368	4.163681	
	293.15	0.796586345	0.9083	1.3761	1.3761E-03	0.001231	-10.5365	10.53654	
	293.15	0.790327145	1	1.2056	1.2056E-03	0.001008	-16.4071	16.40709	28.30501
	303.15	0.992847701	0	0.8005	8.0050E-04	0.000673	-15.9643	15.96429	
	303.15	0.988179769	0.0069	0.8576	8.5760E-04	0.000694	-19.0992	19.09915	
	303.15	0.984105444	0.0131	0.9048	9.0480E-04	0.000713	-21.2176	21.21758	
	303.15	0.980645726	0.0185	0.9564	9.5640E-04	0.000729	-23.7323	23.73228	
	303.15	0.975666009	0.0265	1.0071	1.0071E-03	0.000754	-25.1246	25.12461	
	303.15	0.971802374	0.0329	1.0663	1.0663E-03	0.000774	-27.4294	27.42941	
	303.15	0.95109366	0.0704	1.3846	1.3846E-03	0.00089	-35.7393	35.73932	
	303.15	0.931604908	0.1115	1.6886	1.6886E-03	0.001016	-39.8117	39.81171	
	303.15	0.910796114	0.1633	1.9157	1.9157E-03	0.001174	-38.7207	38.72067	
	303.15	0.8848738	0.2431	2.0083	2.0083E-03	0.001409	-29.8585	29.85855	
	303.15	0.864180753	0.3236	1.9679	1.9679E-03	0.001622	-17.5689	17.56893	
	303.15	0.843388155	0.426	1.8108	1.8108E-03	0.001814	0.172376	0.172376	
	303.15	0.822581869	0.56	1.6069	1.6069E-03	0.00183	13.87771	13.87771	
	303.15	0.802167405	0.7387	1.3615	1.3615E-03	0.001448	6.32924	6.32924	
	303.15	0.794131023	0.8278	1.9175	1.9175E-03	0.001195	-37.6597	37.65975	
	303.15	0.788122982	0.9037	1.7103	1.7103E-03	0.001	-41.5198	41.51976	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	303.15	0.781408795	1	1.4521	1.4521E-03	0.000803	-44.6955	44.69548	25.19074
	313.15	0.988843907	0	0.6568	6.5680E-04	0.000585	-10.9026	10.90261	
	313.15	0.977895603	0.016	0.7438	7.4380E-04	0.000626	-15.7799	15.77995	
	313.15	0.967013823	0.0331	0.8442	8.4420E-04	0.000671	-20.5504	20.55038	
	313.15	0.945809061	0.0704	1.0602	1.0602E-03	0.000767	-27.6129	27.61293	
	313.15	0.925047596	0.1131	1.2582	1.2582E-03	0.000877	-30.2649	30.26491	
	313.15	0.903948494	0.1645	1.4043	1.4043E-03	0.001007	-28.263	28.26302	
	313.15	0.876948906	0.2461	1.486	1.4860E-03	0.001204	-18.9559	18.95586	
	313.15	0.856205082	0.3255	1.4709	1.4709E-03	0.001373	-6.66839	6.668387	
	313.15	0.835295527	0.4266	1.3885	1.3885E-03	0.001518	9.309059	9.309059	
	313.15	0.814067964	0.5608	1.2532	1.2532E-03	0.001515	20.86542	20.86542	
	313.15	0.793115114	0.7414	1.0704	1.0704E-03	0.001183	10.48706	10.48706	
	313.15	0.785168639	0.8282	0.9894	9.8940E-04	0.000977	-1.2106	1.210601	
	313.15	0.778743497	0.9083	0.9186	9.1860E-04	0.000806	-12.2339	12.23389	
	313.15	0.772265639	1	0.8327	8.3270E-04	0.000649	-22.007	22.00698	16.85012
	323.15	0.984470031	0	0.5514	5.5140E-04	0.000513	-7.01474	7.014739	
	323.15	0.973185126	0.016	0.6151	6.1510E-04	0.000548	-10.9778	10.97777	
	323.15	0.961977631	0.0331	0.6876	6.8760E-04	0.000585	-14.9259	14.92592	
	323.15	0.940163449	0.0704	0.8354	8.3540E-04	0.000667	-20.217	20.21698	
	323.15	0.91883762	0.1131	0.972	9.7200E-04	0.000759	-21.924	21.92397	
	323.15	0.897197659	0.1645	1.075	1.0750E-03	0.000868	-19.298	19.298	
	323.15	0.869553897	0.2461	1.1396	1.1396E-03	0.00103	-9.59484	9.594843	
	323.15	0.848351621	0.3255	1.1344	1.1344E-03	0.001167	2.845457	2.845457	
	323.15	0.827011943	0.4266	1.0835	1.0835E-03	0.001279	18.08376	18.08376	
	323.15	0.805380497	0.5608	0.9988	9.9880E-04	0.001266	26.77387	26.77387	
	323.15	0.784061307	0.7414	0.8698	8.6980E-04	0.000983	12.98855	12.98855	
	323.15	0.775984279	0.8282	0.8133	8.1330E-04	0.00081	-0.37035	0.370346	
	323.15	0.769456943	0.9083	0.7624	7.6240E-04	0.000666	-12.6343	12.63428	
	323.15	0.762879098	1	0.7015	7.0150E-04	0.000533	-24.0183	24.0183	14.21948

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
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ETHANOL (1) - WATER (2)

AL - OI Only values at isothermal maxima tabulated, the rest were plotted.
00275 Schott, H.; J. Chem. Eng. Data, 14(2), 237-239(1969)

P=
1 atm

Ethanol (P-1)

298.15	0.90131617	0.2	42.5	2.3529E-03	0.001393	-40.7881	40.78814
303.15	0.894858958	0.21	49.4	2.0243E-03	0.001313	-35.1396	35.13957
308.15	0.89149892	0.21	58.2	1.7182E-03	0.001211	-29.5105	29.51046
313.15	0.888057026	0.21	67.5	1.4815E-03	0.001119	-24.459	24.45905
323.15	0.880920534	0.21	87.9	1.1377E-03	0.00096	-15.5982	15.59817

29.09908

ETHANOL (1) - WATER (2)

AL - OI

00550 Traube, J.; Ber. Dtsch. Chem. Ges., 19, 871-892(1886)

P=
1 atm

Ethanol (P)

293.15	0.971155957	0.0416401	0.01564	1.5640E-03	0.000932	-40.3794	40.37945
293.15	0.947078847	0.0890549	0.02216	2.2160E-03	0.001108	-49.9922	49.99221
293.15	0.924166705	0.1435351	0.02717	2.7170E-03	0.001309	-51.8165	51.81652
293.15	0.902336977	0.2067873	0.02942	2.9420E-03	0.001539	-47.6751	47.67506
293.15	0.893891142	0.2350347	0.02947	2.9470E-03	0.00164	-44.3436	44.34358
293.15	0.889727237	0.2498752	0.02922	2.9220E-03	0.001692	-42.0841	42.08414
293.15	0.885601945	0.2652265	0.02909	2.9090E-03	0.001745	-40.0007	40.00073
293.15	0.881514731	0.2811154	0.02912	2.9120E-03	0.001799	-38.2136	38.21363
293.15	0.861631794	0.3697078	0.02694	2.6940E-03	0.002066	-23.3285	23.32845
293.15	0.842626009	0.4771066	0.02381	2.3810E-03	0.002247	-5.62066	5.620656
293.15	0.824440584	0.6100111	0.02036	2.0360E-03	0.002152	5.708466	5.708466
293.15	0.807023526	0.7787314	0.01643	1.6430E-03	0.001646	0.199621	0.199621

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	293.15	0.790981725	0.9898343	0.01261	1.2610E-03	0.001029	-18.391	18.39098	31.36565
	303.15	0.966690336	0.0416401	0.01179	1.1790E-03	0.000801	-32.0759	32.07594	
	303.15	0.941875865	0.0890549	0.01574	1.5740E-03	0.000947	-39.8139	39.8139	
	303.15	0.918303462	0.1435351	0.019	1.9000E-03	0.001114	-41.3617	41.36174	
	303.15	0.895882147	0.2067873	0.02045	2.0450E-03	0.001304	-36.2578	36.2578	
	303.15	0.887217222	0.2350347	0.02051	2.0510E-03	0.001386	-32.4415	32.44152	
	303.15	0.882947312	0.2498752	0.02061	2.0610E-03	0.001428	-30.7218	30.72177	
	303.15	0.878718305	0.2652265	0.02058	2.0580E-03	0.001471	-28.4717	28.47169	
	303.15	0.874529615	0.2811154	0.02068	2.0680E-03	0.001514	-26.7977	26.79774	
	303.15	0.854171225	0.3697078	0.0197	1.9700E-03	0.001723	-12.5218	12.52176	
	303.15	0.834739128	0.4771066	0.0179	1.7900E-03	0.001856	3.681479	3.681479	
	303.15	0.81617151	0.6100111	0.01567	1.5670E-03	0.001759	12.27574	12.27574	
	303.15	0.798411941	0.7787314	0.01311	1.3110E-03	0.001334	1.718387	1.718387	
	303.15	0.782075004	0.9898343	0.01035	1.0350E-03	0.000821	-20.6813	20.68126	24.52467
	313.15	0.96186875	0.0416401	0.00909	9.0900E-04	0.000693	-23.7768	23.77676	
	313.15	0.936326248	0.0890549	0.01167	1.1670E-03	0.000816	-30.1073	30.10729	
	313.15	0.912105221	0.1435351	0.01383	1.3830E-03	0.000955	-30.9637	30.96371	
	313.15	0.889105702	0.2067873	0.01494	1.4940E-03	0.001111	-25.6108	25.61083	
	313.15	0.880227424	0.2350347	0.01504	1.5040E-03	0.001179	-21.6347	21.63474	
	313.15	0.875854447	0.2498752	0.01509	1.5090E-03	0.001213	-19.6163	19.61633	
	313.15	0.871524704	0.2652265	0.01514	1.5140E-03	0.001248	-17.5887	17.58867	
	313.15	0.867237559	0.2811154	0.01529	1.5290E-03	0.001283	-16.1158	16.11582	
	313.15	0.846419316	0.3697078	0.01469	1.4690E-03	0.001449	-1.39002	1.390024	
	313.15	0.826577137	0.4771066	0.01366	1.3660E-03	0.001546	13.1675	13.1675	
	313.15	0.807643949	0.6100111	0.01223	1.2230E-03	0.001453	18.80125	18.80125	
	313.15	0.789558688	0.7787314	0.0105	1.0500E-03	0.001094	4.155565	4.155565	
	313.15	0.772942804	0.9898343	0.00861	8.6100E-04	0.000665	-22.8139	22.81386	18.90326
	323.15	0.956681621	0.0416401	0.00747	7.4700E-04	0.000604	-19.1884	19.18842	
	323.15	0.9304189	0.0890549	0.00924	9.2400E-04	0.000707	-23.4793	23.4793	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	323.15	0.905559575	0.1435351	0.01061	1.0610E-03	0.000824	-22.3703	22.37033	
	323.15	0.881994086	0.2067873	0.01152	1.1520E-03	0.000954	-17.2048	17.20477	
	323.15	0.87290777	0.2350347	0.01157	1.1570E-03	0.001009	-12.7758	12.77578	
	323.15	0.868434459	0.2498752	0.01162	1.1620E-03	0.001037	-10.7267	10.72673	
	323.15	0.864006761	0.2652265	0.01177	1.1770E-03	0.001066	-9.45663	9.45663	
	323.15	0.859623983	0.2811154	0.0118	1.1800E-03	0.001094	-7.28432	7.284315	
	323.15	0.838360562	0.3697078	0.01162	1.1620E-03	0.001227	5.55802	5.55802	
	323.15	0.818123682	0.4771066	0.01089	1.0890E-03	0.001298	19.23722	19.23722	
	323.15	0.798840755	0.6100111	0.00981	9.8100E-04	0.001212	23.55033	23.55033	
	323.15	0.780445883	0.7787314	0.00866	8.6600E-04	0.000908	4.843181	4.843181	
	323.15	0.763566572	0.9898343	0.00729	7.2900E-04	0.000546	-25.1137	25.11368	15.44529
	333.15	0.951118414	0.0418401	0.00622	6.2200E-04	0.000529	-14.8833	14.88333	
	333.15	0.924141374	0.0890549	0.00747	7.4700E-04	0.000617	-17.4193	17.41926	
	333.15	0.898652451	0.1435351	0.00849	8.4900E-04	0.000715	-15.7772	15.77716	
	333.15	0.87453182	0.2067873	0.00912	9.1200E-04	0.000824	-9.67432	9.67432	
	333.15	0.865242271	0.2350347	0.00915	9.1500E-04	0.00087	-4.9563	4.956304	
	333.15	0.860671113	0.2498752	0.00915	9.1500E-04	0.000893	-2.41773	2.417735	
	333.15	0.856148	0.2652265	0.0092	9.2000E-04	0.000916	-0.41729	0.417285	
	333.15	0.851672181	0.2811154	0.00918	9.1800E-04	0.000939	2.326657	2.326657	
	333.15	0.829977168	0.3697078	0.00915	9.1500E-04	0.001046	14.3237	14.3237	
	333.15	0.809359992	0.4771066	0.00865	8.6500E-04	0.0011	27.13545	27.13545	
	333.15	0.789742278	0.6100111	0.00799	7.9900E-04	0.001021	27.79426	27.79426	
	333.15	0.771053067	0.7787314	0.00714	7.1400E-04	0.000763	6.842011	6.842011	
	333.15	0.753925132	0.9898343	0.00622	6.2200E-04	0.000455	-26.8519	26.8519	13.13995

ETHANOL (1) - WATER (2)

AL - OI

00782 Martinez, P.; Rodriguez, A. F.; Z. Phys. Chem., 268(5), 913-922(1987)

P= 1 atm

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac. <i>Ethanol</i>	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	293.15	0.996489202	0	1.002	1.0020E-03	0.000779	-22.2342	22.23417	
	293.15	0.971155957	0.0416401	1.518	1.5180E-03	0.000932	-38.5728	38.57277	
	293.15	0.947078847	0.0890549	1.724	1.7240E-03	0.001108	-35.7208	35.72084	
	293.15	0.924166705	0.1435351	2.131	2.1310E-03	0.001309	-38.5666	38.56663	
	293.15	0.902336977	0.2067873	2.742	2.7420E-03	0.001539	-43.8585	43.85851	
	293.15	0.881514731	0.2811154	2.998	2.9980E-03	0.001799	-39.986	39.98602	39.34095
	303.15	0.992847701	0	0.798	7.9800E-04	0.000673	-15.701	15.70102	
	303.15	0.966690336	0.0416401	1.194	1.1940E-03	0.000801	-32.9293	32.92925	
	303.15	0.941875885	0.0890549	1.343	1.3430E-03	0.000947	-29.4617	29.46171	
	303.15	0.918303482	0.1435351	1.609	1.6090E-03	0.001114	-30.7566	30.75656	
	303.15	0.895882147	0.2067873	1.974	1.9740E-03	0.001304	-33.9651	33.96514	
	303.15	0.874529615	0.2811154	2.1	2.1000E-03	0.001514	-27.9132	27.9132	31.00517
	313.15	0.988843907	0	0.653	6.5300E-04	0.000585	-10.3841	10.38412	
	313.15	0.96186875	0.0416401	0.946	9.4600E-04	0.000693	-26.758	26.75801	
	313.15	0.936326248	0.0890549	1.043	1.0430E-03	0.000816	-21.7979	21.7979	
	313.15	0.912105221	0.1435351	1.193	1.1930E-03	0.000955	-19.9688	19.96882	
	313.15	0.889105702	0.2067873	1.393	1.3930E-03	0.001111	-20.2172	20.21722	
	313.15	0.867237559	0.2811154	1.495	1.4950E-03	0.001283	-14.2081	14.20809	20.59001
	323.15	0.984470031	0	0.547	5.4700E-04	0.000513	-6.26678	6.266777	
	323.15	0.956881621	0.0416401	0.769	7.6900E-04	0.000604	-21.5003	21.50033	
	323.15	0.9304189	0.0890549	0.808	8.0800E-04	0.000707	-12.4937	12.49366	
	323.15	0.905559575	0.1435351	0.937	9.3700E-04	0.000824	-12.097	12.09703	
	323.15	0.881994086	0.2067873	1.066	1.0660E-03	0.000954	-10.5252	10.52523	
	323.15	0.859623983	0.2811154	1.134	1.1340E-03	0.001094	-3.52336	3.523361	12.02792

ETHANOL (1) - WATER (2)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
AL - OI									
01065 Mouquin, H.; Cathcart, W. H.; J. Am. Chem. Soc., 57, 1791-1794(1935)									
P= 0.101 MPa									
			<i>Ethanol</i>	(g/m s)					
	298.1	0.955457225	0.0668	1.61	1.6100E-03	0.000949	-41.0454	41.04537	
	298.1	0.92016318	0.1465	2.26	2.2600E-03	0.001218	-46.1281	46.12812	
	298.1	0.897921195	0.2108	2.45	2.4500E-03	0.00143	-41.6512	41.6512	
	298.1	0.878891652	0.278	2.44	2.4400E-03	0.001641	-32.7471	32.74706	
	298.1	0.867301942	0.3261	2.37	2.3700E-03	0.001779	-24.95	24.94996	
	298.1	0.854371072	0.3879	2.28	2.2800E-03	0.001925	-15.559	15.55904	
	298.1	0.843474745	0.4482	2.15	2.1500E-03	0.002019	-6.09808	6.09808	
	298.1	0.836590693	0.491	2.05	2.0500E-03	0.002047	-0.12209	0.122094	
	298.1	0.81926559	0.6193	1.77	1.7700E-03	0.001927	8.872124	8.872124	
	298.1	0.79469613	0.8759	1.32	1.3200E-03	0.001189	-9.89192	9.891923	22.7065

ETHANOL (1) - WATER (2)

AL - OI
01530 Kay, R. L.; Broadwater, T. L.; J. Solution Chem., 5(1), 57-76(1976)
P= 1 atm

			<i>Ethanol</i>	(cP)					
298.15	0.987328298	0.0112	0.991	9.9100E-04	0.000761	-23.2342	23.23422		
298.15	0.986239802	0.0129	1.007	1.0070E-03	0.000766	-23.8876	23.88763		
298.15	0.981960174	0.0197	1.072	1.0720E-03	0.000789	-26.3712	26.37121		
298.15	0.978710836	0.025	1.127	1.1270E-03	0.000807	-28.381	28.38101		
298.15	0.976366029	0.0289	1.166	1.1660E-03	0.00082	-29.6489	29.64885		
298.15	0.972890898	0.0348	1.225	1.2250E-03	0.00084	-31.4116	31.41161		
298.15	0.967694703	0.0439	1.322	1.3220E-03	0.000871	-34.1179	34.11795		
298.15	0.963500383	0.0515	1.405	1.4050E-03	0.000897	-36.1803	36.18028		
298.15	0.963066302	0.0523	1.411	1.4110E-03	0.000899	-36.2598	36.25984		
298.15	0.958695564	0.0605	1.5	1.5000E-03	0.000927	-38.192	38.19203		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	298.15	0.954973208	0.0677	1.576	1.5760E-03	0.000951	-39.6269	39.6269	
	298.15	0.951402842	0.0748	1.649	1.6490E-03	0.000975	-40.8433	40.8433	
	298.15	0.951204583	0.0752	1.654	1.6540E-03	0.000977	-40.9404	40.9403	
	298.15	0.947398341	0.083	1.732	1.7320E-03	0.001003	-42.078	42.078	
	298.15	0.944076612	0.09	1.799	1.7990E-03	0.001027	-42.9212	42.9211	
	298.15	0.939343401	0.1003	1.889	1.8890E-03	0.001062	-43.8016	43.8016	
	298.15	0.938355418	0.1025	1.91	1.9100E-03	0.001069	-44.0314	44.0314	
	298.15	0.933359985	0.1139	2	2.0000E-03	0.001107	-44.632	44.6319	
	298.15	0.926560122	0.1302	2.109	2.1090E-03	0.001162	-44.9004	44.9004	
	298.15	0.915182521	0.1597	2.247	2.2470E-03	0.00126	-43.9053	43.9053	
	298.15	0.906711252	0.1837	2.322	2.3220E-03	0.00134	-42.2998	42.2998	
	298.15	0.901995939	0.1979	2.342	2.3420E-03	0.001386	-40.8043	40.8043	
	298.15	0.897826355	0.211	2.364	2.3640E-03	0.001429	-39.5515	39.5517	
	298.15	0.888221697	0.2433	2.377	2.3770E-03	0.001532	-35.5314	35.5313	
	298.15	0.886229718	0.2504	2.368	2.3680E-03	0.001555	-34.344	34.3440	
	298.15	0.880228774	0.2727	2.363	2.3630E-03	0.001624	-31.2934	31.2934	
	298.15	0.874050372	0.2972	2.337	2.3370E-03	0.001696	-27.415	27.4150	
	298.15	0.861708212	0.3515	2.248	2.2480E-03	0.001842	-18.0473	18.0472	
	298.15	0.859471486	0.3622	2.239	2.2390E-03	0.001868	-16.5791	16.5791	
	298.15	0.846024592	0.4331	2.094	2.0940E-03	0.001999	-4.53424	4.53424	
	298.15	0.838244078	0.4801	1.995	1.9950E-03	0.002042	2.330837	2.330837	
	298.15	0.835062087	0.5008	1.948	1.9480E-03	0.002047	5.092676	5.092676	
	298.15	0.829001032	0.5429	1.865	1.8650E-03	0.002033	9.02487	9.02487	
	298.15	0.819977037	0.613	1.725	1.7250E-03	0.001938	12.32818	12.32818	
	298.15	0.815611685	0.6506	1.653	1.6530E-03	0.001855	12.19074	12.19074	
	298.15	0.811107278	0.6923	1.58	1.5800E-03	0.001743	10.33315	10.33315	
	298.15	0.800815215	0.8006	1.401	1.4010E-03	0.001411	0.721471	0.721471	
	298.15	0.800711175	0.8018	1.399	1.3990E-03	0.001407	0.599414	0.599414	
	298.15	0.794069064	0.8835	1.272	1.2720E-03	0.001167	-8.23415	8.23415	
	298.15	0.793109129	0.8962	1.254	1.2540E-03	0.001133	-9.63354	9.63354	
	298.15	0.792454554	0.905	1.239	1.2390E-03	0.00111	-10.3938	10.3938	
	298.15	0.789111767	0.9518	1.167	1.1670E-03	0.000997	-14.5437	14.5436	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	298.15	0.785894999	1	1.089	1.089E-03	0.000898	-17.5407	17.54074	
	298.15	0.785894999	1	1.087	1.087E-03	0.000898	-17.389	17.38902	26.69504
	283.15	0.984555164	0.025	1.778	1.778E-03	0.00102	-42.6162	42.61617	
	283.15	0.970063062	0.0515	2.34	2.340E-03	0.001138	-51.3545	51.35449	
	283.15	0.95851957	0.0748	2.878	2.878E-03	0.001242	-56.8297	56.82974	
	283.15	0.946997155	0.1003	3.443	3.443E-03	0.001356	-60.602	60.60202	
	283.15	0.923866183	0.1597	4.208	4.208E-03	0.001622	-61.462	61.46204	
	283.15	0.911215741	0.1979	4.347	4.347E-03	0.001792	-58.7857	58.78568	
	283.15	0.896066404	0.2504	4.283	4.283E-03	0.002022	-52.7814	52.78142	
	283.15	0.872451955	0.3515	3.863	3.863E-03	0.002431	-37.0592	37.05919	
	283.15	0.846718902	0.5008	3.12	3.120E-03	0.002764	-11.4248	11.42485	
	283.15	0.827887084	0.6506	2.506	2.506E-03	0.002549	1.722619	1.722619	
	283.15	0.813433013	0.8018	2.022	2.022E-03	0.001962	-2.98365	2.983654	
	283.15	0.80604954	0.8962	1.757	1.757E-03	0.001595	-9.21349	9.213493	
	283.15	0.802319221	0.9495	1.61	1.610E-03	0.001421	-11.7344	11.73438	
	283.15	0.799037076	1	1.465	1.465E-03	0.001283	-12.4022	12.40219	35.2746

ETHANOL (1) - WATER (2)

AL - OI Units not published and were surmised from values for pure components.

01238 Subnlis, S. W.; Bhagwat, W. V.; Kanugo, R. B.; J. Indian Chem. Soc. 25(12), 575-578(1948)

P= 1 atm

		Ethanol		(10-3 P)			
		0	8				
303.15	0.992847701			8.0000E-04	0.000673	-15.9118	15.91177
303.15	0.9676934	0.0399	10.57	1.0570E-03	0.000795	-24.7449	24.74493
303.15	0.94285952	0.087	14.16	1.4160E-03	0.000941	-33.5455	33.54553
303.15	0.896520139	0.2048	18.71	1.8710E-03	0.001298	-30.6424	30.64244
303.15	0.857750053	0.3526	17.72	1.7720E-03	0.001688	-4.72965	4.729652
303.15	0.817393138	0.6001	15.21	1.5210E-03	0.001776	16.78451	16.78451
303.15	0.802002764	0.7404	12.25	1.2250E-03	0.001443	17.78517	17.78517

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	303.15	0.781408795	1	9.98	9.9800E-04	0.000803	-19.5314	19.53137	21.37204
	313.15	0.988843907	0	6.56	6.5600E-04	0.000585	-10.794	10.79395	
	313.15	0.96290222	0.0399	8.38	8.3800E-04	0.000688	-17.8575	17.85751	
	313.15	0.937337878	0.087	11.04	1.1040E-03	0.00081	-26.5988	26.59882	
	313.15	0.889759625	0.2048	15.17	1.5170E-03	0.001107	-27.0555	27.05553	
	313.15	0.86007674	0.3526	13.84	1.3840E-03	0.001421	2.690187	2.690187	
	313.15	0.808888841	0.6001	11.67	1.1670E-03	0.001468	25.76523	25.76523	
	313.15	0.793213474	0.7404	10.42	1.0420E-03	0.001185	13.72565	13.72565	
	313.15	0.772265639	1	8.07	8.0700E-04	0.000649	-19.5232	19.52318	18.94882
	323.15	0.984470031	0	5.49	5.4900E-04	0.000513	-6.60825	6.608246	
	323.15	0.957745251	0.0399	6.58	6.5800E-04	0.0006	-8.83682	8.836819	
	323.15	0.931458134	0.087	8.34	8.3400E-04	0.000703	-15.7557	15.75573	
	323.15	0.882663562	0.2048	10.01	1.0010E-03	0.00095	-5.11199	5.111991	
	323.15	0.842093892	0.3526	10.3	1.0300E-03	0.001205	17.00135	17.00135	
	323.15	0.800107838	0.6001	8.91	8.9100E-04	0.001225	37.46353	37.46353	
	323.15	0.784161313	0.7404	8.16	8.1600E-04	0.000985	20.68215	20.68215	
	323.15	0.762879098	1	7.04	7.0400E-04	0.000533	-24.2881	24.28812	17.47526
Average Error for Temp.									
Total Error for All Temp.							kij	lij	
							11060.64	1.329566	0.769486

ETHANOL (1) - WATER (2)

AL - OI

00627 Weber, W.; Rheol. Acta, 14, 1012-1025(1975)

P (MPa)		Ethanol	(g/m s)	
0.1	273.1	0.807595238	1	1.794
0.1	293.1	0.7903712	1	1.198
0.1	323.1	0.76292667	1	0.6973

1.7940E-03	0.00166	-7.46783	7.467831
1.1980E-03	0.001009	-15.7781	15.77812
6.9730E-04	0.000534	-23.4879	23.48789

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
0.1	363.1	0.733082735	1	0.432	4.3200E-04	0.00321	-25.6532	25.65318	
0.1	373.1	0.711482727	1	0.325	3.2500E-04	0.00244	-24.8908	24.89081	19.45556
9.9	293.1	0.7903712	1	1.276	1.2760E-03	0.001009	-20.9265	20.92648	
9.9	323.1	0.76292667	1	0.75	7.5000E-04	0.00534	-28.8641	28.86414	
9.9	363.1	0.733082735	1	0.468	4.6800E-04	0.00321	-31.3722	31.37216	
9.9	373.1	0.711482727	1	0.355	3.5500E-04	0.00244	-31.2381	31.23807	28.10021
29.5	293.1	0.7903712	1	1.432	1.4320E-03	0.001009	-29.5406	29.54063	
29.5	323.1	0.76292667	1	0.846	8.4600E-04	0.00534	-36.9363	36.93629	
29.5	363.1	0.733082735	1	0.536	5.3600E-04	0.00321	-40.0787	40.07868	
29.5	373.1	0.711482727	1	0.411	4.1100E-04	0.00244	-40.6071	40.60709	36.79067
49.1	293.1	0.7903712	1	1.587	1.5870E-03	0.001009	-36.4223	36.4223	
49.1	323.1	0.76292667	1	0.944	9.4400E-04	0.00534	-43.4832	43.48316	
49.1	363.1	0.733082735	1	0.601	6.0100E-04	0.00321	-46.5594	46.55936	
49.1	373.1	0.711482727	1	0.462	4.6200E-04	0.00244	-47.1634	47.16345	43.40707
0.1	273.1	0.840301329	0.61	3.644	3.6440E-03	0.003325	-8.75283	8.752834	
0.1	293.1	0.824482633	0.61	1.982	1.9820E-03	0.002154	8.701935	8.701935	
0.1	323.1	0.798886892	0.61	0.9548	9.5480E-04	0.001213	27.05412	27.05412	
0.1	363.1	0.770616282	0.61	0.539	5.3900E-04	0.000746	38.38866	38.38866	
0.1	373.1	0.749936869	0.61	0.392	3.9200E-04	0.000563	43.66565	43.66565	25.31264
9.9	293.1	0.824482633	0.61	2.093	2.0930E-03	0.002154	2.937045	2.937045	
9.9	323.1	0.798886892	0.61	1.009	1.0090E-03	0.001213	20.22921	20.22921	
9.9	363.1	0.770616282	0.61	0.571	5.7100E-04	0.000746	30.63308	30.63308	
9.9	373.1	0.749936869	0.61	0.417	4.1700E-04	0.000563	35.0526	35.0526	22.21298
29.5	293.1	0.824482633	0.61	2.303	2.3030E-03	0.002154	-6.44931	6.449312	
29.5	323.1	0.798886892	0.61	1.11	1.1100E-03	0.001213	9.289433	9.289433	
29.5	363.1	0.770616282	0.61	0.63	6.3000E-04	0.000746	18.39919	18.39919	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
29.5	373.1	0.749936869	0.61	0.466	4.6600E-04	0.000563	20.85179	20.85179	13.74743
49.1	293.1	0.824482633	0.61	2.519	2.5190E-03	0.002154	-14.4711	14.47113	
49.1	323.1	0.798886892	0.61	1.214	1.2140E-03	0.001213	-0.07309	0.073089	
49.1	353.1	0.770616282	0.61	0.688	6.8800E-04	0.000746	8.417859	8.417859	
49.1	373.1	0.749936869	0.61	0.51	5.1000E-04	0.000563	10.42536	10.42536	8.346858
0.1	273.1	0.875767034	0.3697	5.66	5.6600E-03	0.003039	-46.3025	46.30247	
0.1	293.1	0.861669956	0.3697	2.616	2.6160E-03	0.002067	-20.9701	20.9701	
0.1	323.1	0.838403321	0.3697	1.113	1.1130E-03	0.001228	10.29412	10.29412	
0.1	353.1	0.812199134	0.3697	0.6	6.0000E-04	0.000777	29.53012	29.53012	
0.1	373.1	0.792783689	0.3697	0.434	4.3400E-04	0.000592	36.36549	36.36549	28.69246
9.9	293.1	0.861669956	0.3697	2.715	2.7150E-03	0.002067	-23.8519	23.85185	
9.9	323.1	0.838403321	0.3697	1.156	1.1560E-03	0.001228	6.19148	6.19148	
9.9	353.1	0.812199134	0.3697	0.626	6.2600E-04	0.000777	24.15028	24.15028	
9.9	373.1	0.792783689	0.3697	0.454	4.5400E-04	0.000592	30.3582	30.3582	21.13795
29.5	293.1	0.861669956	0.3697	2.93	2.9300E-03	0.002067	-29.4395	29.43951	
29.5	323.1	0.838403321	0.3697	1.244	1.2440E-03	0.001228	-1.32046	1.320457	
29.5	353.1	0.812199134	0.3697	0.674	6.7400E-04	0.000777	15.30872	15.30872	
29.5	373.1	0.792783689	0.3697	0.489	4.8900E-04	0.000592	21.02786	21.02786	16.77414
49.1	293.1	0.861669956	0.3697	3.14	3.1400E-03	0.002067	-34.1585	34.15853	
49.1	323.1	0.838403321	0.3697	1.331	1.3310E-03	0.001228	-7.77058	7.770585	
49.1	353.1	0.812199134	0.3697	0.718	7.1800E-04	0.000777	8.242443	8.242443	
49.1	373.1	0.792783689	0.3697	0.523	5.2300E-04	0.000592	13.15989	13.15989	15.83286
0.1	273.1	0.894648798	0.2811	6.578	6.5780E-03	0.0026	-60.4763	60.47633	
0.1	293.1	0.881552785	0.2811	2.81	2.8100E-03	0.001801	-35.9162	35.91623	
0.1	323.1	0.859667034	0.2811	1.137	1.1370E-03	0.001095	-3.70535	3.705352	
0.1	353.1	0.834722572	0.2811	0.607	6.0700E-04	0.000706	16.32865	16.32865	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
0.1	373.1	0.816099661	0.2811	0.439	4.3900E-04	0.000543	23.66412	23.66412	28.01814
9.9	293.1	0.881552785	0.2811	2.908	2.9080E-03	0.001801	-38.0759	38.07586	
9.9	323.1	0.859667034	0.2811	1.176	1.1760E-03	0.001095	-6.8988	6.898797	
9.9	353.1	0.834722572	0.2811	0.626	6.2600E-04	0.000706	12.7979	12.7979	
9.9	373.1	0.816099661	0.2811	0.454	4.5400E-04	0.000543	19.5783	19.5783	19.33772
29.5	293.1	0.881552785	0.2811	3.097	3.0970E-03	0.001801	-41.8549	41.85489	
29.5	323.1	0.859667034	0.2811	1.248	1.2480E-03	0.001095	-12.27	12.27002	
29.5	353.1	0.834722572	0.2811	0.668	6.6800E-04	0.000706	5.70582	5.70582	
29.5	373.1	0.816099661	0.2811	0.482	4.8200E-04	0.000543	12.63185	12.63185	18.11564
49.1	293.1	0.881552785	0.2811	3.274	3.2740E-03	0.001801	-44.9984	44.99835	
49.1	323.1	0.859667034	0.2811	1.319	1.3190E-03	0.001095	-16.9924	16.99241	
49.1	353.1	0.834722572	0.2811	0.708	7.0800E-04	0.000706	-0.26626	0.26626	
49.1	373.1	0.816099661	0.2811	0.511	5.1100E-04	0.000543	6.239824	6.239824	17.12421
0.1	273.1	0.914352898	0.2068	7.131	7.1310E-03	0.002196	-69.2025	69.2025	
0.1	293.1	0.902364506	0.2068	2.844	2.8440E-03	0.001541	-45.8244	45.82442	
0.1	323.1	0.88202624	0.2068	1.113	1.1130E-03	0.000955	-14.2371	14.23714	
0.1	353.1	0.858518947	0.2068	0.593	5.9300E-04	0.000626	5.577255	5.577255	
0.1	373.1	0.840816258	0.2068	0.431	4.3100E-04	0.000486	12.79798	12.79798	29.52786
9.9	293.1	0.902364506	0.2068	2.921	2.9210E-03	0.001541	-47.2525	47.25254	
9.9	323.1	0.88202624	0.2068	1.144	1.1440E-03	0.000955	-16.5611	16.56114	
9.9	353.1	0.858518947	0.2068	0.607	6.0700E-04	0.000626	3.142195	3.142195	
9.9	373.1	0.840816258	0.2068	0.441	4.4100E-04	0.000486	10.2402	10.2402	19.29902
29.5	293.1	0.902364506	0.2068	3.06	3.0600E-03	0.001541	-49.6486	49.64858	
29.5	323.1	0.88202624	0.2068	1.199	1.1990E-03	0.000955	-20.3886	20.38861	
29.5	353.1	0.858518947	0.2068	0.638	6.3800E-04	0.000626	-1.86942	1.869417	
29.5	373.1	0.840816258	0.2068	0.466	4.6600E-04	0.000486	4.32603	4.32603	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
49.1	293.1	0.902364506	0.2068	3.205	3.2050E-03	0.001541	-51.9266	51.92657	19.05816
49.1	323.1	0.88202624	0.2068	1.252	1.2520E-03	0.000955	-23.7587	23.75874	
49.1	353.1	0.858518947	0.2068	0.667	6.6700E-04	0.000626	-6.13596	6.135964	
49.1	373.1	0.840816258	0.2068	0.487	4.8700E-04	0.000486	-0.17263	0.172629	
Average Error for Temp.									20.49848
Total Error for All T_{ei}									<div> <div>k_{ij}</div> <div>l_{ij}</div> </div> 1.329566 0.769486

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
ETHANOL (1) - n-HEXANE (2)									
AL - AA									
00104 Ratcliff, G. A.; Khan, M. A.; Can. J. Chem. Eng., 49, 125-129(1971)									
P= 1 atm									
Ethanol (cP)									
			0	0.2974	2.9740E-04	0.000305	2.700109	2.700109	%AAD= 4.595477
298.15	0.656026202		0.0607	0.305	3.0500E-04	0.000301	-1.18141	1.181415	
298.15	0.65966632		0.1035	0.3031	3.0310E-04	0.000303	2.06E-09	2.06E-09	
298.15	0.662389042		0.1286	0.306	3.0600E-04	0.000306	-0.12071	0.120712	
298.15	0.66405042		0.2846	0.3322	3.3220E-04	0.000343	3.369079	3.369079	
298.15	0.67560535		0.3428	0.3666	3.6660E-04	0.000366	-0.06619	0.06619	
298.15	0.680547367		0.4373	0.4133	4.1330E-04	0.000413	-0.02683	0.026829	
298.15	0.689467123		0.4727	0.4249	4.2490E-04	0.000434	2.053387	2.053387	
298.15	0.693134069		0.533	0.4651	4.6510E-04	0.000472	1.436662	1.436662	
298.15	0.699849934		0.5802	0.4994	4.9940E-04	0.000504	0.984977	0.984977	
298.15	0.705567869		0.6757	0.5717	5.7170E-04	0.000576	0.742284	0.742284	
298.15	0.718597784		0.7394	0.6511	6.5110E-04	0.000627	-3.71703	3.717026	
298.15	0.728586358		0.7922	0.7074	7.0740E-04	0.000671	-5.19399	5.193991	
298.15	0.7378173		0.8689	0.8184	8.1840E-04	0.000738	-9.81875	9.818752	
298.15	0.753080002		0.8995	0.8715	8.7150E-04	0.000768	-11.9235	11.92348	
298.15	0.759890039		0.9793	1.033	1.0330E-03	0.000864	-16.355	16.355	
298.15	0.780021632		0.9851	1.046	1.0460E-03	0.000873	-16.5378	16.53785	
298.15	0.781637434		1	1.1	1.1000E-03	0.000898	-18.3653	18.36533	
298.15	0.785894999								
Average Error for Temp.									4.595477
Total Error for All Temp									
k _{ij} l _{ij}									
							0.854316	1.378462	

ETHANOL (1) - HEPTANE (2)

AL - AA original data, specific viscosity (vis. sol'n/vis. solv't)-1)
 00799 Slaveley, L. A. K.; Taylor, P. F.; J. Chem. Soc., 200-209(1956)
 P= 0.101 MPa

%AAD= 12.933

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
			<i>Ethanol</i>	(g/m s)					
	293.15	0.686077519	0.0075	1.189	1.1890E-03	0.000416	-65.0042	65.0042	
	293.15	0.686225152	0.011	1.188	1.1880E-03	0.000416	-64.9444	64.94436	
	293.15	0.686445651	0.0162	1.188	1.1880E-03	0.000417	-64.8958	64.89582	
	293.15	0.686667547	0.0214	1.188	1.1880E-03	0.000418	-64.8433	64.84325	
	293.15	0.68687793	0.0263	1.188	1.1880E-03	0.000418	-64.7901	64.79008	64.89554
ETHANOL (1) - HEPTANE (2)									
AL - AA Pure values not consistent with values from DIPPR Pure Component compilations.									
00243 Shikhaliev, Ya. A.; Mamedov, A. A.; Aleskerov, M. A.; Khallov, Sh. Kh.; Russ. J. Phys. Chem., 48(7), 1002-1004(1974)									
P= 1 atm									
			<i>Ethanol</i>	(cP)					
	223	0.741608948	0	2.182	2.1820E-03	0.000985	-54.8648	54.86481	
	223	0.760646965	0.3521	1.732	1.7320E-03	0.002103	21.40506	21.40506	
	223	0.780692826	0.5917	3.751	3.7510E-03	0.003609	-3.78244	3.782436	
	223	0.801844629	0.7654	6.401	6.4010E-03	0.005002	-21.8573	21.85725	
	223	0.824156601	0.8969	6.885	6.8850E-03	0.006184	-10.1818	10.18179	
	223	0.847749887	1	6.412	6.4120E-03	0.007415	15.64056	15.64056	14.30663
	233	0.733977128	0	0.968	9.6800E-04	0.000854	-11.7896	11.78962	
	233	0.752981532	0.3521	1.372	1.3720E-03	0.001677	22.1966	22.1966	
	233	0.773000859	0.5917	2.445	2.4450E-03	0.002748	12.3757	12.3757	
	233	0.794134524	0.7654	4.672	4.6720E-03	0.003708	-20.6322	20.63216	
	233	0.816438343	0.8969	5.021	5.0210E-03	0.00451	-10.1863	10.18626	
	233	0.84003528	1	4.796	4.7960E-03	0.005344	11.43071	11.43071	16.34768
	243	0.726245983	0	0.802	8.0200E-04	0.000746	-6.99951	6.999508	
	243	0.745209537	0.3521	1.211	1.2110E-03	0.001353	11.70224	11.70224	
	243	0.765194607	0.5917	1.69	1.6900E-03	0.00212	25.44933	25.44933	
	243	0.786301882	0.7654	3.232	3.2320E-03	0.002788	-13.7407	13.74066	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	243	0.808588746	0.8969	3.688	3.6880E-03	0.003336	-9.54398	9.543981	
	243	0.832179936	1	3.659	3.6590E-03	0.003908	6.8186	6.8186	15.10906
	253	0.718410023	0	0.688	6.8800E-04	0.000656	-4.65265	4.65265	
	253	0.737325003	0.3521	0.958	9.5800E-04	0.001104	15.19273	15.19273	
	253	0.757267549	0.5917	1.255	1.2550E-03	0.001657	32.00117	32.00117	
	253	0.778339579	0.7654	2.352	2.3520E-03	0.002124	-9.68983	9.689831	
	253	0.800600013	0.8969	2.8	2.8000E-03	0.002502	-10.6439	10.64393	
	253	0.824175304	1	2.781	2.7810E-03	0.002899	4.259339	4.259339	16.88191
	263	0.710463254	0	0.599	5.9900E-04	0.000581	-3.07323	3.073235	
	263	0.729321388	0.3521	0.781	7.8100E-04	0.00091	16.46855	16.46855	
	263	0.749212538	0.5917	1.174	1.1740E-03	0.00131	11.577	11.577	
	263	0.770239789	0.7654	1.689	1.6890E-03	0.001639	-2.96143	2.961434	
	263	0.792463561	0.8969	2.151	2.1510E-03	0.001902	-11.5959	11.59585	
	263	0.816011955	1	2.232	2.2320E-03	0.002181	-2.2678	2.267804	10.65071
	273	0.702399114	0	0.52	5.2000E-04	0.000517	-0.60553	0.605526	
	273	0.721191514	0.3521	0.67	6.7000E-04	0.000757	13.00057	13.00057	
	273	0.74102171	0.5917	0.894	8.9400E-04	0.001048	17.17613	17.17613	
	273	0.761993885	0.7654	1.312	1.3120E-03	0.00128	-2.42164	2.42164	
	273	0.784169911	0.8969	1.666	1.6660E-03	0.001464	-12.1099	12.10992	
	273	0.807679456	1	1.773	1.7730E-03	0.001664	-6.12495	6.124955	11.17707
	283	0.69421039	0	0.466	4.6600E-04	0.000463	-0.73441	0.734415	
	283	0.712927473	0.3521	0.551	5.5100E-04	0.000636	15.42615	15.42615	
	283	0.732686382	0.5917	0.803	8.0300E-04	0.000847	5.466769	5.466769	
	283	0.75359232	0.7654	1.012	1.0120E-03	0.001012	6.52E-09	6.52E-09	
	283	0.775708552	0.8969	1.29	1.2900E-03	0.001142	-11.4579	11.45794	
	283	0.799166215	1	1.469	1.4690E-03	0.001288	-12.3138	12.31379	8.087715
	293	0.685889126	0	0.415	4.1500E-04	0.000416	0.252407	0.252407	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa-s)	%D	%AD	%AAD
	293	0.704520519	0.3521	0.491	4.9100E-04	0.000539	9.769715	9.769715	
	293	0.72419893	0.5917	0.67	6.7000E-04	0.000692	3.270446	3.270446	
	293	0.745024489	0.7654	0.837	8.3700E-04	0.000809	-3.29786	3.297855	
	293	0.76706778	0.8969	1.049	1.0490E-03	0.000903	-13.9595	13.95954	
	293	0.790459295	1	1.216	1.2160E-03	0.001011	-16.83	16.82998	7.574389
	303	0.677426517	0	0.374	3.7400E-04	0.000376	0.506416	0.506416	
	303	0.695960944	0.3521	0.43	4.3000E-04	0.000461	7.110297	7.110297	
	303	0.715542638	0.5917	0.566	5.6600E-04	0.000571	0.899216	0.899216	
	303	0.73627855	0.7654	0.698	6.9800E-04	0.000655	-6.17699	6.176994	
	303	0.758234497	0.8969	1.863	1.8630E-03	0.000723	-61.2179	61.21795	
	303	0.781544187	1	0.981	9.8100E-04	0.000806	-17.8665	17.86653	18.85111
	313	0.668812775	0	0.338	3.3800E-04	0.000341	0.894554	0.894554	
	313	0.68723792	0.3521	0.38	3.8000E-04	0.000397	4.401707	4.401707	
	313	0.706711521	0.5917	0.483	4.8300E-04	0.000476	-1.43442	1.434425	
	313	0.727341224	0.7654	0.587	5.8700E-04	0.000536	-8.69446	8.694461	
	313	0.749193974	0.8969	1.719	1.7190E-03	0.000586	-65.9144	65.91439	
	313	0.772404535	1	0.809	8.0900E-04	0.000651	-19.4748	19.47484	20.11125
	323	0.660036968	0	0.308	3.0800E-04	0.000311	0.829411	0.829411	
	323	0.678339311	0.3521	0.337	3.3700E-04	0.000344	2.173921	2.173921	
	323	0.697690103	0.5917	0.417	4.1700E-04	0.000401	-3.90462	3.90462	
	323	0.718197534	0.7654	0.5	5.0000E-04	0.000444	-11.2754	11.27545	
	323	0.739929554	0.8969	0.606	6.0600E-04	0.000481	-20.5664	20.56636	
	323	0.763021794	1	0.673	6.7300E-04	0.000535	-20.5742	20.57419	9.480088
	333	0.651086832	0	0.281	2.8100E-04	0.000284	0.986126	0.986126	
	333	0.669251447	0.3521	0.301	3.0100E-04	0.000301	-0.00021	0.000211	
	333	0.688463144	0.5917	0.363	3.6300E-04	0.00034	-6.20663	6.206634	
	333	0.708830486	0.7654	0.43	4.3000E-04	0.000371	-13.6516	13.65157	
	333	0.730422282	0.8969	0.513	5.1300E-04	0.000401	-21.9157	21.91574	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	253	0.854370089	0.75	2.448	2.4480E-03	0.002451	0.141391	0.141391	
	253	0.838998838	0.8889	3.052	3.0520E-03	0.002709	-11.2296	11.22962	
	253	0.824175304	1	2.781	2.7810E-03	0.002899	4.259339	4.259339	7.231075
	263	0.895354028	0	0.953	9.5300E-04	0.000862	-9.51653	9.516526	
	263	0.878277205	0.3333	1.148	1.1480E-03	0.001248	8.740183	8.740183	
	263	0.861837804	0.5714	1.485	1.4850E-03	0.001626	9.477023	9.477023	
	263	0.845999858	0.75	1.894	1.8940E-03	0.001894	8.49E-05	8.49E-05	
	263	0.830734101	0.8889	2.355	2.3550E-03	0.002061	-12.4656	12.46559	
	263	0.816011955	1	2.232	2.2320E-03	0.002181	-2.2678	2.267804	7.670721
	273	0.886554787	0	0.806	8.0600E-04	0.000751	-6.7841	6.784095	
	273	0.869573259	0.3333	0.936	9.3600E-04	0.001031	10.17994	10.17994	
	273	0.853228271	0.5714	1.181	1.1810E-03	0.001299	9.995951	9.995951	
	273	0.837483766	0.75	1.48	1.4800E-03	0.001481	0.086544	0.086544	
	273	0.822310379	0.8889	1.812	1.8120E-03	0.001589	-12.3031	12.30312	
	273	0.807679456	1	1.773	1.7730E-03	0.001664	-6.12495	6.124955	8.141388
	283	0.877647388	0	0.688	6.8800E-04	0.000659	-4.18015	4.180146	
	283	0.860744112	0.3333	0.784	7.8400E-04	0.00086	9.725634	9.725634	
	283	0.84447787	0.5714	0.96	9.6000E-04	0.001049	9.319124	9.319124	
	283	0.828812394	0.75	1.179	1.1790E-03	0.001172	-0.56076	0.560759	
	283	0.813718116	0.8889	1.425	1.4250E-03	0.001241	-12.921	12.92098	
	283	0.799166215	1	1.469	1.4690E-03	0.001288	-12.3138	12.31379	8.131624
	293	0.868626067	0	0.575	5.7500E-04	0.000582	1.262897	1.262897	
	293	0.851782281	0.3333	0.654	6.5400E-04	0.000724	10.73856	10.73856	
	293	0.835577552	0.5714	0.718	7.1800E-04	0.000857	19.34364	19.34364	
	293	0.81997527	0.75	0.928	9.2800E-04	0.000939	1.169891	1.169891	
	293	0.804945551	0.8889	1.119	1.1190E-03	0.000982	-12.2808	12.28076	
	293	0.790459295	1	1.216	1.2160E-03	0.001011	-16.83	16.82998	10.88321

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	303	0.859484553	0	0.514	5.1400E-04	0.000517	0.670155	0.670155	
	303	0.842679504	0.3333	0.574	5.7400E-04	0.000615	7.16496	7.16496	
	303	0.826517256	0.5714	0.651	6.5100E-04	0.000707	8.590659	8.590659	
	303	0.810960703	0.75	0.774	7.7400E-04	0.000761	-1.72986	1.729861	
	303	0.795979513	0.8889	0.927	9.2700E-04	0.000787	-15.1467	15.14674	
	303	0.781544187	1	0.981	9.8100E-04	0.000806	-17.8665	17.86653	8.158056
	313	0.850216003	0	0.463	4.6300E-04	0.000462	-0.10853	0.108528	
	313	0.833426625	0.3333	0.504	5.0400E-04	0.000527	4.544295	4.544295	
	313	0.817285738	0.5714	0.557	5.5700E-04	0.000589	5.767795	5.767795	
	313	0.801755568	0.75	0.654	6.5400E-04	0.000623	-4.69045	4.690446	
	313	0.786805178	0.8889	0.778	7.7800E-04	0.000639	-17.9207	17.92073	
	313	0.772404535	1	0.809	8.0900E-04	0.000651	-19.4748	19.47484	8.230817
	323	0.840812924	0	0.413	4.1300E-04	0.000416	0.633462	0.633462	
	323	0.824013443	0.3333	0.446	4.4600E-04	0.000455	2.020955	2.020955	
	323	0.807870365	0.5714	0.479	4.7900E-04	0.000496	3.511734	3.511734	
	323	0.792345045	0.75	0.557	5.5700E-04	0.000517	-7.24287	7.24287	
	323	0.777405765	0.8889	0.648	6.4800E-04	0.000525	-18.9532	18.95316	
	323	0.763021794	1	0.673	6.7300E-04	0.000535	-20.5742	20.57419	7.93218
	333	0.831267089	0	0.375	3.7500E-04	0.000375	0.098174	0.098174	
	333	0.814428535	0.3333	0.396	3.9600E-04	0.000396	-6E-05	6.04E-05	
	333	0.79825686	0.5714	0.425	4.2500E-04	0.000421	-0.86572	0.865716	
	333	0.782712301	0.75	0.484	4.8400E-04	0.000433	-10.523	10.52295	
	333	0.767762156	0.8889	0.551	5.5100E-04	0.000438	-20.5966	20.59658	
	333	0.753374802	1	0.554	5.5400E-04	0.000445	-19.6677	19.66774	7.996327
	343	0.821569429	0	0.341	3.4100E-04	0.000341	-0.11524	0.115241	
	343	0.804659036	0.3333	0.357	3.5700E-04	0.000347	-2.74289	2.742887	
	343	0.788428975	0.5714	0.372	3.7200E-04	0.000361	-2.85851	2.858509	
	343	0.772838082	0.75	0.415	4.1500E-04	0.000367	-11.5643	11.56426	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	343	0.757852417	0.8889	0.476	4.7600E-04	0.000369	-22.4586	22.45857	
	343	0.743439245	1	0.473	4.7300E-04	0.000376	-20.5475	20.54749	9.906056
	353	0.811709914	0	0.315	3.1500E-04	0.00031	-1.45753	1.457534	
	353	0.794690356	0.3333	0.316	3.1600E-04	0.000307	-2.98006	2.980056	
	353	0.778368085	0.5714	0.342	3.4200E-04	0.000313	-8.55521	8.555212	
	353	0.762700189	0.75	0.396	3.9600E-04	0.000314	-20.6182	20.61821	
	353	0.747651187	0.8889	0.419	4.1900E-04	0.000315	-24.7748	24.77479	
	353	0.733186964	1	0.4	4.0000E-04	0.000322	-19.5856	19.58564	14.23207
<i>Average Error for Temp.</i>									
<i>Total Error for All Temp</i>							<i>kij</i>	<i>lij</i>	
							0.938067	1.168937	

BENZENE (1) - ETHANOL (2)

AR - AL

00775 Sumarokova, T.; Nevskaya, Yu.; J. Gen. Chem. USSR, 30(11), 3493-3497(1960)

P= 1 atm

		Benzene	(g/m s)		%AAD=
313.1	0.823994448	0.5	0.5326	5.3260E-04	0.000538
333.1	0.80383476	0.5	0.3987	3.9870E-04	0.000382
				-4.06775	4.067745
313.1	0.839100167	0.7	0.4812	4.8120E-04	0.000501
333.1	0.818615308	0.7	0.3688	3.6880E-04	0.000369
				4.02097	4.02097
				0.071861	0.071861
					2.562134
					2.046416

ETHANOL (1) - BENZENE (2)

AL - AR original data, specific viscosity ((vis. sol'n/vis. solv't)-1)

00799 Staveley, L. A. K.; Taylor, P. F.; J. Chem. Soc., 200-209(1956)

P= 1 atm

Ethanol (g/m s)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	293.15	0.87769152	0.0053	1.186	1.1860E-03	0.000646	-45.5655	45.56552	
	293.15	0.877362262	0.011	1.181	1.1810E-03	0.000645	-45.3493	45.34931	
	293.15	0.877049133	0.0164	1.176	1.1760E-03	0.000645	-45.1251	45.12513	
	293.15	0.876775639	0.0211	1.173	1.1730E-03	0.000645	-44.9877	44.98773	
	293.15	0.876472008	0.0263	1.17	1.1700E-03	0.000645	-44.8455	44.84548	45.17464

BENZENE (1) - ETHANOL (2)

AR - AL

00014 Dunstan, A. E.; J. Chem. Soc., 85, 817-827(1904)

P= 1 atm

		<i>Benzene</i>		(Poise)					
298.15	0.785894999	0	0.0113	1.1300E-03	0.000898	-20.5326	20.53262		
298.15	0.792593788	0.0517516	0.01013	1.0130E-03	0.000875	-13.6373	13.63732		
298.15	0.799456443	0.1077771	0.00955	9.5500E-04	0.000855	-10.5201	10.5201		
298.15	0.809231338	0.1933684	0.00884	8.8400E-04	0.000826	-6.52183	6.521825		
298.15	0.82335919	0.3308196	0.00776	7.7600E-04	0.000779	0.322943	0.322943		
298.15	0.827955279	0.379512	0.00728	7.2800E-04	0.00076	4.426132	4.426132		
298.15	0.842723398	0.5514455	0.00651	6.5100E-04	0.000694	6.639497	6.639497		
298.15	0.844422033	0.5728992	0.00647	6.4700E-04	0.000686	6.074014	6.074014		
298.15	0.850871751	0.6578969	0.00607	6.0700E-04	0.000657	8.205131	8.205131		
298.15	0.854425582	0.7072763	0.00588	5.8800E-04	0.000642	9.108224	9.108224		
298.15	0.861575925	0.8126391	0.00567	5.6700E-04	0.000616	8.557714	8.557714		
298.15	0.87190566	0.9808225	0.00567	5.6700E-04	0.000601	5.94416	5.94416		
298.15	0.873007427	1	0.00582	5.8200E-04	0.000602	3.418359	3.418359		7.268824

ETHANOL (1) - BENZENE (2)

AL - AR

00019 Findlay, A.; Z. Phys. Chem. Stoichiom. Verwandtschaftsl., 69, 203-217(1909)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac. 1 atm	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	P=		<i>Ethanol</i>						
			(g/m s)						
	352.5	0.815949642	0	0.317	3.1700E-04	0.000313	-1.37732	1.377319	
	348	0.820462118	0.008	0.327	3.2700E-04	0.000326	-0.25485	0.254847	
	343.7	0.824156529	0.026	0.334	3.3400E-04	0.000338	1.303963	1.303963	
	342.4	0.824672848	0.042	0.336	3.3600E-04	0.000341	1.373254	1.373254	
	340.5	0.823635061	0.096	0.341	3.4100E-04	0.000341	-0.00684	0.006836	
	340	0.821265076	0.145	0.344	3.4400E-04	0.000339	-1.52728	1.527279	
	340	0.814020561	0.26	0.361	3.6100E-04	0.000335	-7.27143	7.271428	
	340.2	0.807895086	0.347	0.377	3.7700E-04	0.000335	-11.1676	11.16762	
	342.2	0.7875341	0.583	0.416	4.1600E-04	0.000337	-19.0677	19.06772	
	345.9	0.762080089	0.812	0.438	4.3800E-04	0.000332	-24.1134	24.11343	
	350.2	0.736091331	1	0.442	4.4200E-04	0.000336	-24.0858	24.08577	7.34293

ETHANOL (1) - BENZENE (2)
AL - AR
00332 Cota Galan, J.; Rodriguez Palino, J. M.; Rosello Segado, A.; Afinidad, 41(393), 435-439(1984)

	P=		<i>Ethanol</i>						
			(cP)						
298.15		0.8662969	0.113	0.645	6.4500E-04	0.000604	-6.34349	6.343489	
298.15		0.863483391	0.306	0.642	6.4200E-04	0.000645	0.544016	0.544016	
298.15		0.838526387	0.5	0.712	7.1200E-04	0.000714	0.24251	0.24251	
298.15		0.821135471	0.692	0.816	8.1600E-04	0.000787	-3.57148	3.571481	
298.15		0.799482985	0.892	0.977	9.7700E-04	0.000854	-12.5428	12.54275	
									4.648849
313.15		0.851211376	0.113	0.525	5.2500E-04	0.000485	-7.66677	7.666769	
313.15		0.838630701	0.306	0.515	5.1500E-04	0.000501	-2.71025	2.710247	
313.15		0.823945112	0.5	0.555	5.5500E-04	0.000538	-3.10985	3.10985	
313.15		0.806869279	0.692	0.629	6.2900E-04	0.000579	-7.94176	7.941761	
313.15		0.785608338	0.892	0.748	7.4800E-04	0.000619	-17.1937	17.19374	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	328.15	0.835723433	0.113	0.444	4.4400E-04	0.000396	-10.832	10.83196	7.724473
	328.15	0.823349844	0.306	0.437	4.3700E-04	0.000397	-9.14575	9.145749	
	328.15	0.808906819	0.5	0.453	4.5300E-04	0.000415	-8.46059	8.46059	
	328.15	0.792114153	0.692	0.498	4.9800E-04	0.000437	-12.1888	12.18883	
	328.15	0.771207469	0.892	0.586	5.8600E-04	0.000463	-21.0574	21.05741	12.33691

ETHANOL (1) - BENZENE (2)

AL - AR

00322 Konobeev, B. I.; Lyapin, V. V.; J. Appl. Chem. USSR, 43(4), 806-813(1970)

P= 1 atm

		<i>Ethanol</i>		<i>(10⁻⁶ N s/m2)</i>					
288.15	0.882947548	0	702	7.0200E-04	0.000694	-1.10186	1.101857		
288.15	0.864174329	0.292	728	7.2800E-04	0.000767	5.391566	5.391566		
288.15	0.845797686	0.526	840	8.4000E-04	0.000888	5.724856	5.724856		
288.15	0.828184276	0.714	991	9.9100E-04	0.000991	-2.3E-05	2.31E-05		
288.15	0.811210955	0.869	1160	1.1600E-03	0.001066	-8.12161	8.121613		
288.15	0.794707215	1	1333	1.3330E-03	0.001135	-14.8403	14.84032		4.809515
298.15	0.873007427	0	606	6.0600E-04	0.000602	-0.67742	0.677418		
298.15	0.854476669	0.292	613	6.1300E-04	0.000641	4.624058	4.624058		
298.15	0.836336057	0.526	696	6.9600E-04	0.000724	3.987786	3.987786		
298.15	0.818947661	0.714	825	8.2500E-04	0.000795	-3.66618	3.666175		
298.15	0.802190053	0.869	949	9.4900E-04	0.000847	-10.7727	10.77267		
298.15	0.785894999	1	1095	1.0950E-03	0.000898	-17.9926	17.99257		5.762672
313.15	0.85779985	0	491	4.9100E-04	0.000493	0.340458	0.340458		
313.15	0.839605941	0.292	485	4.8500E-04	0.000499	2.882565	2.882565		
313.15	0.821794496	0.526	550	5.5000E-04	0.000543	-1.21032	1.210315		
313.15	0.80472107	0.714	623	6.2300E-04	0.000584	-6.32881	6.328812		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
313.15	0.788266498	0.869	0.869	724	7.2400E-04	0.000614	-15.1258	15.12585	
313.15	0.772265639	1	1	833	8.3300E-04	0.000649	-22.0351	22.03507	6.386885

ETHANOL (1) - BENZENE (2)

AL - AR Vis units in paper were printed 10-3Pas, but should be 10-4Pas.

00221 Albright, J. G.; Edge, A. V. J.; Mills, R.; J. Chem. Soc. Faraday Trans. 1, 79(6), 1327-1334(1983)

P= 1 atm

		<i>Ethanol</i>		<i>(10-4 Pa s)</i>					
298.2	0.872957341	0	6.028	6.0280E-04	0.000601	-0.2195	0.219502		
298.2	0.867046771	0.1	5.83	5.8300E-04	0.000602	3.319372	3.319372		
298.2	0.86069834	0.2	5.87	5.8700E-04	0.000618	5.21113	5.21113		
298.2	0.853861519	0.3	6.05	6.0500E-04	0.000643	6.303132	6.303132		
298.2	0.846477696	0.4	6.35	6.3500E-04	0.000676	6.440715	6.440715		
298.2	0.838478488	0.5	6.75	6.7500E-04	0.000713	5.63337	5.63337		
298.2	0.82978362	0.6	7.23	7.2300E-04	0.000752	3.956911	3.956911		
298.2	0.820298216	0.7	7.82	7.8200E-04	0.000789	0.88273	0.88273		
298.2	0.809909329	0.8	8.61	8.6100E-04	0.000823	-4.38394	4.383936		
298.2	0.798481419	0.9	9.59	9.5900E-04	0.000856	-10.7165	10.71653		
298.2	0.785850408	1	10.78	1.0780E-03	0.000897	-16.7938	16.79383		5.205314

BENZENE (1) - ETHYL ALCOHOL (2)

AL - AR

00045 Mathews, J. H.; Cooke, R. D.; J. Phys. Chem., 18, 559-573(1914)

P= 1 atm

		<i>Benzene</i>		<i>(1/P)</i>					
273.15	0.850191458	0.3709779	70.71	1.4142E-03	0.001332	-5.80704	5.807038		
298.15	0.827163986	0.3709779	121.9	8.2034E-04	0.000763	-6.9335	6.933504		
313.15	0.812788632	0.3709779	161.3	6.1996E-04	0.000566	-8.74744	8.747436		

ETHANOL (1) - CYCLOHEXANE (2)

AL - CA

00111 Wei, I. C., Rowley, R. L.; J. Chem. Eng. Data, 29(3), 332-335(1984)

P=	0.101 MPa	Ethanol	(g/m s)			%AAD=
298.15	0.773109026	0	0.8906	8.9060E-04	0.000881	-1.05027
298.15	0.775886601	0.3401	0.8345	8.3450E-04	0.000889	6.509319
298.15	0.777076616	0.4552	0.8595	8.5950E-04	0.000901	4.808213
298.15	0.778084331	0.5419	0.8738	8.7380E-04	0.000908	3.861014
298.15	0.778828624	0.6005	0.8897	8.8970E-04	0.00091	2.301365
298.15	0.780655938	0.7279	0.9278	9.2780E-04	0.00091	-1.95248
298.15	0.781758257	0.7952	0.9494	9.4940E-04	0.000906	-4.53706
298.15	0.783004775	0.8641	0.9813	9.8130E-04	0.000902	-8.10542

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	288.15	0.792163161	0.1188	1.2	1.2000E-03	0.001135	-5.39677	5.396775	
	288.15	0.790862324	0.1894	1.1524	1.1524E-03	0.001138	-1.25181	1.251812	
	288.15	0.789573977	0.2674	1.1166	1.1166E-03	0.001139	1.984135	1.984135	
	288.15	0.788299716	0.3539	1.0889	1.0889E-03	0.001135	4.208466	4.208466	
	288.15	0.78703648	0.4506	1.0602	1.0602E-03	0.001123	5.960801	5.960801	
	288.15	0.785749867	0.5626	1.0351	1.0351E-03	0.001103	6.525347	6.525347	
	288.15	0.784476835	0.6898	1.0095	1.0095E-03	0.001074	6.376908	6.376908	
	288.15	0.783222937	0.8348	1.0016	1.0016E-03	0.001045	4.287271	4.287271	
	288.15	0.78199881	1	1.0626	1.0626E-03	0.001036	-2.4764	2.476401	5.01462
	293.15	0.790327145	0	1.205	1.2050E-03	0.001008	-16.3655	16.36547	
	293.15	0.789050759	0.0565	1.1427	1.1427E-03	0.001007	-11.8834	11.88343	
	293.15	0.787773371	0.1188	1.0977	1.0977E-03	0.001009	-8.03742	8.037421	
	293.15	0.786467623	0.1894	1.0535	1.0535E-03	0.001013	-3.80654	3.80654	
	293.15	0.785174452	0.2674	1.0275	1.0275E-03	0.001016	-1.10613	1.106129	
	293.15	0.783895459	0.3539	0.9953	9.9530E-04	0.001015	2.001572	2.001572	
	293.15	0.782627569	0.4506	0.9698	9.6980E-04	0.001009	3.993065	3.993065	
	293.15	0.781336257	0.5626	0.9436	9.4360E-04	0.000994	5.37837	5.37837	
	293.15	0.780058612	0.6898	0.9184	9.1840E-04	0.000974	6.047671	6.047671	
	293.15	0.778800209	0.8348	0.9099	9.0990E-04	0.000954	4.856046	4.856046	
	293.15	0.77757172	1	0.9781	9.7810E-04	0.000955	-2.4049	2.404895	5.234472
	298.15	0.785894999	0	1.0856	1.0856E-03	0.000898	-17.2825	17.28248	
	298.15	0.784615404	0.0565	1.0369	1.0369E-03	0.000898	-13.4343	13.43431	
	298.15	0.783334839	0.1188	0.9995	9.9950E-04	0.000901	-9.89039	9.890389	
	298.15	0.782025878	0.1894	0.9602	9.6020E-04	0.000905	-5.71192	5.711915	
	298.15	0.78072956	0.2674	0.9303	9.3030E-04	0.00091	-2.23487	2.234865	
	298.15	0.779447488	0.3539	0.9067	9.0670E-04	0.000911	0.473035	0.473035	
	298.15	0.77817658	0.4506	0.8821	8.8210E-04	0.000908	2.932732	2.932732	
	298.15	0.776882228	0.5626	0.8589	8.5890E-04	0.000899	4.683458	4.683458	
	298.15	0.775601609	0.6898	0.8388	8.3880E-04	0.000886	5.577446	5.577446	
	298.15	0.774340311	0.8348	0.8319	8.3190E-04	0.000874	5.008188	5.008188	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	298.15	0.773109026	1	0.8942	8.9420E-04	0.000881	-1.44864	1.448635	5.549592
	303.15	0.781408795	0	0.9892	9.8920E-04	0.000803	-18.8155	18.81551	
	303.15	0.780127746	0.0565	0.947	9.4700E-04	0.000803	-15.2092	15.20915	
	303.15	0.778845756	0.1188	0.9133	9.1330E-04	0.000806	-11.7213	11.72128	
	303.15	0.777535367	0.1894	0.8784	8.7840E-04	0.000811	-7.62433	7.624329	
	303.15	0.776237665	0.2674	0.8522	8.5220E-04	0.000817	-4.18013	4.180129	
	303.15	0.774954254	0.3539	0.8288	8.2880E-04	0.00082	-1.07759	1.077587	
	303.15	0.773682047	0.4506	0.8084	8.0840E-04	0.00082	1.40399	1.40399	
	303.15	0.7723864	0.5626	0.786	7.8600E-04	0.000815	3.716537	3.716537	
	303.15	0.77110453	0.6898	0.7655	7.6550E-04	0.000807	5.459907	5.459907	
	303.15	0.769842027	0.8348	0.7647	7.6470E-04	0.000802	4.843824	4.843824	
	303.15	0.768609593	1	0.8226	8.2260E-04	0.000815	-0.88639	0.886387	6.137415
	308.15	0.776866423	0	0.9061	9.0610E-04	0.000721	-20.4441	20.44409	
	308.15	0.775585771	0.0565	0.8683	8.6830E-04	0.000721	-16.9816	16.98161	
	308.15	0.7743042	0.1188	0.8383	8.3830E-04	0.000724	-13.6135	13.61348	
	308.15	0.772994265	0.1894	0.8039	8.0390E-04	0.00073	-9.24429	9.244288	
	308.15	0.771697035	0.2674	0.7793	7.7930E-04	0.000735	-5.63391	5.633911	
	308.15	0.770414115	0.3539	0.7578	7.5780E-04	0.00074	-2.34448	2.344482	
	308.15	0.769142417	0.4506	0.7384	7.3840E-04	0.000742	0.512247	0.512247	
	308.15	0.767847313	0.5626	0.7191	7.1910E-04	0.000741	3.060271	3.060271	
	308.15	0.766566003	0.6898	0.7052	7.0520E-04	0.000738	4.620957	4.620957	
	308.15	0.765304075	0.8348	0.7051	7.0510E-04	0.000738	4.602438	4.602438	
	308.15	0.764072224	1	0.7592	7.5920E-04	0.000756	-0.43358	0.433576	6.734854

ETHANOL (1) - CYCLOHEXANE (2)

AL - CA original data, specific viscosity (vis. sol'n/vis. solv't)-1)
00799 Staveley, L. A. K.; Taylor, P. F.; J. Chem. Soc., 200-209(1956)
P= 0.101 MPa

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
			<i>Ethanol</i>	(g/m s)					
	293.15	0.777584095	0.0018	1.188	1.1880E-03	0.000954	-19.6685	19.66854	
	293.15	0.777605456	0.0049	1.182	1.1820E-03	0.000954	-19.2944	19.29441	
	293.15	0.777625495	0.0078	1.178	1.1780E-03	0.000954	-19.0504	19.05045	
	293.15	0.777643507	0.0104	1.176	1.1760E-03	0.000953	-18.9386	18.93857	19.23799

CYCLOHEXANE (1) - ETHANOL (2)

CA - AL Pressures not given. Since, the temperature range is from 20 to 235C, the pressure is not atmospheric.
01504 Zakurenov, V. M.; Konyakhin, V. P.; Nozdrev, V. F.; Russ. J. Phys. Chem., 49(2), 320-321(1975)

P= 1 atm

Wt. Frac.	Cyclohexane (10-3 kg/m s)									
0	293.15	0.790327145	0	1.2	1.2000E-03	0.001008	-16.017	16.01699		
0	303.15	0.781408795	0	1.005	1.0050E-03	0.000803	-20.0918	20.09185		
0	313.15	0.772265639	0	0.835	8.3500E-04	0.000649	-22.2218	22.22181		
0	323.15	0.762879098	0	0.7	7.0000E-04	0.000533	-23.8555	23.85549		
0	333.15	0.753227966	0	0.59	5.9000E-04	0.000444	-24.7682	24.7682		
0	353.15	0.733030607	0	0.43	4.3000E-04	0.000321	-25.363	25.363		
0	373.15	0.711426704	0	0.32	3.2000E-04	0.000244	-23.7653	23.76534		
0	393.15	0.688071225	0	0.245	2.4500E-04	0.000193	-21.2055	21.20553		
0	413.15	0.662457263	0	0.19	1.9000E-04	0.000157	-17.2863	17.28633		
0	433.15	0.633787886	0	0.151	1.5100E-04	0.00013	-13.9702	13.97017		
0	453.15	0.600681479	0	0.12	1.2000E-04	0.000107	-10.4654	10.46536		
0	473.15	0.560340014	0	0.095	9.5000E-05	8.72E-05	-8.25858	8.258578		
0	493.15	0.50514307	0	0.073	7.3000E-05	6.65E-05	-8.93977	8.939775		
0	503.15	0.463346113	0	0.068	6.8000E-05	5.43E-05	-20.1464	20.14644		
0	508.15	0.431811642	0	0.062	6.2000E-05	4.66E-05	-24.8543	24.85433		18.74728
0.2	293.15	0.78774998	0.12	1.125	1.1250E-03	0.00101	-10.2632	10.2632		
0.2	303.15	0.778822281	0.12	0.928	9.2800E-04	0.000806	-13.1109	13.11085		
0.2	313.15	0.769684704	0.12	0.764	7.6400E-04	0.000653	-14.5631	14.56314		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
0.2	323.15	0.760320361	0.12	0.634	6.3400E-04	0.000536	-15.5279	15.52791	
0.2	333.15	0.750710025	0.12	0.534	5.3400E-04	0.000445	-16.6095	16.6095	
0.2	353.15	0.730659822	0.12	0.393	3.9300E-04	0.00032	-18.5671	18.56709	
0.2	373.15	0.709311884	0.12	0.303	3.0300E-04	0.000241	-20.3916	20.39163	
0.2	393.15	0.68635756	0.12	0.236	2.3600E-04	0.000189	-19.8083	19.80833	
0.2	413.15	0.661346514	0.12	0.184	1.8400E-04	0.000153	-16.8161	16.81607	
0.2	433.15	0.633576115	0.12	0.143	1.4300E-04	0.000126	-11.7793	11.77934	
0.2	453.15	0.60183798	0.12	0.113	1.1300E-04	0.000105	-7.44239	7.442393	
0.2	473.15	0.563703567	0.12	0.089	8.9000E-05	8.57E-05	-3.71695	3.716945	
0.2	493.15	0.512586664	0.12	0.068	6.8000E-05	6.69E-05	-1.56813	1.568134	
0.2	503.15	0.474666111	0.12	0.056	5.6000E-05	5.6E-05	0.027806	0.027806	
0.2	508.15	0.44637669	0.12	0.051	5.1000E-05	4.91E-05	-3.79047	3.790469	11.59885
0.4	293.15	0.785180725	0.267	1.054	1.0540E-03	0.001016	-3.59316	3.593158	
0.4	303.15	0.77624396	0.267	0.878	8.7800E-04	0.000817	-6.9983	6.998302	
0.4	313.15	0.767112109	0.267	0.738	7.3800E-04	0.000664	-9.98808	9.988079	
0.4	323.15	0.757769952	0.267	0.616	6.1600E-04	0.000547	-11.1902	11.19022	
0.4	333.15	0.748200224	0.267	0.519	5.1900E-04	0.000456	-12.1336	12.13364	
0.4	353.15	0.728296187	0.267	0.379	3.7900E-04	0.000328	-13.3851	13.3851	
0.4	373.15	0.707202337	0.267	0.291	2.9100E-04	0.000247	-15.1436	15.14357	
0.4	393.15	0.684646515	0.267	0.226	2.2600E-04	0.000193	-14.6139	14.61387	
0.4	413.15	0.660235655	0.267	0.18	1.8000E-04	0.000155	-13.6478	13.64782	
0.4	433.15	0.633363752	0.267	0.141	1.4100E-04	0.000128	-9.35175	9.35175	
0.4	453.15	0.603002973	0.267	0.111	1.1100E-04	0.000106	-4.41881	4.418813	
0.4	473.15	0.567119612	0.267	0.089	8.9000E-05	8.76E-05	-1.60927	1.609266	
0.4	493.15	0.520279874	0.267	0.069	6.9000E-05	6.98E-05	1.117135	1.117135	
0.4	503.15	0.486595305	0.267	0.059	5.9000E-05	5.97E-05	1.152165	1.152165	
0.4	508.15	0.462014484	0.267	0.052	5.2000E-05	5.33E-05	2.535265	2.535265	8.058544
0.6	293.15	0.78262264	0.451	0.977	9.7700E-04	0.001008	3.222638	3.222638	
0.6	303.15	0.7736771	0.451	0.823	8.2300E-04	0.00082	-0.39596	0.395963	
0.6	313.15	0.764551112	0.451	0.694	6.9400E-04	0.000674	-2.9042	2.904204	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
0.6	323.15	0.755231105	0.451	0.592	5.9200E-04	0.00056	-5.38902	5.389018	
0.6	333.15	0.745701744	0.451	0.503	5.0300E-04	0.000471	-6.42862	6.428616	
0.6	353.15	0.725942703	0.451	0.369	3.6900E-04	0.000343	-7.02995	7.029946	
0.6	373.15	0.705100753	0.451	0.282	2.8200E-04	0.00026	-7.76213	7.762134	
0.6	393.15	0.682940285	0.451	0.218	2.1800E-04	0.000204	-6.35331	6.353308	
0.6	413.15	0.659126116	0.451	0.173	1.7300E-04	0.000165	-4.75048	4.750483	
0.6	433.15	0.63315107	0.451	0.142	1.4200E-04	0.000136	-4.42933	4.42933	
0.6	453.15	0.604175035	0.451	0.118	1.1800E-04	0.000113	-4.25485	4.254849	
0.6	473.15	0.57058488	0.451	0.094	9.4000E-05	9.39E-05	-0.09597	0.095975	
0.6	493.15	0.52822504	0.451	0.072	7.2000E-05	7.62E-05	5.781891	5.781891	
0.6	503.15	0.499167552	0.451	0.063	6.3000E-05	6.65E-05	5.542178	5.542178	
0.6	508.15	0.47882554	0.451	0.056	5.6000E-05	6.06E-05	8.163143	8.163143	4.833578
0.8	293.15	0.780094239	0.686	0.932	9.3200E-04	0.000975	4.566372	4.566372	
0.8	303.15	0.771140274	0.686	0.775	7.7500E-04	0.000808	4.197285	4.197285	
0.8	313.15	0.762020241	0.686	0.659	6.5900E-04	0.000676	2.567961	2.567961	
0.8	323.15	0.752722181	0.686	0.567	5.6700E-04	0.000571	0.77345	0.77345	
0.8	333.15	0.743232657	0.686	0.491	4.9100E-04	0.000488	-0.67479	0.674789	
0.8	353.15	0.723616406	0.686	0.368	3.6800E-04	0.000365	-0.76254	0.76254	
0.8	373.15	0.703022369	0.686	0.284	2.8400E-04	0.000283	-0.40052	0.400519	
0.8	393.15	0.681251277	0.686	0.228	2.2800E-04	0.000226	-1.05707	1.057072	
0.8	413.15	0.658025997	0.686	0.182	1.8200E-04	0.000184	1.215915	1.215915	
0.8	433.15	0.632939626	0.686	0.151	1.5100E-04	0.000153	1.338865	1.338865	
0.8	453.15	0.605345579	0.686	0.126	1.2600E-04	0.000128	1.85715	1.85715	
0.8	473.15	0.574074547	0.686	0.105	1.0500E-04	0.000108	2.527087	2.527087	
0.8	493.15	0.536373715	0.686	0.085	8.5000E-05	8.89E-05	4.546208	4.546208	
0.8	503.15	0.512336585	0.686	0.073	7.3000E-05	7.92E-05	8.443232	8.443232	
0.8	508.15	0.496809391	0.686	0.069	6.9000E-05	7.36E-05	6.649964	6.649964	2.771894
1	293.15	0.77757172	1	0.993	9.9300E-04	0.000955	-3.86931	3.869313	
1	303.15	0.768609593	1	0.83	8.3000E-04	0.000815	-1.77005	1.770051	
1	313.15	0.75949566	1	0.708	7.0800E-04	0.000702	-0.80537	0.805371	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
1	323.15	0.750219552	1	0.6	6.0000E-04	0.00061	1.652164	1.652164	
1	333.15	0.740769712	1	0.533	5.3300E-04	0.000534	0.155646	0.155646	
1	353.15	0.721295399	1	0.415	4.1500E-04	0.000418	0.706915	0.706915	
1	373.15	0.700947643	1	0.331	3.3100E-04	0.000336	1.429172	1.429172	
1	393.15	0.679563637	1	0.271	2.7100E-04	0.000276	1.666698	1.666698	
1	413.15	0.656924996	1	0.226	2.2600E-04	0.00023	1.711791	1.711791	
1	433.15	0.632727447	1	0.187	1.8700E-04	0.000194	3.728024	3.728024	
1	453.15	0.606525559	1	0.158	1.5800E-04	0.000165	4.192327	4.192327	
1	473.15	0.577621928	1	0.13	1.3000E-04	0.00014	7.40075	7.40075	
1	493.15	0.544813202	1	0.108	1.0800E-04	0.000117	8.643473	8.643473	
1	503.15	0.526278538	1	0.097	9.7000E-05	0.000107	10.07304	10.07304	
1	508.15	0.516280542	1	0.091	9.1000E-05	0.000102	11.59672	11.59672	3.960097

ETHANOL (1) - CYCLOHEXANE (2)

AL - CA

00563 Bamells, P.; Huyskens, P.; Meeussen, E.; J. Chim. Phys. Phys. Chim. Biol., 62, 158-170(1965)

P= 1 atm

<i>Ethanol</i>		(cP)					
298.15	0.785894999	1	1.093	1.0930E-03	0.000898	-17.8425	17.84251
298.15	0.784861779	0.9548	1.047	1.0470E-03	0.000897	-14.2931	14.29307
298.15	0.783289934	0.8789	1.006	1.0050E-03	0.000901	-10.369	10.36896
298.15	0.782201153	0.8205	0.967	9.6700E-04	0.000905	-6.44204	6.442044
298.15	0.780329746	0.7067	0.923	9.2300E-04	0.00091	-1.3706	1.370605
298.15	0.779182446	0.6269	0.901	9.0100E-04	0.000911	1.085764	1.085764
298.15	0.777390713	0.4832	0.864	8.6400E-04	0.000903	4.549278	4.549278
298.15	0.775717728	0.3225	0.839	8.3900E-04	0.000887	5.70984	5.70984
298.15	0.774167103	0.1435	0.851	8.5100E-04	0.000873	2.561546	2.561546
298.15	0.773620315	0.0718	0.867	8.6700E-04	0.000874	0.756663	0.756663
298.15	0.77338675	0.0396	0.871	8.7100E-04	0.000876	0.572643	0.572643
298.15	0.773109026	0	0.889	8.8900E-04	0.000881	-0.87218	0.872182

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	308.15	0.776866423	1	0.908	9.0800E-04	0.000721	-20.6106	20.61056	4.771041
	308.15	0.775832345	0.9548	0.875	8.7500E-04	0.000721	-17.6515	17.65147	
	308.15	0.774259261	0.8789	0.835	8.3500E-04	0.000724	-13.2529	13.25285	
	308.15	0.773169667	0.8205	0.807	8.0700E-04	0.000729	-9.69032	9.690319	
	308.15	0.771296951	0.7067	0.772	7.7200E-04	0.000737	-4.52971	4.529708	
	308.15	0.770148904	0.6269	0.752	7.5200E-04	0.000741	-1.49985	1.499849	
	308.15	0.768356087	0.4832	0.726	7.2600E-04	0.000742	2.192528	2.192528	
	308.15	0.766682182	0.3225	0.707	7.0700E-04	0.000738	4.397356	4.397356	
	308.15	0.765130785	0.1435	0.716	7.1600E-04	0.000738	3.132875	3.132875	
	308.15	0.764583742	0.0718	0.729	7.2900E-04	0.000744	2.082566	2.082566	
	308.15	0.764350071	0.0396	0.741	7.4100E-04	0.000749	1.020619	1.020619	5.945015
	308.15	0.764072224	0	0.763	7.6300E-04	0.000756	-0.92945	0.929451	
	318.15	0.76760405	1	0.761	7.6100E-04	0.000587	-22.8283	22.82831	
	318.15	0.766575421	0.9548	0.736	7.3600E-04	0.000587	-20.2619	20.26193	
	318.15	0.765010661	0.8789	0.701	7.0100E-04	0.00059	-15.7872	15.78719	
	318.15	0.763926859	0.8205	0.68	6.8000E-04	0.000595	-12.5393	12.5393	
	318.15	0.762064145	0.7067	0.649	6.4900E-04	0.000604	-6.93886	6.938864	
	318.15	0.760922259	0.6269	0.634	6.3400E-04	0.000609	-3.87374	3.873744	
	318.15	0.759139109	0.4832	0.616	6.1600E-04	0.000616	-0.00029	0.000294	
	318.15	0.75747428	0.3225	0.601	6.0100E-04	0.00062	3.234915	3.234915	
	318.15	0.755931338	0.1435	0.614	6.1400E-04	0.00063	2.684687	2.684687	6.940475
	318.15	0.755387286	0.0718	0.627	6.2700E-04	0.00064	1.999082	1.999082	
	318.15	0.755154894	0.0396	0.632	6.3200E-04	0.000645	2.084749	2.084749	
	318.15	0.75487857	0	0.655	6.5500E-04	0.000654	-0.17957	0.179565	
	328.15	0.758088047	1	0.637	6.3700E-04	0.000486	-23.7791	23.77912	
	328.15	0.757071907	0.9548	0.619	6.1900E-04	0.000485	-21.6775	21.67752	
	328.15	0.755526148	0.8789	0.591	5.9100E-04	0.000488	-17.4948	17.49476	
	328.15	0.754455506	0.8205	0.575	5.7500E-04	0.000492	-14.5014	14.50137	
	328.15	0.752615413	0.7067	0.551	5.5100E-04	0.000501	-9.0921	9.092104	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	328.15	0.751487395	0.6269	0.539	5.3900E-04	0.00507	-5.89666	5.896665	
	328.15	0.749725904	0.4832	0.524	5.2400E-04	0.00517	-1.34956	1.349562	
	328.15	0.748081298	0.3225	0.515	5.1500E-04	0.00527	2.269105	2.269105	
	328.15	0.7465571	0.1435	0.526	5.2600E-04	0.00543	3.250024	3.250024	
	328.15	0.746019658	0.0718	0.539	5.3900E-04	0.00554	2.829551	2.829551	
	328.15	0.74579009	0.0396	0.547	5.4700E-04	0.00561	2.497942	2.497942	
	328.15	0.745517123	0	0.568	5.6800E-04	0.0057	0.363093	0.363093	8.08586
Average Error for Temp.									
Total Error for All Temp									
<div> <div>kJ</div> <div>kJ</div> <div>kJ</div> </div>									
<div> <div>1094.518</div> <div>0.944265</div> <div>1.160418</div> </div>									

ETHANOL (1) - ETHYLBENZENE (2)

AR - AL

00457 Mamedov, A. A.; Shikhaliev, Ya. A.; Izv. Vyssh. Uchebn. Zaved. Neft Gaz, 3, 63-66(1972)

P= 1 atm

Wt. Frac. Ethanol (10-3 kg/m s) %AAD= 8.098869

0	223	0.925220294	0	2.8	2.8000E-03	0.001925	-31.2545	31.25445	
0	233	0.917298591	0	2.019	2.0190E-03	0.001627	-19.423	19.42303	
0	243	0.909297693	0	1.504	1.5040E-03	0.001388	-7.73656	7.736562	
0	253	0.901214117	0	1.174	1.1740E-03	0.001194	1.668831	1.668831	
0	263	0.893044133	0	1.027	1.0270E-03	0.001035	0.745803	0.745803	
0	273	0.884783732	0	0.878	8.7800E-04	0.000903	2.887355	2.887355	
0	283	0.8764286	0	0.752	7.5200E-04	0.000794	5.584571	5.584571	
0	293	0.86797408	0	0.65	6.5000E-04	0.000702	8.038274	8.038274	
0	303	0.85941514	0	0.574	5.7400E-04	0.000625	8.840028	8.840028	
0	313	0.850746322	0	0.513	5.1300E-04	0.000559	8.935368	8.935368	
0	323	0.841961699	0	0.464	4.6400E-04	0.000502	8.287844	8.287844	
0	333	0.83305481	0	0.415	4.1500E-04	0.000454	9.381487	9.381487	
0	343	0.824018593	0	0.377	3.7700E-04	0.000412	9.26738	9.26738	
0	353	0.814845307	0	0.348	3.4800E-04	0.000375	7.871217	7.871217	
0	363	0.805526436	0	0.328	3.2800E-04	0.000343	4.700192	4.700192	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%D	%AD	%AAD
0.2	223	0.90861565	0.3655	3.65	3.6500E-03	0.003482	-4.59328	4.593279	8.974826
0.2	233	0.90073127	0.3655	2.67	2.6700E-03	0.002746	2.847799	2.847799	
0.2	243	0.892753336	0.3655	2.025	2.0250E-03	0.002192	8.26116	8.26116	
0.2	253	0.884677143	0.3655	1.587	1.5870E-03	0.00177	11.55144	11.55144	
0.2	263	0.876497576	0.3655	1.275	1.2750E-03	0.001445	13.32859	13.32859	
0.2	273	0.868209058	0.3655	1.047	1.0470E-03	0.001191	13.784	13.784	
0.2	283	0.859805483	0.3655	0.841	8.4100E-04	0.000992	17.91579	17.91579	
0.2	293	0.851280142	0.3655	0.724	7.2400E-04	0.000833	15.06547	15.06547	
0.2	303	0.842625835	0.3655	0.625	6.2500E-04	0.000706	12.96164	12.96164	
0.2	313	0.833833761	0.3655	0.547	5.4700E-04	0.000603	10.3097	10.3097	
0.2	323	0.824895383	0.3655	0.482	4.8200E-04	0.00052	7.861156	7.861156	
0.2	333	0.81580027	0.3655	0.428	4.2800E-04	0.000451	5.477719	5.477719	
0.2	343	0.806536889	0.3655	0.389	3.8900E-04	0.000395	1.528042	1.528042	
0.2	353	0.797092149	0.3655	0.348	3.4800E-04	0.000348	-0.00526	0.005263	
0.2	363	0.787451071	0.3655	0.309	3.0900E-04	0.000309	-0.10354	0.103537	
0.4	223	0.892595338	0.6057	5.18	5.1800E-03	0.004899	-5.42618	5.426175	5.137312
0.4	233	0.884750623	0.6057	3.719	3.7190E-03	0.003719	-0.00017	0.00017	
0.4	243	0.876799107	0.6057	2.758	2.7580E-03	0.002862	3.755784	3.755784	
0.4	253	0.868734977	0.6057	2.092	2.0920E-03	0.00223	6.587493	6.587493	
0.4	263	0.860551872	0.6057	1.641	1.6410E-03	0.001758	7.153919	7.153919	
0.4	273	0.8522428	0.6057	1.307	1.3070E-03	0.001403	7.312538	7.312538	
0.4	283	0.843800051	0.6057	1.031	1.0310E-03	0.001131	9.71402	9.71402	
0.4	293	0.835215084	0.6057	0.868	8.6800E-04	0.000922	6.229136	6.229136	
0.4	303	0.826478395	0.6057	0.732	7.3200E-04	0.00076	3.760171	3.760171	
0.4	313	0.817579353	0.6057	0.627	6.2700E-04	0.000632	0.806871	0.806871	
0.4	323	0.808505999	0.6057	0.54	5.4000E-04	0.000531	-1.61656	1.616559	
0.4	333	0.799244799	0.6057	0.473	4.7300E-04	0.000451	-4.66495	4.664948	
0.4	343	0.789780324	0.6057	0.413	4.1300E-04	0.000386	-6.44138	6.441379	
0.4	353	0.780094854	0.6057	0.365	3.6500E-04	0.000334	-8.45321	8.453211	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
0.6	223	0.877129508	0.7756	6.756	6.7560E-03	0.005931	-12.206	12.20597	
0.6	233	0.869326488	0.7756	4.786	4.7860E-03	0.004399	-8.09175	8.091748	
0.6	243	0.861404443	0.7756	3.506	3.5060E-03	0.003308	-5.64522	5.645215	
0.6	253	0.853356655	0.7756	2.607	2.6070E-03	0.002521	-3.29767	3.297673	
0.6	263	0.845175334	0.7756	2.003	2.0030E-03	0.001946	-2.85576	2.855762	
0.6	273	0.83685252	0.7756	1.564	1.5640E-03	0.00152	-2.7848	2.784804	
0.6	283	0.828378963	0.7756	1.288	1.2880E-03	0.001203	-6.63786	6.637862	
0.6	293	0.819744487	0.7756	1.015	1.0150E-03	0.000962	-5.17806	5.178061	
0.6	303	0.810937719	0.7756	0.842	8.4200E-04	0.000779	-7.42854	7.428537	
0.6	313	0.801945878	0.7756	0.706	7.0600E-04	0.000639	-9.53371	9.53371	
0.6	323	0.792754523	0.7756	0.602	6.0200E-04	0.000529	-12.0493	12.04929	
0.6	333	0.783347227	0.7756	0.517	5.1700E-04	0.000444	-14.1257	14.12565	
0.6	343	0.773705175	0.7756	0.445	4.4500E-04	0.000376	-15.3977	15.39767	
0.6	353	0.763806641	0.7756	0.392	3.9200E-04	0.000323	-17.6686	17.66856	8.778608
0.8	223	0.862192868	0.9021	6.578	6.5780E-03	0.006702	1.887358	1.887358	
0.8	233	0.85443329	0.9021	4.835	4.8350E-03	0.004891	1.160749	1.160749	
0.8	243	0.846543402	0.9021	3.585	3.5850E-03	0.003621	1.000271	1.000271	
0.8	253	0.838515477	0.9021	2.789	2.7890E-03	0.002718	-2.56236	2.562363	
0.8	263	0.830341007	0.9021	2.158	2.1580E-03	0.002067	-4.21703	4.217031	
0.8	273	0.822010587	0.9021	1.705	1.7050E-03	0.001593	-6.56831	6.568309	
0.8	283	0.81351378	0.9021	1.322	1.3220E-03	0.001244	-5.90862	5.908621	
0.8	293	0.804838951	0.9021	1.083	1.0830E-03	0.000984	-9.13299	9.132988	
0.8	303	0.795973066	0.9021	0.9	9.0000E-04	0.000789	-12.3483	12.34833	
0.8	313	0.786901446	0.9021	0.752	7.5200E-04	0.000641	-14.7908	14.79084	
0.8	323	0.777607465	0.9021	0.632	6.3200E-04	0.000527	-16.5524	16.55242	
0.8	333	0.76807217	0.9021	0.588	5.8800E-04	0.00044	-25.2089	25.20892	
0.8	343	0.7582738	0.9021	0.464	4.6400E-04	0.000371	-19.9512	19.95123	
0.8	353	0.748187175	0.9021	0.398	3.9800E-04	0.000318	-20.2027	20.2027	10.10658
1	223	0.847749887	1	6.412	6.4120E-03	0.007415	15.64056	15.64056	
1	233	0.84003528	1	4.796	4.7960E-03	0.005344	11.43071	11.43071	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
1	243	0.832179936	1	3.659	3.6590E-03	0.003908	6.8186	6.8186	
1	263	0.824175304	1	2.781	2.7810E-03	0.002899	4.259339	4.259339	
1	263	0.816011955	1	2.232	2.2320E-03	0.002181	-2.2678	2.267804	
1	273	0.807679456	1	1.773	1.7730E-03	0.001664	-6.12495	6.124955	
1	283	0.799166215	1	1.469	1.4690E-03	0.001288	-12.3138	12.31379	
1	293	0.790459295	1	1.216	1.2160E-03	0.001011	-16.83	16.82998	
1	303	0.781544187	1	0.981	9.8100E-04	0.000806	-17.8665	17.86653	
1	313	0.772404535	1	0.809	8.0900E-04	0.000651	-19.4748	19.47484	
1	323	0.763021794	1	0.673	6.7300E-04	0.000535	-20.5742	20.57419	
1	333	0.753374802	1	0.554	5.5400E-04	0.000445	-19.6677	19.66774	
1	343	0.743439245	1	0.473	4.7300E-04	0.000376	-20.5475	20.54749	
1	353	0.733186964	1	0.4	4.0000E-04	0.000322	-19.5856	19.58564	
Average Error for Temp.									13.81444
Total Error for All T_{oi}									$\frac{k_{ij}}{I_{ij}}$ 0.952049 1.139214

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
BENZENE (1) - 1-PROPANOL (2)									
AR - AL based on viscosity of water at 25 C equal to 0.00891p; Composition given in paper is in terms of n-propyl alcohol, but it was assume									
00015 Dunstan, A. E.; J. Chem. Soc., 87, 11-17(1905)									
P=			0.101 MPa		%AAD= 2.058248				
Benzene (g/m s)									
298.1	0.800397542		0	1.962	1.9620E-03	0.001793	-8.63148	8.631476	
298.1	0.82307093		0.2757	1.167	1.1670E-03	0.00116	-0.60602	0.606024	
298.1	0.850073397		0.6446	0.703	7.0300E-04	0.000711	1.168918	1.168918	
298.1	0.865196727		0.8737	0.599	5.9900E-04	0.000598	-0.15814	0.158136	
298.1	0.869170556		0.9369	0.592	5.9200E-04	0.000593	0.139124	0.139124	
298.1	0.87305751		1	0.598	5.9800E-04	0.000602	0.721281	0.721281	0.518051

n-PROPYL ALCOHOL (1) - BENZENE (2)

AL - AR

00056 Spells, K. E.; Trans. Faraday Soc., 32, 530-540(1936)

P= 1 atm

n-Propyl Alcol (10-3 Poise)									
P=			0						
295.15	0.876005507		0	6.28	6.2800E-04	0.000628	-0.04294	0.042942	
295.15	0.875208288		0.0129722	6.234	6.2340E-04	0.000625	0.192877	0.192877	
295.15	0.875211471		0.0129205	6.2313	6.2313E-04	0.000625	0.238032	0.238032	
295.15	0.87442205		0.0257129	6.2025	6.2025E-04	0.000622	0.331145	0.331145	
295.15	0.87441649		0.0258028	6.2027	6.2027E-04	0.000622	0.325717	0.325717	
295.15	0.874411725		0.0258799	6.2025	6.2025E-04	0.000622	0.327076	0.327076	
295.15	0.87385055		0.0349411	6.1934	6.1934E-04	0.000621	0.282942	0.282942	
295.15	0.873313863		0.0435822	6.1932	6.1932E-04	0.00062	0.156275	0.156275	
295.15	0.872225867		0.0610259	6.204	6.2040E-04	0.00062	-0.13055	0.13055	
295.15	0.869668914		0.1016363	6.2653	6.2653E-04	0.000622	-0.66045	0.66045	
295.15	0.860309075		0.2458352	6.7581	6.7581E-04	0.000675	-0.1782	0.178197	
295.15	0.837795161		0.5663618	9.7783	9.7783E-04	0.000994	1.648415	1.648415	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	295.15	0.809761178	0.9204433	18.076	1.8076E-03	0.001657	-8.30655	8.306553	
	295.15	0.802939576	1	21.198	2.1198E-03	0.001932	-8.87784	8.877843	1.064853

1-PROPANOL (1) - BENZENE (2)

AL - AR original data, specific viscosity ((vis, sol'n/vis, solv't)-1)
00799 Stavelev, L. A. K.; Taylor, P. F.; J. Chem. Soc., 200-209(1956)

$P = 1 \text{ atm}$

1-Propanol		(g/m s)			
293,15	0.877688422	0.005	2.214	2.2140E-03	0.000645
					-70.8867
293,15	0.877379838	0.01	2.208	2.2080E-03	0.000643
					-70.8581
293,15	0.877070758	0.015	2.202	2.2020E-03	0.000642
					-70.8238
293,15	0.876748786	0.0202	2.198	2.1980E-03	0.000642
					-70.8119
293,15	0.876413859	0.0256	2.195	2.1950E-03	0.000641
					-70.8087
					70.83784

BENZENE (1) - n-PROPANOL (2)

AR - AL (aka, 1-Propanol)
00768 Dubrovskii, S. M.; Afonina, K. V.; Sov. Prog. Chem., 40(5), 17-21(1974)

$P = 1 \text{ atm}$

Benzene		(cP)					
298,15	0.800354322	0	1.95	1.9500E-03	0.00179	-8.18426	8.184265
298,15	0.813556901	0.1570868	1.435	1.4350E-03	0.001367	-4.75789	4.757889
298,15	0.82930664	0.3573123	1.018	1.0180E-03	0.001034	1.590016	1.590016
298,15	0.841917316	0.5287152	0.797	7.9700E-04	0.000818	2.627072	2.627072
298,15	0.857234037	0.7516219	0.637	6.3700E-04	0.000641	0.602075	0.602075
298,15	0.873007427	1	0.591	5.9100E-04	0.000602	1.84346	1.84346
			2.394263				
308,15	0.791616877	0	1.541	1.5410E-03	0.001406	-8.75408	8.754075
308,15	0.804579344	0.1570868	1.155	1.1550E-03	0.001078	-6.64019	6.640188

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	308.15	0.820038602	0.3573123	0.834	8.3400E-04	0.000828	-0.67426	0.674261	
	308.15	0.832413522	0.5287152	0.668	6.6800E-04	0.000668	1.33E-05	1.33E-05	
	308.15	0.847440106	0.7516219	0.552	5.5200E-04	0.00054	-2.23142	2.231417	
	308.15	0.862910365	1	0.518	5.1800E-04	0.000526	1.49327	1.49327	2.38647

BENZENE (1) - PROPYL ALCOHOL (2)

AR - AL (aka, 1-Propanol)

00775 Sumarokova, T.; Nevskaya, Yu.; J. Gen. Chem. USSR, 30(11), 3493-3497(1960)

P= 1 atm

		Benzene		(cP)					
	293.15	0.858591482	0.7	0.7259	7.2590E-04	0.000737	1.488333	1.488333	
	313.15	0.839132098	0.7	0.5283	5.2830E-04	0.000515	-2.57656	2.576555	
	333.15	0.818946574	0.7	0.4058	4.0580E-04	0.000374	-7.71792	7.717922	
					Average Error for Temp.				
					3.927603				

Total Error for All T_{el} **kJ** **kJ** **kJ**

0.818926 1.251259

PROPYL ALCOHOL (1) - ETHYLBENZENE (2)

AL - AR

00457 Mamedov, A. A.; Shikhaliev, Ya. A.; Izv. Vyssh. Uchebn. Zaved. Neft Gaz, 3, 63-66(1972)

P= 1 atm

		Propyl Alcohol		(10-3 kg/m s)					
	223	0.911600403	0.3064	3.789	3.7890E-03	0.00356	-6.03664	6.036641	
	233	0.903740944	0.3064	2.93	2.9300E-03	0.002795	-4.60047	4.600466	
	243	0.895792419	0.3064	2.09	2.0900E-03	0.002224	6.387923	6.387923	
	253	0.88775057	0.3064	1.633	1.6330E-03	0.00179	9.635277	9.635277	
	263	0.879610791	0.3064	1.314	1.3140E-03	0.001458	10.96122	10.96122	
	273	0.871368092	0.3064	1.078	1.0780E-03	0.0012	11.33476	11.33476	
	283	0.863017044	0.3064	0.89	8.9000E-04	0.000998	12.14061	12.14061	
					%AAD=				
					6.826991				

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
0.2	293	0.854551732	0.3064	0.742	7.4200E-04	0.000838	12.94693	12.94693	
0.2	303	0.845965683	0.3064	0.646	6.4600E-04	0.00071	9.955955	9.955955	
0.2	313	0.837251788	0.3064	0.561	5.6100E-04	0.000607	8.280244	8.280244	
0.2	323	0.828402217	0.3064	0.494	4.9400E-04	0.000524	6.067335	6.067335	
0.2	333	0.8194083	0.3064	0.489	4.8900E-04	0.000456	-6.80743	6.80743	
0.2	343	0.810260398	0.3064	0.394	3.9400E-04	0.000399	1.392677	1.392677	
0.2	353	0.800947734	0.3064	0.353	3.5300E-04	0.000353	-0.04344	0.043435	
0.2	363	0.791458198	0.3064	0.314	3.1400E-04	0.000314	-0.03668	0.036678	7.108505
0.4	223	0.898380963	0.5408	7.151	7.1510E-03	0.006118	-14.4426	14.44258	
0.4	233	0.890583477	0.5408	4.905	4.9050E-03	0.004583	-6.5594	6.559398	
0.4	243	0.882687679	0.5408	3.523	3.5230E-03	0.003484	-1.10396	1.103956	
0.4	253	0.87468859	0.5408	2.596	2.5960E-03	0.002685	3.432374	3.432374	
0.4	263	0.866580797	0.5408	1.991	1.9910E-03	0.002096	5.291652	5.291652	
0.4	273	0.858358401	0.5408	1.538	1.5380E-03	0.001657	7.747066	7.747066	
0.4	283	0.850014953	0.5408	1.204	1.2040E-03	0.001326	10.11392	10.11392	
0.4	293	0.841543381	0.5408	0.985	9.8500E-04	0.001073	8.946069	8.946069	
0.4	303	0.832935894	0.5408	1.01	1.0100E-03	0.000879	-13.01	13.01001	
0.4	313	0.824183883	0.5408	0.697	6.9700E-04	0.000727	4.369126	4.369126	
0.4	323	0.815277788	0.5408	0.598	5.9800E-04	0.000609	1.835616	1.835616	
0.4	333	0.806206943	0.5408	0.518	5.1800E-04	0.000515	-0.51648	0.516485	
0.4	343	0.796959386	0.5408	0.455	4.5500E-04	0.000441	-3.14613	3.14613	
0.4	353	0.787521622	0.5408	0.397	3.9700E-04	0.000381	-4.10188	4.101881	
0.4	363	0.777878328	0.5408	0.355	3.5500E-04	0.000332	-6.43899	6.438989	6.070349
0.6	223	0.865537717	0.726	11.179	1.1179E-02	0.009332	-16.5208	16.52083	
0.6	233	0.877801911	0.726	7.961	7.9610E-03	0.006778	-14.8603	14.86035	
0.6	243	0.869959126	0.726	5.235	5.2350E-03	0.004998	-4.52455	4.524552	
0.6	253	0.86200371	0.726	3.739	3.7390E-03	0.003739	2.74E-05	2.74E-05	
0.6	263	0.853929504	0.726	2.801	2.8010E-03	0.002836	1.246332	1.246332	
0.6	273	0.845729773	0.726	2.103	2.1030E-03	0.00218	3.661307	3.661307	
0.6	283	0.837397128	0.726	1.558	1.5580E-03	0.001698	8.989505	8.989505	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
0.6	293	0.828923434	0.726	1.237	1.2370E-03	0.00134	8.334971	8.334971	
0.6	303	0.820299698	0.726	1.01	1.0100E-03	0.001072	6.092278	6.092278	
0.6	313	0.811515939	0.726	0.839	8.3900E-04	0.000868	3.46524	3.46524	
0.6	323	0.80256103	0.726	0.7	7.0000E-04	0.000713	1.786804	1.786804	
0.6	333	0.793422497	0.726	0.595	5.9500E-04	0.000592	-0.42314	0.423142	
0.6	343	0.784086287	0.726	0.507	5.0700E-04	0.000499	-1.56869	1.568692	
0.6	353	0.774536465	0.726	0.439	4.3900E-04	0.000426	-3.04008	3.040084	
0.6	363	0.764754846	0.726	0.382	3.8200E-04	0.000367	-3.80279	3.802789	5.221127
0.8	223	0.873056568	0.876	16.832	1.6832E-02	0.01318	-21.6953	21.69526	
0.8	233	0.865382092	0.876	11.508	1.1508E-02	0.009362	-18.647	18.64702	
0.8	243	0.857592509	0.876	7.631	7.6310E-03	0.006752	-11.5137	11.51368	
0.8	253	0.849681544	0.876	5.378	5.3780E-03	0.004942	-8.10058	8.100581	
0.8	263	0.841642349	0.876	3.941	3.9410E-03	0.00367	-6.87656	6.876562	
0.8	273	0.833467414	0.876	2.235	2.2350E-03	0.002764	23.68934	23.68934	
0.8	283	0.825148485	0.876	2.12	2.1200E-03	0.002113	-0.3534	0.353396	
0.8	293	0.816676454	0.876	1.676	1.6760E-03	0.001638	-2.2665	2.266499	
0.8	303	0.808041228	0.876	1.335	1.3350E-03	0.001289	-3.43904	3.439038	
0.8	313	0.799231578	0.876	1.084	1.0840E-03	0.00103	-4.98739	4.987389	
0.8	323	0.79023495	0.876	0.886	8.8600E-04	0.000836	-5.69134	5.691343	
0.8	333	0.781037239	0.876	0.736	7.3600E-04	0.000688	-6.46981	6.469814	
0.8	343	0.771622507	0.876	0.62	6.2000E-04	0.000576	-7.12782	7.127821	
0.8	353	0.761972636	0.876	0.524	5.2400E-04	0.000489	-6.71237	6.712374	
0.8	363	0.752066886	0.876	0.448	4.4800E-04	0.000421	-6.04962	6.049622	8.907982
1	223	0.860918662	1	20.202	2.0202E-02	0.018588	-7.9879	7.987898	
1	233	0.853305143	1	13.509	1.3509E-02	0.01294	-4.20995	4.209951	
1	243	0.84556889	1	9.502	9.5020E-03	0.00915	-3.70945	3.709453	
1	253	0.837703053	1	6.906	6.9060E-03	0.006569	-4.87951	4.879511	
1	263	0.829700141	1	5.103	5.1030E-03	0.004789	-6.14996	6.149956	
1	273	0.821551933	1	3.856	3.8560E-03	0.003546	-8.02901	8.029014	
1	283	0.813249378	1	2.89	2.8900E-03	0.002669	-7.66276	7.662763	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
1	293	0.804782474	1	2.223	2.2230E-03	0.002042	-8.16213	8.162128	
1	303	0.796140122	1	1.769	1.7690E-03	0.001589	-10.1803	10.18031	
1	313	0.787309954	1	1.405	1.4050E-03	0.001259	-10.4162	10.4162	
1	323	0.778278125	1	1.127	1.1270E-03	0.001015	-9.92812	9.928122	
1	333	0.769029052	1	0.921	9.2100E-04	0.000834	-9.49637	9.496367	
1	343	0.759545103	1	0.759	7.5900E-04	0.000697	-8.22052	8.220519	
1	353	0.749806202	1	0.628	6.2800E-04	0.000592	-5.72214	5.722143	
1	363	0.739789335	1	0.532	5.3200E-04	0.000511	-3.91264	3.912642	
Average Error for Temp.									7.244465
Total Error for All T_{ei}									$\frac{k_{ij}}{I_{ij}}$ 0.886385 1.145267

1-PROPANOL (1) - TOLUENE (2)

AL - AR Results were given as an equation and the values were calculated from the equation: $\text{vis} = \sum A_i^* x A_i^{**} I_i$,
with x_A = mole fraction of component A and A_i = Least square constants.

02145 Ghal, R. K.; Dullien, F. A. L.; J. Phys. Chem., 78(22), 2283-2291(1974)

P= 0.101 MPa		%AAD= 1.55457	
1-Propanol		(g/m s)	
298.15	0.863933615	0	0.5545
298.15	0.861661905	0.05	0.5524
298.15	0.859320909	0.1	0.558
298.15	0.85441798	0.2	0.588
298.15	0.849196549	0.3	0.6389
298.15	0.843624539	0.4	0.7091
298.15	0.837665415	0.5	0.801
298.15	0.831277382	0.6	0.9211
298.15	0.824412407	0.7	1.0798
298.15	0.817015004	0.8	1.2918
298.15	0.809020734	0.9	1.5758
298.15	0.800354322	1	1.9543
		Average Error for Temp.	
		1.55457	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD	k_{ij}	l_{ij}		
Total Error for All T_{ei}											15.5457	0.864905	1.168211

METHYLCYCLOHEXANE (1) - 1-PROPANOL (2)

HA - AL The value of viscosity at 0.4212 mol% was assumed to be 0.918 cP instead of 9.918 cp as recorded.

01527 Rao, M. V. P.; Naidu, P. R.; Indian J. Chem., Sect. A (15), 239-242(1977)

P= 0.101 MPa **%AAD= 1.839837**

Methylcyclohex		(cP)									
303,15	0.796009089	0	1.711	1.7110E-03	0.001583	-7.47175	7.471746				
303,15	0.790529364	0.0998	1.42	1.4200E-03	0.001352	-4.7824	4.782397				
303,15	0.784897976	0.2182	1.188	1.1880E-03	0.001159	-2.44506	2.445056				
303,15	0.776934639	0.4212	0.918	9.1800E-04	0.000918	5.14E-06	5.14E-06				
303,15	0.771954482	0.576	0.777	7.7700E-04	0.000782	0.663006	0.663006				
303,15	0.767464657	0.7398	0.677	6.7700E-04	0.000679	0.231928	0.231928				
303,15	0.763688609	0.9	0.637	6.3700E-04	0.000618	-2.91663	2.916628				
303,15	0.761585695	1	0.637	6.3700E-04	0.000604	-5.20054	5.200537				
Average Error for Temp.											1.839837

Total Error for All T_{ei} k_{ij} l_{ij}
11.03902 0.922938 1.134591

1-PROPANOL (1) - CYCLOHEXANE (2)

AL - CA original data, specific viscosity ((vis. sol'n/vis. sol'n)-1)

00799 Staveley, L. A. K.; Taylor, P. F.; J. Chem. Soc., 200-209(1956)

P= 0.101 MPa **%AAD= 1.910476**

1-Propanol		(g/m s)									
293.15	0.777622218	0.0027	2.213	2.2130E-03	0.000953	-56.9245	56.92451				
293.15	0.777670926	0.0053	2.205	2.2050E-03	0.000952	-56.8229	56.82292				
293.15	0.77772347	0.0081	2.2	2.2000E-03	0.000951	-56.7808	56.78079				
293.15	0.777768579	0.0105	2.196	2.1960E-03	0.00095	-56.7477	56.74766				
293.15	0.777855228	0.0151	2.192	2.1920E-03	0.000948	-56.75	56.75002				

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%D	%AD	%AAD
									56.80518

n-PROPANOL (1) - CYCLOHEXANE (2)

AL - CA Recorded vis of .7953cP at 45C and .3207molf was assumed to be .7593cP.
00563 Bamellis, P.; Huyskens, P.; Meeussen, E.; J. Chim. Phys. Phys. Chim. Biol., 62, 158-170(1965)

P= 1 atm									
n-Propanol (cP)									
			1	1.955	1.9550E-03	0.00179	-8.41909	8.419088	
298,15	0.800354322		0.8023	1.529	1.5290E-03	0.001488	-2.69589	2.695887	
298,15	0.79318284		0.7039	1.371	1.3710E-03	0.001379	0.553475	0.553475	
298,15	0.790032947		0.4203	1.029	1.0290E-03	0.001065	3.535643	3.535643	
298,15	0.782191864		0.3805	0.994	9.9400E-04	0.001027	3.338031	3.338031	
298,15	0.781216646		0.3207	0.946	9.4600E-04	0.000975	3.079075	3.079075	
298,15	0.779801651		0.2231	0.889	8.8900E-04	0.000907	2.066088	2.066088	
298,15	0.777613391		0.1219	0.867	8.6700E-04	0.000867	5.6E-07	5.6E-07	
298,15	0.775489863		0.0647	0.865	8.6500E-04	0.000863	-0.25577	0.255769	
298,15	0.774349801		0.0166	0.873	8.7300E-04	0.000874	0.074994	0.074994	
298,15	0.773422595		0	0.889	8.8900E-04	0.000881	-0.87218	0.872182	1.733218
298,15	0.773109026								
308,15	0.791616877		1	1.541	1.5410E-03	0.001406	-8.75408	8.754075	
308,15	0.784362427		0.8023	1.218	1.2180E-03	0.001168	-4.08965	4.089653	
308,15	0.781177035		0.7039	1.099	1.0990E-03	0.001088	-1.04235	1.042346	
308,15	0.773250081		0.4203	0.845	8.4500E-04	0.000862	2.05385	2.05385	
308,15	0.772264432		0.3805	0.818	8.1800E-04	0.000835	2.126663	2.126663	
308,15	0.7708344		0.3207	0.782	7.8200E-04	0.000799	2.186297	2.186297	
308,15	0.768623114		0.2231	0.746	7.4600E-04	0.000754	1.013311	1.013311	
308,15	0.766477506		0.1219	0.732	7.3200E-04	0.000731	-0.17626	0.17626	
308,15	0.765325698		0.0647	0.73	7.3000E-04	0.000733	0.452045	0.452045	
308,15	0.764388994		0.0166	0.736	7.3600E-04	0.000748	1.586047	1.586047	
308,15	0.764072224		0	0.763	7.6300E-04	0.000756	-0.92945	0.929451	1.636275

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	318.15	0.782684686	1	1.237	1.2370E-03	0.001124	-9.12155	9.121551	
	318.15	0.775357285	0.8023	0.992	9.9200E-04	0.00093	-6.22361	6.223605	
	318.15	0.772140785	0.7039	0.896	8.9600E-04	0.000869	-2.98195	2.981948	
	318.15	0.764138865	0.4203	0.706	7.0600E-04	0.000706	-0.00017	0.000173	
	318.15	0.763144139	0.3805	0.683	6.8300E-04	0.000687	0.590598	0.590598	
	318.15	0.761701032	0.3207	0.66	6.6000E-04	0.000662	0.295341	0.295341	
	318.15	0.759469752	0.2231	0.634	6.3400E-04	0.000632	-0.2815	0.2815	
	318.15	0.757305004	0.1219	0.624	6.2400E-04	0.000622	-0.37476	0.374755	
	318.15	0.756143027	0.0647	0.626	6.2600E-04	0.000629	0.452079	0.452079	
	318.15	0.755198107	0.0166	0.634	6.3400E-04	0.000645	1.784377	1.784377	
	318.15	0.75487857	0	0.655	6.5500E-04	0.000654	-0.17957	0.179565	1.442709
	328.15	0.773543043	1	1.004	1.0040E-03	0.000915	-8.85498	8.854984	
	328.15	0.766153748	0.8023	0.813	8.1300E-04	0.000751	-7.57187	7.571868	
	328.15	0.762910976	0.7039	0.741	7.4100E-04	0.000704	-4.98507	4.985072	
	328.15	0.754846074	0.4203	0.598	5.9800E-04	0.000585	-2.25447	2.254466	
	328.15	0.753843755	0.3805	0.584	5.8400E-04	0.000571	-2.18172	2.181725	
	328.15	0.752389727	0.3207	0.567	5.6700E-04	0.000554	-2.26059	2.260595	
	328.15	0.750141778	0.2231	0.548	5.4800E-04	0.000536	-2.24492	2.244922	
	328.15	0.747961108	0.1219	0.543	5.4300E-04	0.000534	-1.70761	1.70761	
	328.15	0.746790687	0.0647	0.542	5.4200E-04	0.000544	0.351018	0.351018	
	328.15	0.745838953	0.0166	0.551	5.5100E-04	0.000562	1.910036	1.910036	
	328.15	0.745517123	0	0.568	5.6800E-04	0.00057	0.363093	0.363093	2.829701
<i>Average Error for Temp.</i>									
<i>Total Error for All Tei</i>							<i>kij</i>	<i>ljj</i>	
							0.830563	1.295517	

1-PROPANOL (1) - HEPTANE (2)

AL - AA original data, specific viscosity ((vis. sol'n/vis. solv't)-1)
00799 Staveley, L. A. K.; Taylor, P. F.; J. Chem. Soc., 200-209(1956)
P= 0.101 MPa

%AAD= 77.81325

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
<i>1-Propanol</i>									
	293.15	0.68608616	0.0053	2.218	2.2180E-03	0.000441	-80.1328	80.13279	
	293.15	0.686435314	0.011	2.22	2.2200E-03	0.00047	-78.8442	78.84418	
	293.15	0.686730859	0.0158	2.222	2.2220E-03	0.000496	-77.6924	77.6924	
	293.15	0.687040209	0.0208	2.224	2.2240E-03	0.000524	-76.4194	76.41939	
	293.15	0.687151949	0.0226	2.228	2.2280E-03	0.000535	-75.9775	75.97747	
<i>Average Error for Temp.</i>									77.81325
<i>Total Error for All Tei</i>							<i>kij</i>	1.5	<i>lij</i>
									1.5

WATER (1) - 1-PROPANOL (2)

OI - AL

00045 Mathews, J. H.; Cooke, R. D.; J. Phys. Chem., 18, 559-573(1914)

P= 0.101 MPa

%AAD= 25.82211

Water

273.1	0.903102211	0.7694	7.5586	7.5586E-03	0.002408	-68.1409	68.14092	32.67813
298.1	0.887054674	0.7694	2.6882	2.6882E-03	0.001529	-43.1161	43.11613	
313.1	0.876605553	0.7694	1.6265	1.6265E-03	0.001192	-26.6967	26.69672	
328.1	0.865498161	0.7694	1.134	1.1340E-03	0.000945	-16.6313	16.63134	
343.1	0.853689156	0.7694	0.8354	8.3540E-04	0.000762	-8.80552	8.805516	

1-PROPANOL (1) - WATER (2)

AL - OI

00348 Kikuchi, M.; Oikawa, E.; Nippon Kagaku Zasshi, 88, 1259-1267(1967)

P= 0.101 MPa

1-Propanol

292.9	0.996575662	0	1.011	1.0110E-03	0.000782	-22.6349	22.63486	
297.96	0.994782386	0	0.898	8.9800E-04	0.000725	-19.2297	19.22972	
302.99	0.992908797	0	0.804	8.0400E-04	0.000674	-16.1383	16.13825	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa-s)	%D	%AD	%AAD
	307.92	0.99098355	0	0.726	7.2600E-04	0.000629	-13.3801	13.38013	
	312.95	0.988927583	0	0.659	6.5900E-04	0.000587	-10.9586	10.95856	
	317.92	0.986804226	0	0.601	6.0100E-04	0.000549	-8.66046	8.660463	
	322.95	0.984561188	0	0.551	5.5100E-04	0.000514	-6.70716	6.707163	
	333.15	0.979717812	0	0.469	4.6900E-04	0.000452	-3.56665	3.566653	12.65947
	292.9	0.959133837	0.0555	2.021	2.0210E-03	0.000986	-51.2125	51.21255	
	297.96	0.956730754	0.0555	1.69	1.6900E-03	0.000911	-46.1144	46.11439	
	302.99	0.954256912	0.0555	1.435	1.4350E-03	0.000843	-41.2444	41.2444	
	307.92	0.951748985	0.0555	1.242	1.2420E-03	0.000783	-36.9351	36.93514	
	312.95	0.949104141	0.0555	1.081	1.0810E-03	0.000728	-32.6655	32.66551	
	317.92	0.946404356	0.0555	0.953	9.5300E-04	0.000678	-28.8339	28.83393	
	322.95	0.943583238	0.0555	0.847	8.4700E-04	0.000632	-25.3255	25.3255	
	333.15	0.937583088	0.0555	0.684	6.8400E-04	0.000552	-19.3139	19.31388	35.20566
	292.9	0.930306407	0.1134	2.802	2.8020E-03	0.001206	-56.9704	56.9704	
	297.96	0.927470473	0.1134	2.218	2.2180E-03	0.00111	-49.9486	49.94858	
	302.99	0.924572034	0.1134	1.889	1.8890E-03	0.001025	-45.7572	45.75724	
	307.92	0.921653371	0.1134	1.621	1.6210E-03	0.000949	-41.4574	41.45735	
	312.95	0.918594892	0.1134	1.399	1.3990E-03	0.000879	-37.1602	37.16017	
	317.92	0.915491683	0.1134	1.224	1.2240E-03	0.000817	-33.2836	33.2836	
	322.95	0.912267481	0.1134	1.082	1.0820E-03	0.000759	-29.8348	29.83481	
	333.15	0.905465406	0.1134	0.86	8.6000E-04	0.000658	-23.4543	23.45429	39.73331
	292.9	0.920151629	0.1383	2.872	2.8720E-03	0.001302	-54.6608	54.66076	
	297.96	0.917170803	0.1383	2.275	2.2750E-03	0.001198	-47.36	47.36004	
	302.99	0.914130543	0.1383	2.009	2.0090E-03	0.001104	-45.0447	45.0447	
	307.92	0.911074989	0.1383	1.728	1.7280E-03	0.001021	-40.8936	40.89364	
	312.95	0.90787896	0.1383	1.488	1.4880E-03	0.000945	-36.4858	36.48582	
	317.92	0.904641904	0.1383	1.229	1.2290E-03	0.000877	-28.6506	28.6506	
	322.95	0.901284282	0.1383	1.148	1.1480E-03	0.000814	-29.0682	29.06821	
	333.15	0.894217748	0.1383	0.901	9.0100E-04	0.000704	-21.8113	21.8113	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	292.9	0.91062942	0.1644	3.013	3.0130E-03	0.001405	-53.376	53.37596	37.99688
	297.96	0.907516316	0.1644	2.479	2.4790E-03	0.00129	-47.9453	47.94531	
	302.99	0.904346727	0.1644	2.116	2.1160E-03	0.001188	-43.8427	43.84267	
	307.92	0.901166482	0.1644	1.815	1.8150E-03	0.001098	-39.5022	39.50216	
	312.95	0.897845309	0.1644	1.563	1.5630E-03	0.001015	-35.0688	35.06878	
	317.92	0.894486625	0.1644	1.367	1.3670E-03	0.000941	-31.1942	31.19422	
	322.95	0.891007912	0.1644	1.203	1.2030E-03	0.000872	-27.4759	27.47592	
	333.15	0.883701823	0.1644	0.946	9.4600E-04	0.000753	-20.3869	20.38692	
	292.9	0.901063136	0.1938	3.115	3.1150E-03	0.001523	-51.1205	51.12047	37.34899
	297.96	0.897820634	0.1938	2.503	2.5030E-03	0.001397	-44.1943	44.19429	
	302.99	0.894524676	0.1938	2.193	2.1930E-03	0.001285	-41.4237	41.42366	
	307.92	0.891222734	0.1938	1.882	1.8820E-03	0.001186	-37.0074	37.00738	
	312.95	0.887779563	0.1938	1.623	1.6230E-03	0.001094	-32.5722	32.5722	
	317.92	0.884302451	0.1938	1.416	1.4160E-03	0.001013	-28.4607	28.46072	
	322.95	0.88070598	0.1938	1.248	1.2480E-03	0.000939	-24.7991	24.79911	
	333.15	0.873167382	0.1938	0.98	9.8000E-04	0.000808	-17.5257	17.5257	
	292.9	0.891012456	0.2288	3.184	3.1840E-03	0.001666	-47.6692	47.66917	34.63794
	297.96	0.887637774	0.2288	2.636	2.6360E-03	0.001526	-42.1052	42.10522	
	302.99	0.884212885	0.2288	2.25	2.2500E-03	0.001401	-37.7211	37.72113	
	307.92	0.880786926	0.2288	1.935	1.9350E-03	0.001291	-33.2677	33.26768	
	312.95	0.877219589	0.2288	1.667	1.6670E-03	0.00119	-28.6031	28.60308	
	317.92	0.873622098	0.2288	1.456	1.4560E-03	0.0011	-24.442	24.44199	
	322.95	0.869906084	0.2288	1.282	1.2820E-03	0.001018	-20.6086	20.60857	
	333.15	0.862131944	0.2288	1.006	1.0060E-03	0.000874	-13.1032	13.10323	
	292.9	0.871816186	0.3109	3.195	3.1950E-03	0.002015	-36.9231	36.92311	30.94001
	297.96	0.868199775	0.3109	2.681	2.6810E-03	0.001838	-31.4332	31.43321	
	302.99	0.864539534	0.3109	2.286	2.2860E-03	0.001681	-26.4536	26.45367	
	307.92	0.860887621	0.3109	1.972	1.9720E-03	0.001544	-21.7268	21.72678	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	312.95	0.857094487	0.3109	1.705	1.7050E-03	0.001418	-16.8581	16.85806	
	317.92	0.853278522	0.3109	1.488	1.4880E-03	0.001306	-12.2418	12.24184	
	322.95	0.849345997	0.3109	1.311	1.3110E-03	0.001204	-8.14858	8.148578	
	333.15	0.841146631	0.3109	1.028	1.0280E-03	0.001028	-0.00036	0.000361	19.22319
	292.9	0.853065698	0.4189	3.064	3.0640E-03	0.002463	-19.6244	19.62444	
	297.96	0.849226755	0.4189	2.606	2.6060E-03	0.002233	-14.3105	14.31049	
	302.99	0.845350404	0.4189	2.222	2.2220E-03	0.002031	-8.59543	8.595431	
	307.92	0.841491546	0.4189	1.927	1.9270E-03	0.001855	-3.73025	3.730245	
	312.95	0.837492164	0.4189	1.673	1.6730E-03	0.001695	1.340872	1.340872	
	317.92	0.833477189	0.4189	1.467	1.4670E-03	0.001555	5.988533	5.988533	
	322.95	0.829348004	0.4189	1.294	1.2940E-03	0.001428	10.34356	10.34356	
	333.15	0.820764146	0.4189	1.016	1.0160E-03	0.00121	19.09741	19.09741	10.37887
	292.9	0.834515163	0.5696	2.795	2.7950E-03	0.002852	2.029589	2.029589	
	297.96	0.830469256	0.5696	2.395	2.3950E-03	0.002565	7.118427	7.118427	
	302.99	0.826392455	0.5696	2.072	2.0720E-03	0.002317	11.80507	11.80507	
	307.92	0.822342174	0.5696	1.807	1.8070E-03	0.002102	16.34776	16.34776	
	312.95	0.818152554	0.5696	1.58	1.5800E-03	0.00191	20.89082	20.89082	
	317.92	0.813954558	0.5696	1.393	1.3930E-03	0.001743	25.09375	25.09375	
	322.95	0.809645065	0.5696	1.236	1.2360E-03	0.001593	28.864	28.864	
	333.15	0.800710402	0.5696	0.976	9.7600E-04	0.00134	37.24777	37.24777	18.67465
	292.9	0.820229571	0.7354	2.531	2.5310E-03	0.002716	7.301787	7.301787	
	297.96	0.816033221	0.7354	2.192	2.1920E-03	0.002425	10.64767	10.64767	
	302.99	0.811811083	0.7354	1.924	1.9240E-03	0.002176	13.08525	13.08525	
	307.92	0.807622373	0.7354	1.691	1.6910E-03	0.001963	16.10055	16.10055	
	312.95	0.803295553	0.7354	1.488	1.4880E-03	0.001774	19.25189	19.25189	
	317.92	0.798965934	0.7354	1.317	1.3170E-03	0.001612	22.37757	22.37757	
	322.95	0.794527154	0.7354	1.175	1.1750E-03	0.001468	24.90269	24.90269	
	333.15	0.785342138	0.7354	0.94	9.4000E-04	0.001227	30.57086	30.57086	18.02978

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	292.9	0.804867992	1	2.239	2.2390E-03	0.002047	-8.58155	8.581553	
	297.96	0.800518535	1	2.976	2.9760E-03	0.001799	-39.5514	39.55136	
	302.99	0.796148856	1	1.754	1.7540E-03	0.001589	-9.39026	9.390264	
	307.92	0.791819973	1	1.566	1.5660E-03	0.001414	-9.72836	9.728363	
	312.95	0.787354594	1	1.396	1.3960E-03	0.00126	-9.73757	9.737574	
	317.92	0.78289242	1	1.246	1.2460E-03	0.00113	-9.33076	9.330761	
	322.95	0.77832381	1	1.129	1.1290E-03	0.001016	-9.99499	9.994991	
	333.15	0.768888575	1	0.901	9.0100E-04	0.000831	-7.74798	7.747982	13.00786

1-PROPANOL (1) - WATER (2)

AL - OI

00317 Mikhail, S. Z., Kimel, W. R.; J. Chem. Eng. Data, 8(3), 323-328(1963)

P= 0.101 MPa

1-Propanol		(g/m s)							
0		0.895		8.9500E-04		0.000723		-19.1851	
298,15	0.994713268	0	0.895	8.9500E-04	0.000723	-19.1851	19.18506		
298,15	0.971129715	0.032235	1.347	1.3470E-03	0.00083	-38.4051	38.40514		
298,15	0.948638375	0.06972	1.836	1.8360E-03	0.000956	-47.9125	47.91251		
298,15	0.92716565	0.11385	2.226	2.2260E-03	0.001108	-50.2106	50.21063		
298,15	0.90664519	0.16656	2.497	2.4970E-03	0.001294	-48.1739	48.17389		
298,15	0.88701007	0.23064	2.65	2.6500E-03	0.001528	-42.34	42.34003		
298,15	0.86820909	0.31019	2.661	2.6610E-03	0.001829	-31.2549	31.25487		
298,15	0.850188843	0.41159	2.592	2.5920E-03	0.002201	-15.0985	15.09849		
298,15	0.832902284	0.54527	2.394	2.3940E-03	0.00253	5.676241	5.676241		
298,15	0.816303432	0.72959	2.162	2.1620E-03	0.002428	12.29804	12.29804		
298,15	0.808250558	0.85065	2.043	2.0430E-03	0.002119	3.702098	3.702098		
298,15	0.800354322	1	1.938	1.9380E-03	0.00179	-7.61575	7.615746		29.50719
303,15	0.992847701	0	0.8	8.0000E-04	0.000673	-15.9118	15.91177		
303,15	0.968888311	0.032235	1.164	1.1640E-03	0.00077	-33.872	33.87201		
303,15	0.94605788	0.06972	1.546	1.5460E-03	0.000885	-42.746	42.74603		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	303.15	0.924279016	0.11385	1.868	1.8680E-03	0.001023	-45.2092	45.20921	
	303.15	0.903482033	0.16656	2.101	2.1010E-03	0.001192	-43.255	43.25496	
	303.15	0.883596984	0.23064	2.237	2.2370E-03	0.001404	-37.251	37.25099	
	303.15	0.864570113	0.31019	2.259	2.2590E-03	0.001674	-25.8901	25.89013	
	303.15	0.846345668	0.41159	2.216	2.2160E-03	0.002004	-9.58603	9.586032	
	303.15	0.82887454	0.54527	2.071	2.0710E-03	0.002289	10.50257	10.50257	
	303.15	0.812108877	0.72959	1.891	1.8910E-03	0.00218	15.29254	15.29254	
	303.15	0.803978748	0.85065	1.805	1.8050E-03	0.001892	4.841934	4.841934	
	303.15	0.796009089	1	1.723	1.7230E-03	0.001583	-8.11617	8.116168	26.84464
	308.15	0.990891567	0	0.721	7.2100E-04	0.000627	-13.0587	13.05871	
	308.15	0.966559694	0.032235	1.019	1.0190E-03	0.000715	-29.7883	29.78827	
	308.15	0.943393974	0.06972	1.33	1.3300E-03	0.000821	-38.2858	38.28584	
	308.15	0.921313107	0.11385	1.6	1.6000E-03	0.000947	-40.8173	40.81729	
	308.15	0.900243981	0.16656	1.793	1.7930E-03	0.0011	-38.6278	38.62784	
	308.15	0.880113544	0.23064	1.913	1.9130E-03	0.001292	-32.4625	32.46254	
	308.15	0.860865428	0.31019	1.94	1.9400E-03	0.001535	-20.8601	20.86012	
	308.15	0.842441482	0.41159	1.902	1.9020E-03	0.001829	-3.86374	3.863739	
	308.15	0.824790491	0.54527	1.802	1.8020E-03	0.002076	15.21998	15.21998	
	308.15	0.807862703	0.72959	1.662	1.6620E-03	0.001965	18.23522	18.23522	
	308.15	0.799657646	0.85065	1.593	1.5930E-03	0.001697	6.549425	6.549425	
	308.15	0.791616877	1	1.534	1.5340E-03	0.001406	-8.3377	8.337699	24.47103
	313.15	0.988843907	0	0.654	6.5400E-04	0.000585	-10.5212	10.52115	
	313.15	0.96414282	0.032235	0.902	9.0200E-04	0.000666	-26.1384	26.13837	
	313.15	0.940645538	0.06972	1.159	1.1590E-03	0.000763	-34.2091	34.20912	
	313.15	0.918266735	0.11385	1.384	1.3840E-03	0.000878	-36.5841	36.58407	
	313.15	0.896929774	0.16656	1.545	1.5450E-03	0.001018	-34.1407	34.14074	
	313.15	0.876558424	0.23064	1.655	1.6550E-03	0.001191	-28.0101	28.01008	
	313.15	0.857093638	0.31019	1.682	1.6820E-03	0.001411	-16.1181	16.11812	
	313.15	0.838474817	0.41159	1.651	1.6510E-03	0.001673	1.315576	1.315576	
	313.15	0.8206486	0.54527	1.574	1.5740E-03	0.001889	20.02798	20.02798	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
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1-PROPANOL (1) - WATER (2)

AL - OI based on viscosity of water at 25 C equal to 0.00891p
00015 Dunstan, A. E.; J. Chem. Soc., 87, 11-17(1905)
P= 0.101 MPa

		<i>1-Propanol</i>		<i>(g/m s)</i>					
298.1	0.99473147	0	0.891	8.9100E-04	0.000724	-18.7626	18.76257		
298.1	0.97447612	0.0273	1.289	1.2890E-03	0.000814	-36.8633	36.8633		
298.1	0.972780218	0.0298	1.312	1.3120E-03	0.000822	-37.3343	37.33428		
298.1	0.942980154	0.0805	1.982	1.9820E-03	0.000994	-49.8503	49.85034		
298.1	0.937976067	0.0905	2.047	2.0470E-03	0.001028	-49.7633	49.76335		
298.1	0.936522281	0.0935	2.11	2.1100E-03	0.001039	-50.7731	50.77314		
298.1	0.930731661	0.1059	2.188	2.1880E-03	0.001082	-50.5677	50.56765		
298.1	0.91660233	0.1398	2.456	2.4560E-03	0.0012	-51.1357	51.13565		
298.1	0.913898173	0.1466	2.438	2.4380E-03	0.001224	-49.7896	49.7896		
298.1	0.899904768	0.1869	2.616	2.6160E-03	0.001368	-47.6891	47.68911		
298.1	0.881505868	0.2519	2.686	2.6860E-03	0.001609	-40.0955	40.09546		
298.1	0.880213663	0.2571	2.707	2.7070E-03	0.001629	-39.8348	39.83478		
298.1	0.859254475	0.357	2.703	2.7030E-03	0.002008	-25.7118	25.71176		
298.1	0.85129115	0.4047	2.62	2.6200E-03	0.002179	-16.8196	16.81964		
298.1	0.850455398	0.4101	2.605	2.6050E-03	0.002198	-15.6349	15.63487		
298.1	0.833910451	0.5365	2.45	2.4500E-03	0.00252	2.866661	2.866661		
298.1	0.826409728	0.6095	2.364	2.3640E-03	0.002573	8.842336	8.842336		
298.1	0.821910259	0.6596	2.311	2.3110E-03	0.002545	10.12033	10.12033		
298.1	0.800397542	1	1.962	1.9620E-03	0.001793	-8.63148	8.631476		

34.33484

PROPANOL (1) - WATER (2)

AL - OI

00104 Ratcliff, G. A.; Khan, M. A.; Can. J. Chem. Eng., 49, 125-129(1971)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	P=		1 atm						
			<i>Propanol</i>	(cP)					
	298.15	0.994713268	0	0.8935	8.9350E-04	0.000723	-19.0494	19.04938	
	298.15	0.990123342	0.0058	0.9625	9.6250E-04	0.000742	-22.8871	22.88706	
	298.15	0.976940765	0.0237	1.225	1.2250E-03	0.000801	-34.5925	34.59253	
	298.15	0.962270711	0.0461	1.552	1.5520E-03	0.000876	-43.5422	43.54224	
	298.15	0.949684157	0.0678	1.82	1.8200E-03	0.00095	-47.8142	47.81425	
	298.15	0.934541962	0.0976	2.164	2.1640E-03	0.001052	-51.3861	51.38615	
	298.15	0.924729383	0.1195	2.263	2.2630E-03	0.001128	-50.1552	50.15524	
	298.15	0.90103127	0.1833	2.576	2.5760E-03	0.001354	-47.427	47.427	
	298.15	0.884571923	0.2398	2.682	2.6820E-03	0.001562	-41.7527	41.75267	
	298.15	0.868083304	0.3108	2.702	2.7020E-03	0.001832	-32.2119	32.21188	
	298.15	0.854115423	0.3868	2.643	2.6430E-03	0.002115	-19.9875	19.98754	
	298.15	0.838477715	0.4971	2.511	2.5110E-03	0.002444	-2.65061	2.650607	
	298.15	0.828835406	0.6046	3.342	3.3420E-03	0.00257	-23.0898	23.08984	
	298.15	0.819228679	0.6916	2.236	2.2360E-03	0.002499	11.77923	11.77923	
	298.15	0.811335967	0.8011	2.129	2.1290E-03	0.002253	5.802434	5.802434	
	298.15	0.80560879	0.8967	2.039	2.0390E-03	0.001999	-1.97336	1.973361	
	298.15	0.800354322	1	1.965	1.9650E-03	0.00179	-8.88515	8.885148	

29.1368

1-PROPANOL (1) - WATER (2)

AL - OI

00627 Weber, W.; Rheol. Acta, 14, 1012-1025(1975)

	P=		1 atm						
			<i>1-Propanol</i>	(cP)					
1	273.15	0.821428558	1	3.727	3.7270E-03	0.003531	-5.26209	5.262087	
1	293.15	0.804654164	1	2.212	2.2120E-03	0.002034	-8.06358	8.063585	
1	323.15	0.778141035	1	1.121	1.1210E-03	0.001012	-9.72526	9.725264	
1	353.15	0.749658064	1	0.627	6.2700E-04	0.000591	-5.79023	5.790234	
1	373.15	0.729310627	1	0.446	4.4600E-04	0.000447	0.19041	0.19041	

P (bar)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
99	293.15	0.804654164	1	2.389	2.3890E-03	0.002034	-14.8751	14.87511	5.806316
99	323.15	0.778141035	1	1.219	1.2190E-03	0.001012	-16.9828	16.98279	
99	353.15	0.749658064	1	0.685	6.8500E-04	0.000591	-13.7671	13.76712	
99	373.15	0.729310627	1	0.488	4.8800E-04	0.000447	-8.43254	8.432535	13.51439
295	293.15	0.804654164	1	2.758	2.7580E-03	0.002034	-26.2642	26.26419	
295	323.15	0.778141035	1	1.408	1.4080E-03	0.001012	-28.1264	28.12644	
295	353.15	0.749658064	1	0.799	7.9900E-04	0.000591	-26.0707	26.07068	
295	373.15	0.729310627	1	0.571	5.7100E-04	0.000447	-21.7427	21.74269	25.551
491	293.15	0.804654164	1	3.145	3.1450E-03	0.002034	-35.3376	35.33757	
491	323.15	0.778141035	1	1.605	1.6050E-03	0.001012	-36.9483	36.9483	
491	353.15	0.749658064	1	0.909	9.0900E-04	0.000591	-35.017	35.01703	
491	373.15	0.729310627	1	0.655	6.5500E-04	0.000447	-31.7787	31.77874	34.77041
1	273.15	0.885463531	0.3101813	7.282	7.2820E-03	0.002941	-59.6129	59.61289	
1	293.15	0.871785446	0.3101813	3.184	3.1840E-03	0.002003	-37.0919	37.09189	
1	323.15	0.849344591	0.3101813	1.314	1.3140E-03	0.001199	-8.77138	8.771381	
1	353.15	0.824304835	0.3101813	0.696	6.9600E-04	0.000771	10.72891	10.72891	
1	373.15	0.805944126	0.3101813	0.5	5.0000E-04	0.000595	19.07519	19.07519	27.05605
99	293.15	0.871785446	0.3101813	3.33	3.3300E-03	0.002003	-39.85	39.85003	
99	323.15	0.849344591	0.3101813	1.367	1.3670E-03	0.001199	-12.3084	12.30841	
99	353.15	0.824304835	0.3101813	0.729	7.2900E-04	0.000771	5.716488	5.716488	
99	373.15	0.805944126	0.3101813	0.524	5.2400E-04	0.000595	13.62137	13.62137	17.87407
295	293.15	0.871785446	0.3101813	3.614	3.6140E-03	0.002003	-44.5768	44.57681	
295	323.15	0.849344591	0.3101813	1.48	1.4800E-03	0.001199	-19.0038	19.00378	
295	353.15	0.824304835	0.3101813	0.792	7.9200E-04	0.000771	-2.69278	2.692778	
295	373.15	0.805944126	0.3101813	0.568	5.6800E-04	0.000595	4.819712	4.819712	17.77327

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
491	293.15	0.871785446	0.3101813	3.891	3.8910E-03	0.002003	-48.5224	48.52238	21.4692
491	323.15	0.849344591	0.3101813	1.597	1.5970E-03	0.001199	-24.9378	24.93775	
491	353.15	0.824304835	0.3101813	0.849	8.4900E-04	0.000771	-9.22577	9.225772	
491	373.15	0.805944126	0.3101813	0.615	6.1500E-04	0.000595	-3.1909	3.1909	
1	273.15	0.903063245	0.2306336	7.674	7.6740E-03	0.002406	-68.6473	68.64728	28.85139
1	293.15	0.89035576	0.2306336	3.175	3.1750E-03	0.001667	-47.5116	47.51164	
1	323.15	0.869229229	0.2306336	1.288	1.2880E-03	0.001019	-20.8969	20.89687	
1	353.15	0.84534861	0.2306336	0.685	6.8500E-04	0.000665	-2.91772	2.917719	
1	373.15	0.827686759	0.2306336	0.496	4.9600E-04	0.000517	4.283454	4.283454	22.7153
99	293.15	0.89035576	0.2306336	3.302	3.3020E-03	0.001667	-49.5304	49.53043	
99	323.15	0.869229229	0.2306336	1.333	1.3330E-03	0.001019	-23.5673	23.56727	
99	353.15	0.84534861	0.2306336	0.757	7.5700E-04	0.000665	-12.1514	12.15144	
99	373.15	0.827686759	0.2306336	0.548	5.4800E-04	0.000517	-5.61206	5.612056	24.61517
295	293.15	0.89035576	0.2306336	3.512	3.5120E-03	0.001667	-52.5483	52.54825	
295	323.15	0.869229229	0.2306336	1.418	1.4180E-03	0.001019	-28.1489	28.14892	
295	353.15	0.84534861	0.2306336	0.757	7.5700E-04	0.000665	-12.1514	12.15144	
295	373.15	0.827686759	0.2306336	0.548	5.4800E-04	0.000517	-5.61206	5.612056	29.16826
491	293.15	0.89035576	0.2306336	3.74	3.7400E-03	0.001667	-55.441	55.44103	
491	323.15	0.869229229	0.2306336	1.503	1.5030E-03	0.001019	-32.2124	32.21235	
491	353.15	0.84534861	0.2306336	0.804	8.0400E-04	0.000665	-17.2869	17.28686	
491	373.15	0.827686759	0.2306336	0.586	5.8600E-04	0.000517	-11.7328	11.73278	34.29495
1	273.15	0.92137678	0.1665606	7.657	7.6570E-03	0.002008	-73.7735	73.7735	
1	293.15	0.909734444	0.1665606	3.013	3.0130E-03	0.001407	-53.2901	53.29011	
1	323.15	0.890067256	0.1665606	1.212	1.2120E-03	0.000875	-27.8292	27.82923	
1	353.15	0.867494992	0.1665606	0.652	6.5200E-04	0.000579	-11.2363	11.23627	5.34565
1	373.15	0.850635057	0.1665606	0.479	4.7900E-04	0.000453	-5.34565	5.345646	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
99	293.15	0.909734444	0.1665606	3.085	3.0850E-03	0.001407	-54.3803	54.38026	26.3506
99	323.15	0.890067256	0.1665606	1.245	1.2450E-03	0.000875	-29.7422	29.74219	
99	353.15	0.867494992	0.1665606	0.67	6.7000E-04	0.000579	-13.621	13.62097	
99	373.15	0.850635057	0.1665606	0.491	4.9100E-04	0.000453	-7.65899	7.65899	
295	293.15	0.909734444	0.1665606	3.233	3.2330E-03	0.001407	-56.4686	56.46864	30.10729
295	323.15	0.890067256	0.1665606	1.308	1.3080E-03	0.000875	-33.1262	33.12616	
295	353.15	0.867494992	0.1665606	0.706	7.0600E-04	0.000579	-18.0256	18.02557	
295	373.15	0.850635057	0.1665606	0.52	5.2000E-04	0.000453	-12.8088	12.80878	
491	293.15	0.909734444	0.1665606	3.408	3.4080E-03	0.001407	-58.704	58.70396	33.48418
491	323.15	0.890067256	0.1665606	1.367	1.3670E-03	0.000875	-36.0125	36.01245	
491	353.15	0.867494992	0.1665606	0.743	7.4300E-04	0.000579	-22.1077	22.10774	
491	373.15	0.850635057	0.1665606	0.547	5.4700E-04	0.000453	-17.1125	17.11255	
1	273.15	0.960326368	0.0697179	5.809	5.8090E-03	0.001451	-75.0256	75.02561	35.76034
1	293.15	0.951137661	0.0697179	2.217	2.2170E-03	0.001035	-53.3058	53.30578	
1	323.15	0.934891555	0.0697179	0.917	9.1700E-04	0.000662	-27.8565	27.85647	
1	353.15	0.915461374	0.0697179	0.519	5.1900E-04	0.000449	-13.4135	13.41353	
1	373.15	0.900573333	0.0697179	0.394	3.9400E-04	0.000358	-9.2003	9.2003	26.92027
99	293.15	0.951137661	0.0697179	2.239	2.2390E-03	0.001035	-53.7646	53.76459	
99	323.15	0.934891555	0.0697179	0.929	9.2900E-04	0.000662	-28.7884	28.78836	
99	353.15	0.915461374	0.0697179	0.526	5.2600E-04	0.000449	-14.5658	14.56583	
99	373.15	0.900573333	0.0697179	0.4	4.0000E-04	0.000358	-10.5623	10.5623	28.81529
295	293.15	0.951137661	0.0697179	2.284	2.2840E-03	0.001035	-54.6755	54.67553	
295	323.15	0.934891555	0.0697179	0.953	9.5300E-04	0.000662	-30.5817	30.58173	
295	353.15	0.915461374	0.0697179	0.539	5.3900E-04	0.000449	-16.6264	16.62639	
295	373.15	0.900573333	0.0697179	0.413	4.1300E-04	0.000358	-13.3775	13.37753	55.5322
491	293.15	0.951137661	0.0697179	2.328	2.3280E-03	0.001035	-55.5322	55.53218	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
491	323.15	0.934891555	0.0697179	0.977	9.7700E-04	0.000662	-32.287	32.28698	
491	353.15	0.915461374	0.0697179	0.544	5.4400E-04	0.000449	-17.3927	17.39269	
491	373.15	0.900573333	0.0697179	0.426	4.2600E-04	0.000358	-16.0209	16.02093	30.3082

1-PROPANOL (1) - WATER (2)

AL - OI

00991 Ling, T. D.; VanWinkle, M.; Ind. Eng. Chem. Chem. Eng. Data Ser., 3(1), 88-95(1958)

P= 1 atm

1-Propanol (cP)									
303.15	0.974224309	0.0245	1.069	1.0690E-03	0.000746	-30.1944	30.19443		
303.15	0.929722809	0.1019	1.793	1.7930E-03	0.000986	-45.0202	45.02024		
303.15	0.885691545	0.2231	2.346	2.3460E-03	0.001378	-41.2435	41.24346		
303.15	0.825464632	0.5773	2.054	2.0540E-03	0.002313	12.63059	12.63059		
303.15	0.80736362	0.797	1.861	1.8610E-03	0.002027	8.915396	8.915396		
303.15	0.796009089	1	1.728	1.7280E-03	0.001583	-8.38204	8.382035		27.60082
328.15	0.962085563	0.0245	0.617	6.1700E-04	0.000529	-14.3416	14.34162		
328.15	0.914434581	0.1019	0.926	9.2600E-04	0.000682	-26.3283	26.32834		
328.15	0.867664005	0.2231	1.127	1.1270E-03	0.000929	-17.5501	17.55007		
328.15	0.804289181	0.5773	1.09	1.0900E-03	0.001457	33.67099	33.67099		
328.15	0.785375837	0.797	1.032	1.0320E-03	0.001239	20.01105	20.01105		
328.15	0.773543043	1	1.011	1.0110E-03	0.000915	-9.48606	9.486057		22.38041
348.15	0.950696144	0.0245	0.445	4.4500E-04	0.000413	-7.13695	7.136947		
348.15	0.9151204	0.076	0.572	5.7200E-04	0.000486	-14.9555	14.9555		
348.15	0.90064608	0.1019	0.625	6.2500E-04	0.000524	-16.2035	16.20348		
348.15	0.851838938	0.2231	0.74	7.4000E-04	0.0007	-5.40972	5.40972		
348.15	0.78620207	0.5773	0.725	7.2500E-04	0.001061	46.36455	46.36455		
348.15	0.766723602	0.797	0.693	6.9300E-04	0.000894	28.97915	28.97915		
348.15	0.754562786	1	0.682	6.8200E-04	0.000639	-6.25502	6.255019		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	368.15	0.937722314	0.0245	0.333	3.3300E-04	0.000331	-0.63833	0.638327	19.84156
	368.15	0.90046358	0.076	0.313	3.1300E-04	0.000385	22.86603	22.86603	11.75218

1-PROPANOL (1) - WATER (2)

AL - OI

00991 Ling, T. D.; VanWinkle, M.; Ind. Eng. Chem. Chem. Eng. Data Ser., 3(1), 88-95(1958)

P= 1 atm

1-Propanol (cP)									
373.15	0.956740762	0	0.284	2.8400E-04	0.000291	2.454265	2.454265		
368.15	0.950463239	0.01	0.313	3.1300E-04	0.000316	0.977828	0.977828		
365.15	0.943575626	0.02	0.34	3.4000E-04	0.000337	-0.94836	0.948357		
363.55	0.928574576	0.04	0.375	3.7500E-04	0.000365	-2.74147	2.74147		
362.45	0.915102297	0.06	0.434	4.3400E-04	0.000392	-9.69295	9.692953		
361.65	0.891525411	0.1	0.51	5.1000E-04	0.000442	-13.3256	13.32559		
361.25	0.848402686	0.2	0.59	5.9000E-04	0.000562	-4.66429	4.664293		
361.05	0.81963825	0.3	0.593	5.9300E-04	0.000682	15.00986	15.00986		
360.94	0.799076773	0.4	0.594	5.9400E-04	0.000791	33.08287	33.08287		
360.93	0.7936674	0.432	0.588	5.8800E-04	0.000819	39.35891	39.35891		
361.05	0.783477319	0.5	0.587	5.8700E-04	0.000864	47.2448	47.2448		
361.45	0.771035429	0.6	0.572	5.7200E-04	0.000878	53.57058	53.57058		
362.29	0.760558568	0.7	0.56	5.6000E-04	0.000823	47.04243	47.04243		
363.65	0.751296009	0.8	0.539	5.3900E-04	0.000717	33.00142	33.00142		
364.65	0.746846345	0.85	0.524	5.2400E-04	0.000654	24.7361	24.7361		
365.95	0.74236771	0.9	0.507	5.0700E-04	0.000589	16.1555	16.1555		
368.15	0.736647987	0.96	0.483	4.8300E-04	0.000513	6.161624	6.161624		
370.34	0.732244806	1	0.445	4.4500E-04	0.000463	4.082375	4.082375		21.73216

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%D	%AD	%AAD
1-PROPANOL (1) - WATER (2)									
AL-OI B of .895molf assumed to be .0895									
00272 Dizechi, M.; Marschell, E.; J. Chem. Eng. Data, 27(3), 358-363(1982)									
P= 1 atm									
			1-Propanol	(g m/s)					
	303.15	0.992847701	0	0.8005	8.0050E-04	0.000673	-15.9643	15.96429	
	303.15	0.954295439	0.0553	1.4334	1.4334E-03	0.00084	-41.364	41.36401	
	303.15	0.935710491	0.0895	1.7211	1.7211E-03	0.000947	-44.9856	44.9856	
	303.15	0.916443631	0.1323	1.9764	1.9764E-03	0.001082	-45.25	45.25001	
	303.15	0.897402135	0.1845	2.1769	2.1769E-03	0.001251	-42.5481	42.54814	
	303.15	0.875520332	0.2618	2.2715	2.2715E-03	0.001509	-33.5668	33.56677	
	303.15	0.859163119	0.3372	2.283	2.2830E-03	0.001766	-22.6601	22.66014	
	303.15	0.837165679	0.4762	2.1639	2.1639E-03	0.002173	0.416241	0.416241	
	303.15	0.826839848	0.5641	2.0849	2.0849E-03	0.002306	10.58108	10.58108	
	303.15	0.816961876	0.6686	1.9663	1.9663E-03	0.002279	15.89911	15.89911	
	303.15	0.806862744	0.8077	1.8617	1.8617E-03	0.002	7.44749	7.44749	
	303.15	0.796009089	1	1.7377	1.7377E-03	0.001563	-8.89346	8.893455	
									26.4718

PROPANOL (1) - WATER (2)

00275 Schott, H.: J. Chem. Eng. Data, 14(2), 237-239(1969)

Pro

0.16

0.17 64.7

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
n-PROPYL ALCOHOL (1) - WATER (2)									
AL-OI									
00550 Traube, J.; Ber. Dtsch. Chem. Ges., 19, 871-892(1886)									
P= 1 atm									
<i>Propanol</i> (P)									
	293.15	0.973285414	0.0322342	0.01597	1.5970E-03	0.000896	-43.8921	43.89215	
	293.15	0.929975455	0.1138469	0.02748	2.7480E-03	0.001202	-56.2432	56.24321	
	293.15	0.89035576	0.2306336	0.03278	3.2780E-03	0.001667	-49.1609	49.16091	
	293.15	0.885451789	0.2496194	0.0331	3.3100E-03	0.001746	-47.2628	47.26275	
	293.15	0.880972751	0.2681427	0.0331	3.3100E-03	0.001824	-44.9044	44.90436	
	293.15	0.853973953	0.4115796	0.03193	3.1930E-03	0.002423	-24.1195	24.11945	
	293.15	0.804654164	1	0.02327	2.3270E-03	0.002034	-12.6071	12.60707	44.26381
	303.15	0.968888837	0.0322342	0.01217	1.2170E-03	0.00077	-36.7521	36.75206	
	303.15	0.924280369	0.1138469	0.01939	1.9390E-03	0.001023	-47.216	47.21597	
	303.15	0.88359873	0.2306336	0.02334	2.3340E-03	0.001404	-39.8597	39.85973	
	303.15	0.846347269	0.4115796	0.02329	2.3290E-03	0.002004	-13.9741	13.97411	
	303.15	0.796009089	1	0.01818	1.8180E-03	0.001583	-12.9176	12.91758	34.45047
	313.15	0.964143361	0.0322342	0.00926	9.2600E-04	0.000666	-28.0529	28.05293	
	313.15	0.918268125	0.1138469	0.01423	1.4230E-03	0.000878	-38.3227	38.32266	
	313.15	0.876560212	0.2306336	0.01718	1.7180E-03	0.001191	-30.651	30.65101	
	313.15	0.838476452	0.4115796	0.01739	1.7390E-03	0.001673	-3.81276	3.812757	
	313.15	0.787176003	1	0.01434	1.4340E-03	0.001254	-12.5222	12.52218	25.20984
	323.15	0.959040469	0.0322342	0.00767	7.6700E-04	0.000581	-24.2795	24.2795	
	323.15	0.911928922	0.1138469	0.01123	1.1230E-03	0.000758	-32.5023	32.50228	
	323.15	0.869229229	0.2306336	0.01335	1.3350E-03	0.001019	-23.6818	23.68177	
	323.15	0.830349375	0.4115796	0.01351	1.3510E-03	0.00141	4.348566	4.348566	
	323.15	0.778141035	1	0.01166	1.1660E-03	0.001012	-13.2093	13.20928	21.20303

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	333.15	0.953570899	0.0322342	0.00631	6.3100E-04	0.00051	-19.2208	19.22079	
	333.15	0.905251802	0.1138469	0.00892	8.9200E-04	0.000659	-26.1076	26.10761	
	333.15	0.861593367	0.2306336	0.01062	1.0620E-03	0.000878	-17.3596	17.35957	
	333.15	0.821952296	0.4115796	0.01083	1.0830E-03	0.001199	10.73195	10.73195	
	333.15	0.768888575	1	0.00949	9.4900E-04	0.000831	-12.414	12.41405	18.35498

WATER (1) - n-PROPANOL (2)

Ol - AL

00610 D'Aprano, A.; Donato, I. D.; Caponetti, E.; Agrigento, V.; J. Solution Chem., 8(11), 793-800(1979)

P= 1 atm

		Water		Water					
				(cP)					
298.15	0.800354322	0	1.984	1.9840E-03	0.00179	-9.75772	9.75772		
298.15	0.800452925	0.0021	1.985	1.9850E-03	0.001793	-9.64951	9.649514		
298.15	0.802714824	0.0485	2.024	2.0240E-03	0.001875	-7.38131	7.381311		
298.15	0.803793799	0.0695	2.041	2.0410E-03	0.001919	-5.97418	5.974185		
298.15	0.805055945	0.0932	2.063	2.0630E-03	0.001974	-4.31278	4.312778		
298.15	0.806725412	0.1232	2.085	2.0850E-03	0.002049	-1.70895	1.708953		
298.15	0.807927093	0.1439	2.104	2.1040E-03	0.002104	0.000514	0.000514		
298.15	0.809257717	0.166	2.123	2.1230E-03	0.002164	1.914928	1.914928		
298.15	0.810710636	0.1892	2.142	2.1420E-03	0.002227	3.945229	3.945229		
298.15	0.811959004	0.2084	2.16	2.1600E-03	0.002278	5.450507	5.450507		
Average Error for Temp.								4.481991	

Total Error for All Tei 6749.627 1.338677 0.732748

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
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ISO-PROPANOL (1) - WATER (2)

AL - OI

(From Irving, NEL Report, 1977 - Hirata, 1958)

P= 0.101 MPa

Wt. Frac.	Iso Propano									
	(cP)									
0	293.15	0.998489202	0	1.004	1.0040E-03	0.000779	-22.3891	22.38909		
0.1	293.15	0.970849358	0.0322342	1.649	1.6490E-03	0.000937	-43.1938	43.19377		
0.2	293.15	0.946115743	0.0697179	2.529	2.5290E-03	0.001126	-55.4763	55.4763		
0.3	293.15	0.922791751	0.1138469	3.241	3.2410E-03	0.001355	-58.1767	58.17671		
0.4	293.15	0.900590074	0.1665606	3.617	3.6170E-03	0.001642	-54.5985	54.59854		
0.5	293.15	0.87943161	0.2306336	3.783	3.7830E-03	0.002019	-46.6355	46.63554		
0.6	293.15	0.859244519	0.3101813	3.703	3.7030E-03	0.002533	-31.5951	31.59507		
0.7	293.15	0.839963408	0.4115796	3.423	3.4230E-03	0.003189	-6.82576	6.825756		
0.8	293.15	0.821528627	0.5452651	3.024	3.0240E-03	0.00369	22.03839	22.03839		
0.9	293.15	0.803865649	0.729579	2.582	2.5820E-03	0.003157	22.2637	22.2637		
1	293.15	0.786984533	1	2.41	2.4100E-03	0.002124	-11.8863	11.88626		37.86708
0	298.15	0.994713268	0	0.894	8.9400E-04	0.000723	-19.0947	19.09466		
0.1	298.15	0.968408615	0.0322342	1.408	1.4080E-03	0.000866	-38.4809	38.48092		
0.2	298.15	0.943459344	0.0697179	2.086	2.0860E-03	0.001037	-50.2706	50.27055		
0.3	298.15	0.919763329	0.1138469	2.614	2.6140E-03	0.001244	-52.4083	52.40828		
0.4	298.15	0.897228454	0.1665606	2.941	2.9410E-03	0.001501	-48.9739	48.97394		
0.5	298.15	0.875771412	0.2306336	3.097	3.0970E-03	0.001835	-40.7569	40.75692		
0.6	298.15	0.855316683	0.3101813	3.055	3.0550E-03	0.002285	-25.1908	25.19076		
0.7	298.15	0.835795638	0.4115796	2.852	2.8520E-03	0.002852	-0.00048	0.000477		
0.8	298.15	0.817145773	0.5452651	2.547	2.5470E-03	0.003271	28.44462	28.44462		
0.9	298.15	0.799310045	0.729579	2.192	2.1920E-03	0.002776	26.65697	26.65697		
1	298.15	0.782236282	1	2.067	2.0670E-03	0.001808	-12.5136	12.5136		34.57594
0	303.15	0.992847701	0	0.801	8.0100E-04	0.000673	-16.0167	16.01674		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
0.1	303.15	0.966078797	0.0322342	1.219	1.2190E-03	0.000803	-34.166	34.16599	
0.2	303.15	0.94071547	0.0697179	1.744	1.7440E-03	0.000958	-45.0953	45.09526	
0.3	303.15	0.916649844	0.1138469	2.167	2.1670E-03	0.001144	-47.2088	47.2088	
0.4	303.15	0.893784811	0.1666606	2.43	2.4300E-03	0.001374	-43.4517	43.45174	
0.5	303.15	0.872032713	0.2306336	2.57	2.5700E-03	0.001671	-34.9743	34.97426	
0.6	303.15	0.851314225	0.3101813	2.554	2.5540E-03	0.002067	-19.0523	19.05235	
0.7	303.15	0.831557384	0.4115796	2.407	2.4070E-03	0.002559	6.317787	6.317787	
0.8	303.15	0.812696756	0.5452651	2.177	2.1770E-03	0.002914	33.84963	33.84963	
0.9	303.15	0.794672712	0.729579	1.893	1.8930E-03	0.002457	29.81988	29.81988	
1	303.15	0.7774308	1	2.789	2.7890E-03	0.001551	-44.3783	44.37828	32.65952

2-PROPANOL (1) - WATER (2)

OL - OI

00627 Weber, W.; Rheol. Acta, 14, 1012-1025(1975)

P (bar)	2-Propanol	(cP)							
1	273.15	0.805446306	1	4.71	4.7100E-03	0.004323	-8.21554	8.215541	
1	293.15	0.786984533	1	2.432	2.4320E-03	0.002124	-12.6833	12.68334	
1	323.15	0.757588474	1	1.042	1.0420E-03	0.000907	-12.9376	12.93757	
1	363.15	0.725637007	1	0.524	5.2400E-04	0.000508	-3.13322	3.13322	
1	373.15	0.702507821	1	0.354	3.5400E-04	0.000388	9.607699	9.607699	9.315475
99	293.15	0.786984533	1	2.665	2.6650E-03	0.002124	-20.3174	20.3174	
99	323.15	0.757588474	1	1.146	1.1460E-03	0.000907	-20.8385	20.83853	
99	363.15	0.725637007	1	0.584	5.8400E-04	0.000508	-13.0853	13.08529	
99	373.15	0.702507821	1	0.396	3.9600E-04	0.000388	-2.01736	2.01736	
295	293.15	0.786984533	1	3.159	3.1590E-03	0.002124	-32.7781	32.77806	14.06464
295	323.15	0.757588474	1	1.381	1.3810E-03	0.000907	-34.3092	34.30916	
295	363.15	0.725637007	1	0.703	7.0300E-04	0.000508	-27.7977	27.79773	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
295	373.15	0.702507821	1	0.479	4.7900E-04	0.000388	-18.9956	18.99556	28.47013
491	293.15	0.786984533	1	3.704	3.7040E-03	0.002124	-42.669	42.66898	
491	323.15	0.767588474	1	1.607	1.6070E-03	0.000907	-43.5476	43.54757	
491	353.15	0.725637007	1	0.817	8.1700E-04	0.000508	-37.8725	37.87247	
491	373.15	0.702507821	1	0.561	5.6100E-04	0.000388	-30.8358	30.83578	38.7312
1	273.15	0.874243707	0.3101813	9.647	9.6470E-03	0.003923	-59.3326	59.33259	
1	293.15	0.859244519	0.3101813	3.735	3.7350E-03	0.002533	-32.1811	32.18113	
1	323.15	0.834517871	0.3101813	1.387	1.3870E-03	0.001421	2.44444	2.44444	
1	353.15	0.806686956	0.3101813	0.695	6.9500E-04	0.000873	25.65084	25.65084	
1	373.15	0.786059021	0.3101813	0.488	4.8800E-04	0.000661	35.38865	35.38865	30.99953
99	293.15	0.859244519	0.3101813	3.937	3.9370E-03	0.002533	-35.6608	35.66079	
99	323.15	0.834517871	0.3101813	1.455	1.4550E-03	0.001421	-2.34334	2.343342	
99	353.15	0.806686956	0.3101813	0.73	7.3000E-04	0.000873	19.62648	19.62648	
99	373.15	0.786059021	0.3101813	0.514	5.1400E-04	0.000661	28.5402	28.5402	21.5427
295	293.15	0.859244519	0.3101813	4.333	4.3330E-03	0.002533	-41.5409	41.54086	
295	323.15	0.834517871	0.3101813	1.594	1.5940E-03	0.001421	-10.8592	10.8592	
295	353.15	0.806686956	0.3101813	0.797	7.9700E-04	0.000873	9.570054	9.570054	
295	373.15	0.786059021	0.3101813	0.563	5.6300E-04	0.000661	17.35286	17.35286	19.83074
491	293.15	0.859244519	0.3101813	4.755	4.7550E-03	0.002533	-46.729	46.72903	
491	323.15	0.834517871	0.3101813	1.732	1.7320E-03	0.001421	-17.9616	17.96164	
491	353.15	0.806686956	0.3101813	0.862	8.6200E-04	0.000873	1.307811	1.307811	
491	373.15	0.786059021	0.3101813	0.613	6.1300E-04	0.000661	7.780852	7.780852	18.44483
1	273.15	0.893319485	0.2306336	10.55	1.0550E-02	0.003025	-71.326	71.32603	
1	293.15	0.87943161	0.2306336	3.802	3.8020E-03	0.002019	-46.9022	46.90222	
1	323.15	0.856254995	0.2306336	1.375	1.3750E-03	0.001175	-14.5232	14.52322	
1	353.15	0.82985973	0.2306336	0.694	6.9400E-04	0.000738	6.331136	6.331136	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
1	373.15	0.810147286	0.2306336	0.494	4.9400E-04	0.000562	13.82391	13.82391	30.5813
99	293.15	0.87943161	0.2306336	3.965	3.9650E-03	0.002019	-49.0851	49.08505	19.55709
99	323.15	0.856254995	0.2306336	1.429	1.4290E-03	0.001175	-17.7533	17.75327	
99	353.15	0.82985973	0.2306336	0.722	7.2200E-04	0.000738	2.207491	2.207491	
99	373.15	0.810147286	0.2306336	0.515	5.1500E-04	0.000562	9.18255	9.18255	
295	293.15	0.87943161	0.2306336	4.281	4.2810E-03	0.002019	-52.8433	52.84331	
295	323.15	0.856254995	0.2306336	1.532	1.5320E-03	0.001175	-23.2829	23.28292	20.693
295	353.15	0.82985973	0.2306336	0.778	7.7800E-04	0.000738	-5.14935	5.149347	
295	373.15	0.810147286	0.2306336	0.554	5.5400E-04	0.000562	1.496414	1.496414	
491	293.15	0.87943161	0.2306336	4.604	4.6040E-03	0.002019	-56.1517	56.15166	
491	323.15	0.856254995	0.2306336	1.636	1.6360E-03	0.001175	-28.1598	28.1598	
491	353.15	0.82985973	0.2306336	0.831	8.3100E-04	0.000738	-11.1988	11.19879	25.21215
491	373.15	0.810147286	0.2306336	0.594	5.9400E-04	0.000562	-5.33836	5.338362	
1	273.15	0.913246289	0.1665606	10.81	1.0810E-02	0.002404	-77.7625	77.76245	
1	293.15	0.900590074	0.1665606	3.645	3.6450E-03	0.001642	-54.9473	54.9473	
1	323.15	0.879154802	0.1665606	1.3	1.3000E-03	0.000985	-24.229	24.22897	
1	353.15	0.854403193	0.1665606	0.685	6.6500E-04	0.000632	-4.96412	4.964121	32.68903
1	373.15	0.83575856	0.1665606	0.479	4.7900E-04	0.000486	1.542323	1.542323	
99	293.15	0.900590074	0.1665606	3.78	3.7800E-03	0.001642	-56.5563	56.55633	
99	323.15	0.879154802	0.1665606	1.338	1.3380E-03	0.000985	-26.3809	26.38091	
99	353.15	0.854403193	0.1665606	0.683	6.8300E-04	0.000632	-7.46873	7.468727	
99	373.15	0.83575856	0.1665606	0.494	4.9400E-04	0.000486	-1.54095	1.540946	22.98673
295	293.15	0.900590074	0.1665606	4.024	4.0240E-03	0.001642	-59.1906	59.19059	
295	323.15	0.879154802	0.1665606	1.413	1.4130E-03	0.000985	-30.2885	30.28851	
295	353.15	0.854403193	0.1665606	0.722	7.2200E-04	0.000632	-12.467	12.46695	
295	373.15	0.83575856	0.1665606	0.523	5.2300E-04	0.000486	-7.00043	7.000434	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
491	293.15	0.900590074	0.1665606	4.29	4.2900E-03	0.001642	-61.721	61.72096	27.23662
491	323.15	0.879154802	0.1665606	1.485	1.4850E-03	0.000985	-33.6685	33.66846	
491	353.15	0.854403193	0.1665606	0.761	7.6100E-04	0.000632	-16.9529	16.95288	
491	373.15	0.83575856	0.1665606	0.55	5.5000E-04	0.000486	-11.5659	11.56587	
30.97704									

Iso-PROPANOL (1) - WATER (2)

OL - OI (aka, 2-Propanol)
00048 Olsen, A. L.; Washburn, E. R.; J. Phys. Chem., 42, 275-281(1938)
P= 1 atm

<i>Iso-Propano</i>		<i>(g/m s)</i>			
298,15	0.994713268	0	0.8949	8.9490E-04	0.000723
298,15	0.973946627	0.0249	1.2821	1.2821E-03	0.000833
298,15	0.955866443	0.0501	1.7271	1.7271E-03	0.000947
298,15	0.931002291	0.0917	2.3202	2.3202E-03	0.00114
298,15	0.910777147	0.1334	2.7701	2.7701E-03	0.001338
298,15	0.888360245	0.1911	3.012	3.0120E-03	0.001625
298,15	0.86752707	0.2601	3.096	3.0960E-03	0.001998
298,15	0.845816192	0.3557	3.012	3.0120E-03	0.002549
298,15	0.824816016	0.4847	2.71	2.7100E-03	0.003155
298,15	0.803673733	0.6775	2.331	2.3310E-03	0.003018
298,15	0.782236282	1	2.0833	2.0833E-03	0.001808
-19,176					
19,17603					
-35,009					
35,00897					
-45,1544					
45,1544					
-50,8838					
50,88382					
-51,7081					
51,70813					
-46,0378					
46,03781					
-35,4703					
35,47032					
-15,3716					
15,37158					
16,41637					
16,41637					
29,48577					
29,48577					
-13,1981					
13,1981					
36,1708					

Iso-PROPANOL (1) - WATER (2)

OL - OI (aka, 2-Propanol)
00041 Irtany, E. P.; J. Am. Chem. Soc., 65, 1392-1398(1943)
P= 1 atm

Iso-Propano (cP)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	293.15	0.996489202	0	1.005	1.0050E-03	0.000779	-22.4663	22.46631	
	293.15	0.977640764	0.023	1.51	1.5100E-03	0.000891	-40.9925	40.99254	
	293.15	0.95199916	0.06	2.42	2.4200E-03	0.001076	-55.5194	55.51941	
	293.15	0.929065293	0.101	3.15	3.1500E-03	0.001288	-59.1147	59.11467	
	293.15	0.892221008	0.19	3.78	3.7800E-03	0.001776	-63.0198	63.0198	
	293.15	0.854788294	0.331	3.75	3.7500E-03	0.002672	-28.7354	28.73538	
	293.15	0.83429687	0.448	3.47	3.4700E-03	0.003388	-2.37571	2.37571	
	293.15	0.83226088	0.462	3.4	3.4000E-03	0.003454	1.581875	1.581875	
	293.15	0.814026742	0.615	2.96	2.9600E-03	0.003643	23.07805	23.07805	
	293.15	0.799529514	0.788	2.6	2.6000E-03	0.002826	8.677097	8.677097	
	293.15	0.786984533	1	2.47	2.4700E-03	0.002124	-14.0267	14.02667	
Average Error for Temp.									30.34384

k_{ij} l_{ij}
Total Error for All T_{oi} 2074.827 1.403266 0.631316

Iso-PROPANOL (1) - BENZENE (2)

OL - AR (aka. 2-Propanol)
(From Irving, NEL Report, 1977 - Hirata, 1958)

P= 1 atm											
Wt Frac		Iso- <i>Propano</i>									
		(cP)									
0	293.15	0.87799651	0	0.642	6.4200E-04	0.000646	0.593788	0.593788	%AAD= 5.585427		
0.1	293.15	0.867958873	0.126198	0.631	6.3100E-04	0.00063	-0.18968	0.189682			
0.2	293.15	0.85814815	0.2452568	0.654	6.5400E-04	0.000654	-6.2E-05	6.24E-05			
0.3	293.15	0.848556735	0.3577656	0.698	6.9800E-04	0.000708	1.43485	1.43485			
0.4	293.15	0.839177353	0.4642505	0.783	7.8300E-04	0.000788	0.662251	0.662251			
0.5	293.15	0.830003052	0.5651826	0.894	8.9400E-04	0.000894	-0.0001	0.000105			
0.6	293.15	0.821027177	0.6609852	1.042	1.0420E-03	0.001028	-1.39116	1.391161			
0.7	293.15	0.81224336	0.7520397	1.244	1.2440E-03	0.001195	-3.97135	3.971349			
0.8	293.15	0.803645503	0.8386905	1.513	1.5130E-03	0.001409	-6.89843	6.898427			
0.9	293.15	0.795227761	0.9212496	1.88	1.8800E-03	0.001698	-9.67441	9.674409			
1	293.15	0.786984533	1	2.41	2.4100E-03	0.002124	-11.8863	11.88626			

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
0	303.15	0.867979124	0	0.557	5.5700E-04	0.000562	0.900333	0.900333	2.691366
0.1	303.15	0.857986055	0.126198	0.545	5.4500E-04	0.000536	-1.67012	1.670122	
0.2	303.15	0.848220467	0.2452568	0.561	5.6100E-04	0.000544	-2.97334	2.973345	
0.3	303.15	0.838674682	0.3577656	0.594	5.9400E-04	0.000577	-2.88241	2.882408	
0.4	303.15	0.82934136	0.4642505	0.644	6.4400E-04	0.000629	-2.26188	2.261879	
0.5	303.15	0.820213486	0.5651826	0.825	8.2500E-04	0.000701	-15.0599	15.05994	
0.6	303.15	0.811284351	0.6609852	0.834	8.3400E-04	0.000792	-5.05799	5.057989	
0.7	303.15	0.802547533	0.7520397	0.975	9.7500E-04	0.000907	-7.0185	7.018499	
0.8	303.15	0.793996886	0.8386905	1.169	1.1690E-03	0.001054	-9.80487	9.804872	
0.9	303.15	0.785626523	0.9212496	1.421	1.4210E-03	0.001255	-11.6627	11.66273	
1	303.15	0.7774308	1	1.789	1.7890E-03	0.001551	-13.2873	13.28732	6.487976

Iso-PROPANOL (1) - BENZENE (2)

OL - AR (aka, 2-Propanol)

00048 Olsen, A. L.; Washburn, E. R.; J. Phys. Chem., 42, 275-281(1938)

P= 1 atm

		<i>Iso-Propano</i> (P-1)	
293.15	0.87799651	0	165.5
293.15	0.868962242	0.1137865	167
293.15	0.859741877	0.226195	165.1
293.15	0.851096599	0.3283359	154.4
293.15	0.84157733	0.4373269	142
293.15	0.832679411	0.536059	128.2
293.15	0.823226116	0.6377776	111.9
293.15	0.814072337	0.7332945	94
293.15	0.804761447	0.8275785	76.9
293.15	0.795877999	0.9149504	62.8
293.15	0.786984533	1	48

Average Error for Temp.

7.576939

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
2-PROPANOL (1) - n-PENTANE (2)									
AL - AA									
00468 Zurita, J. L.; DeSoria, M. L. G.; Postigo, M. A.; Katz, M.; Lat. Am. J. Chem. Eng. Appl. Chem., 17, 93-100(1987)									
P= 1 atm									
2-Propanol									
				(mPa s)					
298.15	0.634202793	0.1128		0.262	2.6200E-04	0.000244	-6.82133	6.821332	
298.15	0.647045261	0.2204		0.281	2.8100E-04	0.000274	-2.33446	2.334457	
298.15	0.660844164	0.3273		0.323	3.2300E-04	0.000323	-2.2E-05	2.18E-05	
298.15	0.674213218	0.4232		0.385	3.8500E-04	0.000387	0.456	0.456	
298.15	0.688149425	0.516		0.466	4.6600E-04	0.000472	1.350427	1.350427	
298.15	0.701776461	0.6004		0.577	5.7700E-04	0.000577	-0.08325	0.083248	
298.15	0.716594964	0.6858		0.71	7.1000E-04	0.000715	0.74305	0.74305	
298.15	0.732317876	0.7699		0.966	9.6600E-04	0.000895	-7.33233	7.332328	
298.15	0.74896152	0.8524		1.272	1.2720E-03	0.00113	-11.1866	11.18665	
298.15	0.768991951	0.9438		1.702	1.7020E-03	0.001494	-12.2118	12.21179	
Average Error for Temp.									
								4.25193	
Total Error for All T_{ei}									
								150.8065	0.863195 1.080918
									$\frac{kJ}{IJ}$

2-PROPANOL (1) - n-PENTANE (2)

AL - AA

00468 Zurita, J. L.; DeSoria, M. L. G.; Postigo, M. A.; Katz, M.; Lat. Am. J. Chem. Eng. Appl. Chem., 17, 93-100(1987)

P= 1 atm

2-Propanol

				(mPa s)					
298.15	0.634202793	0.1128		0.262	2.6200E-04	0.000244	-6.82133	6.821332	
298.15	0.647045261	0.2204		0.281	2.8100E-04	0.000274	-2.33446	2.334457	
298.15	0.660844164	0.3273		0.323	3.2300E-04	0.000323	-2.2E-05	2.18E-05	
298.15	0.674213218	0.4232		0.385	3.8500E-04	0.000387	0.456	0.456	
298.15	0.688149425	0.516		0.466	4.6600E-04	0.000472	1.350427	1.350427	
298.15	0.701776461	0.6004		0.577	5.7700E-04	0.000577	-0.08325	0.083248	
298.15	0.716594964	0.6858		0.71	7.1000E-04	0.000715	0.74305	0.74305	
298.15	0.732317876	0.7699		0.966	9.6600E-04	0.000895	-7.33233	7.332328	
298.15	0.74896152	0.8524		1.272	1.2720E-03	0.00113	-11.1866	11.18665	
298.15	0.768991951	0.9438		1.702	1.7020E-03	0.001494	-12.2118	12.21179	

Average Error for Temp.

4.25193

Total Error for All T_{ei} 42.5193 0.913553 1.144715

$\frac{kJ}{IJ}$

CYCLOHEXANE (1) - 2-PROPANOL (2)

CA - OL

00111 Wei, I. C., Rowley, R. L.; J. Chem. Eng. Data, 29(3), 332-335(1984)

P= 1 atm

Cyclohexane

				(g/m s)					
298.15	0.782236282	0		2.0358	2.0358E-03	0.001808	-11.1728	11.17281	
298.15	0.780103331	0.1771		1.4625	1.4625E-03	0.001391	-4.89183	4.891833	
298.15	0.779431804	0.2384		1.3651	1.3651E-03	0.001298	-4.87985	4.879854	

%AAD= 1.799099

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	298.15	0.778480589	0.3304	1.2098	1.2098E-03	0.001181	-2.38217	2.382167	
	298.15	0.777669257	0.4141	1.0876	1.0876E-03	0.00109	0.221561	0.221561	
	298.15	0.776966166	0.4909	1.0179	1.0179E-03	0.001018	0.013742	0.013742	
	298.15	0.776352025	0.5615	0.9534	9.5340E-04	0.000962	0.853434	0.853434	
	298.15	0.774978549	0.7326	0.8666	8.6660E-04	0.000867	-0.00142	0.001422	
	298.15	0.773701799	0.9104	0.8565	8.5650E-04	0.000847	-1.14878	1.14878	
	298.15	0.773109026	1	0.8906	8.9060E-04	0.000881	-1.05027	1.050269	
						Average Error for Temp.			1.799099
						<i>k_{ij}</i>	<i>l_{ij}</i>		
						Total Error for All T_{o,i}	0.88108	1.124022	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
n-BUTYL ALCOHOL (1) - WATER (2)									
AL - OI									
00550 Traube, J.; Ber. Dtsch. Chem. Ges., 19, 871-892(1886)									
P= 1 atm									
n-Butyl Alcohol (P)									
293.15	0.991910601	0.00494	0.01131	1.1310E-03	0.000785		-30.6115	30.61149	%AAD= 8.401864
293.15	0.987377712	0.01003	0.0123	1.2300E-03	0.000791		-35.6933	35.69329	
293.15	0.982887284	0.01528	0.01338	1.3380E-03	0.000798		-40.3729	40.37293	
									35.55923

WATER (1) - n-BUTANOL (2)

OI - AL

00610 D'Aprano, A.; Donato, I. D.; Caponetti, E.; Agrigento, V.; J. Solution Chem., 8(11), 793-800(1979)

P= 1 atm									
Water (cP)									
288.15	0.81378576	0	3.433	3.4330E-03	0.003232		-5.85248	5.852475	1.221143
288.15	0.815342483	0.0412	3.441	3.4410E-03	0.003342		-2.87883	2.878835	
288.15	0.816631106	0.0733	3.448	3.4480E-03	0.003406		-1.21586	1.215858	
288.15	0.818197927	0.1101	3.461	3.4610E-03	0.003455		-0.16766	0.16766	
288.15	0.819817975	0.1458	3.478	3.4780E-03	0.003477		-0.0185	0.018496	
288.15	0.821248001	0.1755	3.5	3.5000E-03	0.003477		-0.66579	0.665792	
288.15	0.823165609	0.2129	3.536	3.5360E-03	0.003452		-2.38022	2.380219	
298.15	0.805704299	0	2.626	2.6260E-03	0.002438		-7.14627	7.14627	
298.15	0.807234099	0.0398	2.622	2.6220E-03	0.002527		-3.61495	3.614946	
298.15	0.808817473	0.0784	2.618	2.6180E-03	0.002594		-0.92783	0.927825	
298.15	0.81065466	0.1202	2.619	2.6190E-03	0.002642		0.885031	0.885031	
298.15	0.811687021	0.1424	2.62	2.6200E-03	0.002658		1.436079	1.436079	
298.15	0.812682867	0.163	2.626	2.6260E-03	0.002666		1.504459	1.504459	
298.15	0.814333466	0.1955	2.634	2.6340E-03	0.002665		1.191853	1.191853	
298.15	0.816006031	0.2265	2.647	2.6470E-03	0.002651		0.161543	0.161543	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	298.15	0.818647823	0.2719	2.679	2.6790E-03	0.002607	-2.68276	2.682764	1.550562
	308.15	0.797472789	0	2.047	2.0470E-03	0.00187	-8.64664	8.646644	
	308.15	0.799028344	0.0398	2.032	2.0320E-03	0.001943	-4.37955	4.379548	
	308.15	0.800638544	0.0784	2.022	2.0220E-03	0.002	-1.10377	1.103773	
	308.15	0.802607076	0.1202	2.017	2.0170E-03	0.002044	1.334024	1.334024	
	308.15	0.80355715	0.1424	2.06	2.0600E-03	0.00206	-0.0098	0.009799	
	308.15	0.804570153	0.163	2.017	2.0170E-03	0.00207	2.614463	2.614463	
	308.15	0.806249341	0.1955	2.024	2.0240E-03	0.002076	2.56745	2.56745	
	308.15	0.807951068	0.2266	2.027	2.0270E-03	0.002071	2.183259	2.183259	2.027474
	318.15	0.789081556	0	1.61	1.6100E-03	0.001459	-9.3879	9.387896	
	318.15	0.790718411	0.0412	1.597	1.5970E-03	0.00152	-4.81579	4.815794	
	318.15	0.792073766	0.0733	1.588	1.5880E-03	0.00156	-1.76974	1.769742	
	318.15	0.793722212	0.1101	1.581	1.5810E-03	0.001596	0.95717	0.95717	
	318.15	0.795427222	0.1458	1.576	1.5760E-03	0.001621	2.860404	2.860404	
	318.15	0.796932718	0.1755	1.577	1.5770E-03	0.001634	3.607921	3.607921	
	318.15	0.798952229	0.2129	1.578	1.5780E-03	0.00164	3.907401	3.907401	2.986405

AL - 01

$P = 1 \text{ atm}$

298,15	0,994713268	0	0,00893	8,9300E-04	0,000723	-19,0041	19,00406
298,15	0,821261339	0,687	0,02598	2,5980E-03	0,002545	-2,03972	2,039724
298,15	0,805704299	1	0,02485	2,4850E-03	0,002438	-1,87771	1,877708
							2,039724

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
1-BUTANOL (1) - WATER (2)									
AL - OI									
00627 Weber, W.; Rheol. Acta, 14, 1012-1025(1975)									
P= 1 atm									
P (bar)	1-Butanol			(cP)					
1	273.15	0.825645543	1	5.24	5.2400E-03	0.00508	-3.05627	3.056271	6.126415
1	293.15	0.809763218	1	2.96	2.9600E-03	0.002802	-5.34957	5.349568	
1	323.15	0.784822737	1	1.419	1.4190E-03	0.001297	-8.59353	8.59353	
1	353.15	0.758287994	1	0.768	7.6800E-04	0.000704	-8.31631	8.316308	
1	373.15	0.739526302	1	0.54	5.4000E-04	0.000511	-5.3164	5.316395	
99	293.15	0.809763218	1	3.215	3.2150E-03	0.002802	-12.8568	12.85683	14.5256
99	323.15	0.784822737	1	1.541	1.5410E-03	0.001297	-15.8301	15.83012	
99	353.15	0.758287994	1	0.839	8.3900E-04	0.000704	-16.075	16.075	
99	373.15	0.739526302	1	0.59	5.9000E-04	0.000511	-13.3404	13.34043	
295	293.15	0.809763218	1	3.762	3.7620E-03	0.002802	-25.5276	25.52757	
295	323.15	0.784822737	1	1.813	1.8130E-03	0.001297	-28.4579	28.45793	27.25968
295	353.15	0.758287994	1	0.985	9.8500E-04	0.000704	-28.5146	28.51464	
295	373.15	0.739526302	1	0.696	6.9600E-04	0.000511	-26.5386	26.53858	
491	293.15	0.809763218	1	4.357	4.3570E-03	0.002802	-35.6977	35.69766	
491	323.15	0.784822737	1	2.077	2.0770E-03	0.001297	-37.5514	37.55138	
491	353.15	0.758287994	1	1.139	1.1390E-03	0.000704	-38.1799	38.17992	36.89933
491	373.15	0.739526302	1	0.801	8.0100E-04	0.000511	-36.1684	36.16836	
1	273.15	0.850687633	0.5485167	6.69	6.6900E-03	0.00404	-39.6156	39.61562	
1	293.15	0.835873299	0.5485167	3.301	3.3010E-03	0.002485	-24.7324	24.73236	
1	323.15	0.812282948	0.5485167	1.447	1.4470E-03	0.001295	-10.5263	10.52631	
1	353.15	0.786814065	0.5485167	0.77	7.7000E-04	0.00074	-3.91596	3.915956	16.12364
1	373.15	0.768616019	0.5485167	0.546	5.4600E-04	0.000536	-1.82794	1.827936	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
99	293.15	0.835873299	0.5485167	3.512	3.5120E-03	0.002485	-29.2544	29.25441	
99	323.15	0.812282948	0.5485167	1.547	1.5470E-03	0.001295	-16.31	16.31	
99	353.15	0.786814065	0.5485167	0.824	8.2400E-04	0.00074	-10.2127	10.21273	
99	373.15	0.768616019	0.5485167	0.586	5.8600E-04	0.000536	-8.5291	8.529101	16.07656
295	293.15	0.835873299	0.5485167	3.99	3.9900E-03	0.002485	-37.7297	37.7297	
295	323.15	0.812282948	0.5485167	1.752	1.7520E-03	0.001295	-26.1025	26.10249	
295	353.15	0.786814065	0.5485167	0.935	9.3500E-04	0.00074	-20.872	20.87196	
295	373.15	0.768616019	0.5485167	0.664	6.6400E-04	0.000536	-19.2742	19.27418	25.99458
491	293.15	0.835873299	0.5485167	4.48	4.4800E-03	0.002485	-44.5405	44.54051	
491	323.15	0.812282948	0.5485167	1.958	1.9580E-03	0.001295	-33.8772	33.8772	
491	353.15	0.786814065	0.5485167	1.044	1.0440E-03	0.00074	-29.1334	29.13342	
491	373.15	0.768616019	0.5485167	0.743	7.4300E-04	0.000536	-27.8574	27.85741	33.85214
1	273.15	0.987883975	0.0179849	2.835	2.8350E-03	0.001112	-60.7738	60.77384	
1	293.15	0.980659849	0.0179849	1.378	1.3780E-03	0.000801	-41.8376	41.83755	
1	323.15	0.967246311	0.0179849	0.668	6.6800E-04	0.000521	-21.9943	21.99428	
1	353.15	0.950549276	0.0179849	0.415	4.1500E-04	0.000361	-13.1105	13.11045	
1	373.15	0.937466015	0.0179849	0.328	3.2800E-04	0.000291	-11.3614	11.36139	29.8155
99	293.15	0.980659849	0.0179849	1.375	1.3750E-03	0.000801	-41.7107	41.71065	
99	323.15	0.967246311	0.0179849	0.672	6.7200E-04	0.000521	-22.4586	22.4586	
99	353.15	0.950549276	0.0179849	0.418	4.1800E-04	0.000361	-13.7341	13.73406	
99	373.15	0.937466015	0.0179849	0.331	3.3100E-04	0.000291	-12.1648	12.16476	22.51702
295	293.15	0.980659849	0.0179849	1.37	1.3700E-03	0.000801	-41.4979	41.49792	
295	323.15	0.967246311	0.0179849	0.681	6.8100E-04	0.000521	-23.4834	23.48337	
295	353.15	0.950549276	0.0179849	0.425	4.2500E-04	0.000361	-15.1549	15.15491	
295	373.15	0.937466015	0.0179849	0.34	3.4000E-04	0.000291	-14.4898	14.48981	23.6565
491	293.15	0.980659849	0.0179849	1.37	1.3700E-03	0.000801	-41.4979	41.49792	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
491	323.15	0.967246311	0.0179649	0.691	6.9100E-04	0.000521	-24.5907	24.5907	
491	353.15	0.950549276	0.0179649	0.434	4.3400E-04	0.000361	-16.9144	16.91437	
491	373.15	0.937466015	0.0179649	0.349	3.4900E-04	0.000291	-16.6949	16.69494	24.92448
1	273.15	1.00271436	0	1.792	1.7920E-03	0.001072	-40.1845	40.18447	
1	293.15	0.996489202	0	1.002	1.0020E-03	0.000779	-22.2342	22.23417	
1	323.15	0.984470031	0	0.547	5.4700E-04	0.000513	-6.26678	6.266777	
1	353.15	0.969042628	0	0.355	3.5500E-04	0.000359	1.018659	1.018659	
1	373.15	0.956740762	0	0.282	2.8200E-04	0.000291	3.180891	3.180891	14.57699
99	293.15	0.996489202	0	0.997	9.9700E-04	0.000779	-21.8442	21.84418	
99	323.15	0.984470031	0	0.548	5.4800E-04	0.000513	-6.43782	6.437823	
99	353.15	0.969042628	0	0.357	3.5700E-04	0.000359	0.452728	0.452728	
99	373.15	0.956740762	0	0.284	2.8400E-04	0.000291	2.454265	2.454265	7.797248
295	293.15	0.996489202	0	0.989	9.8900E-04	0.000779	-21.212	21.21197	
295	323.15	0.984470031	0	0.551	5.5100E-04	0.000513	-6.94724	6.947236	
295	353.15	0.969042628	0	0.361	3.6100E-04	0.000359	-0.66032	0.660321	
295	373.15	0.956740762	0	0.288	2.8800E-04	0.000291	1.03129	1.03129	7.462705
491	293.15	0.996489202	0	0.987	9.8700E-04	0.000779	-21.0523	21.05232	
491	323.15	0.984470031	0	0.556	5.5600E-04	0.000513	-7.78404	7.784041	
491	353.15	0.969042628	0	0.366	3.6600E-04	0.000359	-2.01742	2.017421	
491	373.15	0.956740762	0	0.293	2.9300E-04	0.000291	-0.69279	0.692794	7.886645

WATER (1) - n-BUTANOL (2)

Ol - AL

00991 Ling, T. D.; VanWinkle, M.; Ind. Eng. Chem. Chem. Eng. Data Ser., 3(1), 88-95(1958)

P= 1 atm

Water (cP)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	303,15	0.801607882	0	2.25	2.2500E-03	0.002131	-5.29445	5.294449	
	303,15	0.805467641	0.095	2.236	2.2360E-03	0.002294	2.602485	2.602485	
	303,15	0.81350202	0.2526	2.272	2.2720E-03	0.002323	2.261227	2.261227	
	303,15	0.827019891	0.4385	2.42	2.4200E-03	0.002011	-16.9169	16.91694	
	303,15	0.980853871	0.98704	0.968	9.6800E-04	0.000684	-29.3344	29.33441	12.77876
	328,15	0.780519873	0	1.265	1.2650E-03	0.001158	-8.42916	8.429156	
	328,15	0.78452658	0.095	1.237	1.2370E-03	0.001259	1.815106	1.815106	
	328,15	0.79287499	0.2526	1.245	1.2450E-03	0.001312	5.360795	5.360795	
	328,15	0.806946113	0.4385	1.289	1.2890E-03	0.001187	-7.94518	7.945175	
	328,15	0.969308025	0.98704	0.575	5.7500E-04	0.000486	-15.5121	15.5121	7.658293
	348,15	0.762835951	0	0.841	8.4100E-04	0.000771	-8.33446	8.334457	
	348,15	0.766939611	0.095	0.825	8.2500E-04	0.000837	1.399052	1.399052	
	348,15	0.77549649	0.2526	0.822	8.2200E-04	0.000879	6.991477	6.991477	
	348,15	0.789938772	0.4385	0.845	8.4500E-04	0.000815	-3.5013	3.501304	
	348,15	0.958400536	0.98704	0.421	4.2100E-04	0.000381	-9.53262	9.532622	5.356114
	368,15	0.744306881	0	0.579	5.7900E-04	0.000551	-4.92044	4.920438	
	368,15	0.748490249	0.095	0.576	5.7600E-04	0.000592	2.735879	2.735879	
	368,15	0.75721979	0.2526	0.574	5.7400E-04	0.000621	8.175782	8.175782	
	368,15	0.771973312	0.4385	0.584	5.8400E-04	0.000584	8.47E-06	8.47E-06	
	368,15	0.945925054	0.98704	0.325	3.2500E-04	0.000306	-5.88254	5.882545	4.198553

WATER (1) - n-BUTANOL (2)

OI - AL Temp of 50C assumed should be 20C.

00991 Ling, T. D.; VanWinkle, M.; Ind. Eng. Chem. Chem. Eng. Data Ser., 3(1), 88-95(1958)

P= 1 atm

	Water	(cP)	
390.95	0.721964274	0	0.388
		3.8800E-04	0.000405
		4.318659	4.318659

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	383.3	0.731763494	0.05	0.45	4.5000E-04	0.000461	2.523313	2.523313	
	379.07	0.738244356	0.1	0.48	4.8000E-04	0.000504	4.922283	4.922283	
	375.83	0.743922575	0.15	0.506	5.0600E-04	0.00054	6.709728	6.709728	
	373.3	0.749127116	0.2	0.527	5.2700E-04	0.000569	8.004222	8.004222	
	369.6	0.759063365	0.3	0.562	5.6200E-04	0.000604	7.568306	7.568306	
	367.79	0.768710544	0.4	0.584	5.8400E-04	0.000601	2.90384	2.90384	
	366.6	0.779922424	0.5	0.614	6.1400E-04	0.000571	-7.06966	7.069657	
	366.15	0.940247372	0.98	0.349	3.4900E-04	0.000313	-10.3466	10.3466	
	367.2	0.949624625	0.99	0.32	3.2000E-04	0.000309	-3.49433	3.494326	
	369.75	0.953330386	0.995	0.303	3.0300E-04	0.000301	-0.7206	0.720597	
	373.15	0.956740762	1	0.284	2.8400E-04	0.000291	2.454265	2.454265	5.42528

n-BUTANOL (1) - WATER (2)

AL - OI

00695 Dunning, H. N.; Washburn, E. R.; J. Phys. Chem., 56, 235-237(1952)

$P = 1 \text{ atm}$

	n-Butanol	(P)				
298.15	0.994713268	0	0.008937	8.9370E-04	0.000723	-19.0675
298.15	0.993082508	0.0017104	0.00921	9.2100E-04	0.000725	-21.2932
298.15	0.991897746	0.002968	0.00941	9.4100E-04	0.000726	-22.838
298.15	0.991271662	0.0036378	0.00949	9.4900E-04	0.000727	-23.4197
298.15	0.990091214	0.0049105	0.0097	9.7000E-04	0.000728	-24.9476
298.15	0.989467409	0.0055884	0.00981	9.8100E-04	0.000729	-25.7196
298.15	0.987186831	0.0080981	0.01021	1.0210E-03	0.000731	-28.376
298.15	0.98574102	0.0097154	0.01048	1.0480E-03	0.000733	-30.0569
298.15	0.983363528	0.0124203	0.01096	1.0960E-03	0.000736	-32.8489
298.15	0.982383874	0.0135516	0.01114	1.1140E-03	0.000737	-33.8194
298.15	0.981020173	0.0151431	0.01141	1.1410E-03	0.000739	-35.2253
298.15	0.979750797	0.0168422	0.01166	1.1660E-03	0.000741	-36.4635
298.15	0.978665371	0.0179378	0.01185	1.1850E-03	0.000742	-37.3519

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
									29.36332

1-BUTANOL (1) - WATER (2)

AL - OI

00113 Baldauf, W.; Knapp, H.; Ber. Bunsenges. Phys. Chem., 87(4), 304-309(1983)

P= 0.101 MPa

1-Butanol (g/m s)									
283.15	0.999775767	0	1.2872	1.2872E-03	0.00091	-29.3085	29.30846		
283.15	0.9888807	0.0125	1.7528	1.7528E-03	0.00093	-46.934	46.93404		
283.15	0.839672391	0.5924	4.4478	4.4478E-03	0.003351	-24.6566	24.65658		
283.15	0.832727808	0.6895	4.2431	4.2431E-03	0.003723	-12.2532	12.25319		
283.15	0.817772991	1	3.8779	3.8779E-03	0.003743	-3.46862	3.46862		27.94794
293.15	0.996489202	0	1.0098	1.0098E-03	0.000779	-22.8349	22.83486		
293.15	0.985242362	0.0125	1.2678	1.2678E-03	0.000794	-37.3613	37.36131		
293.15	0.832101798	0.5924	3.1975	3.1975E-03	0.002627	-17.8292	17.8292		
293.15	0.825014144	0.6895	3.099	3.0990E-03	0.002884	-6.93328	6.933283		
293.15	0.809763218	1	2.9652	2.9652E-03	0.002802	-5.51555	5.515554		20.70793
303.15	0.992847701	0	0.8122	8.1220E-04	0.000673	-17.1748	17.17485		
303.15	0.981258842	0.0125	0.9802	9.8020E-04	0.000684	-30.2593	30.25932		
303.15	0.824356644	0.5924	2.3899	2.3899E-03	0.002082	-12.8853	12.8853		
303.15	0.817135047	0.6895	2.3258	2.3258E-03	0.00226	-2.83349	2.833493		
303.15	0.801607882	1	2.2936	2.2936E-03	0.002131	-7.09475	7.094747		15.32604
Average Error for Temp.									

k_{ij}	l_{ij}
Total Error for All T_{ei}	1.162946 1.025213

1-BUTANOL (1) - BENZENE (2)

AL - AR

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
00043 Jones, W. J.; Bowden, S. T.; Yarnold, W. W.; Jones, W. H.; J. Phys. Chem., 52, 753-760(1948)									
P= 1 atm									
1-Butanol (cP)									
	298.15	0.873007427	0	0.603	6.0300E-04	0.000602	-0.18328	0.183275	
	298.15	0.869376334	0.0525506	0.604	6.0400E-04	0.000604	-0.00992	0.009918	
	298.15	0.865775322	0.1048197	0.62	6.2000E-04	0.000615	-0.77961	0.779607	
	298.15	0.862204017	0.1568097	0.64	6.4000E-04	0.000635	-0.82455	0.82455	
	298.15	0.858662055	0.2085227	0.664	6.6400E-04	0.000662	-0.27254	0.272541	
	298.15	0.84478051	0.4126493	0.842	8.4200E-04	0.000851	1.08106	1.08106	
	298.15	0.8380067	0.5131072	1.006	1.0060E-03	0.000996	-0.983	0.982995	
	298.15	0.831340657	0.6125173	1.178	1.1780E-03	0.001178	2.78E-10	2.78E-10	
	298.15	0.818321744	0.8082587	1.684	1.6840E-03	0.001666	-1.05082	1.050819	
	298.15	0.805704299	1	2.587	2.5870E-03	0.002438	-5.74646	5.746465	0.625186
%AAD= 1.378775									

n-BUTANOL (1) - BENZENE (2)

AL - AR

00769 Lutskil, A. E.; Obukhova, E. M.; Sidorov, I. A.; J. Gen. Chem. USSR, 28, 2423-2432(1958)

P= 1 atm									
n-Butanol (10-5 P)									
	293.15	0.864036493	0.2	714	7.1400E-03	0.000716	-89.9695	89.9695	
	293.15	0.850235838	0.4	898	8.9800E-03	0.000925	-89.6991	89.69908	
	293.15	0.843394422	0.5	1054	1.0540E-02	0.001088	-89.6801	89.68006	
	293.15	0.836591833	0.6	1279	1.2790E-02	0.001295	-89.874	89.87403	
	293.15	0.823101823	0.8	1920	1.9200E-02	0.001867	-90.2773	90.27727	
	293.15	0.809763218	1	2916	2.9160E-02	0.002802	-90.3921	90.39214	
89.89999									
	303.15	0.854414673	0.2	604	6.0400E-03	0.000604	-89.9833	89.99328	
	303.15	0.840997689	0.4	746	7.4600E-03	0.000757	-89.8568	89.85676	
	303.15	0.834343748	0.5	864	8.6400E-03	0.000877	-89.8527	89.85269	
	303.15	0.827725781	0.6	1021	1.0210E-02	0.00103	-89.9164	89.91637	

Press. (DIPPR)	Temp. (K)	Prod. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{red} (Pa s)	%D	%AD	%AAD
303.15	0.814596609	0.8	0.8	1490	1.4900E-02	0.001449	-90.2784	90.27839	
303.15	0.801607882	1	1	2253	2.2530E-02	0.002131	-90.5421	90.54206	89.9795
308.15	0.862910365	0	0	527	5.2700E-03	0.000526	-90.024	90.024	
308.15	0.849544016	0.2	0.2	562	5.6200E-03	0.000557	-90.0842	90.08424	
308.15	0.8363193	0.4	0.4	687	6.8700E-03	0.000687	-89.9953	89.99528	
308.15	0.829759353	0.5	0.5	791	7.9100E-03	0.000791	-90.0037	90.0037	
308.15	0.823233977	0.6	0.6	924	9.2400E-03	0.000922	-90.018	90.01795	
308.15	0.810285856	0.8	0.8	1335	1.3350E-02	0.001283	-90.3912	90.39124	
308.15	0.797472789	1	1	1974	1.9740E-02	0.00187	-90.5268	90.52683	90.09848
318.15	0.852646212	0	0	464	4.6400E-03	0.000462	-90.0326	90.03263	
318.15	0.839676763	0.2	0.2	490	4.9000E-03	0.000477	-90.2636	90.26361	
318.15	0.826837504	0.4	0.4	584	5.8400E-03	0.000572	-90.2071	90.20708	
318.15	0.820466085	0.5	0.5	662	6.6200E-03	0.000649	-90.1964	90.19645	
318.15	0.814126485	0.6	0.6	761	7.6100E-03	0.000747	-90.1788	90.17882	
318.15	0.801541794	0.8	0.8	1062	1.0620E-02	0.001017	-90.4246	90.42464	
318.15	0.789081556	1	1	1539	1.5390E-02	0.001459	-90.5208	90.52076	90.25412

1-BUTANOL (1) - BENZENE (2)

AL - AR

01797 Lutskil, A. E.; Obukhova, E. M.; Zh. Fiz. Khim., 31(8), 1693-1703(1957)

P= 0.1013 MPa

		1-Butanol (g/m s)							
293.15	0.864036493	0.2	0.2	0.714	7.1400E-04	0.000716	0.305029	0.305029	
298.15	0.85924509	0.2	0.2	0.655	6.5500E-04	0.000657	0.323091	0.323091	
308.15	0.849544016	0.2	0.2	0.562	5.6200E-04	0.000557	-0.84245	0.842448	0.490189
293.15	0.843394422	0.5	0.5	1.054	1.0540E-03	0.001088	3.199386	3.199386	
308.15	0.829759353	0.5	0.5	0.791	7.9100E-04	0.000791	-0.03698	0.036984	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
									1.618175
BUTYL ALCOHOL (1) - BENZENE (2)									
AL - AR									
00770 Dubrovskii, S. M.; Afonina, K. V.; J. Gen. Chem. USSR, 36, 1868-1870(1966)									
P= 1 atm									
Butyl Alcoho (cP)									
	298.15	0.873007427	0	0.595	6.9500E-04	0.000602	1.158798	1.158798	
	298.15	0.858168501	0.2157405	0.657	6.5700E-04	0.000667	1.469855	1.469855	
	298.15	0.845053741	0.4086089	0.824	8.2400E-04	0.000846	2.674139	2.674139	
	298.15	0.831936255	0.6036129	1.119	1.1190E-03	0.00116	3.668987	3.668987	
	298.15	0.818321744	0.8082587	1.71	1.7100E-03	0.001666	-2.55531	2.55531	
	298.15	0.805704299	1	2.525	2.5250E-03	0.002438	-3.43212	3.43212	2.592073
	308.15	0.862910365	0	0.517	5.1700E-04	0.000526	1.689582	1.689582	
	308.15	0.84849809	0.2157405	0.584	5.6400E-04	0.000564	-0.00043	0.000435	
	308.15	0.835753192	0.4086089	0.691	6.9100E-04	0.000695	0.603144	0.603144	
	308.15	0.822998865	0.6036129	0.911	9.1100E-04	0.000928	1.828208	1.828208	
	308.15	0.809754098	0.8082587	1.353	1.3530E-03	0.001301	-3.84122	3.841218	
	308.15	0.797472789	1	1.962	1.9620E-03	0.00187	-4.68893	4.68893	1.568251
Average Error for Temp.									
Total Error for All Tei									
k/lj ilj									
0.863362 1.166386									
CUMENE (1) - BUTANOL (2)									
BR - AL									
00326 Rattan, V. K.; Singh, S.; Sethi, B. P. S.; Raju, K. S. N.; Indian J. Technol., 25, 253-258(1987)									
P= 1 atm									
Cumene (cP)									
	298.15	0.805704299	0	2.564	2.5640E-03	0.002438	-4.90098	4.900977	%AAD= 3.398737

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	298.15	0.813342695	0.0989	2.0688	2.0688E-03	0.001955	-5.51083	5.510829	
	298.15	0.819367423	0.1844	1.7227	1.7227E-03	0.001755	1.863988	1.863988	
	298.15	0.82602412	0.2877	1.4172	1.4172E-03	0.001483	4.649443	4.649443	
	298.15	0.832259334	0.3941	1.1879	1.1879E-03	0.00122	2.6968	2.6968	
	298.15	0.838879602	0.5189	1.0011	1.0011E-03	0.001001	0.00403	0.00403	
	298.15	0.845340779	0.6544	0.8693	8.6930E-04	0.00088	1.285065	1.285065	
	298.15	0.851404021	0.796	0.7776	7.7760E-04	0.000857	10.24959	10.24959	
	298.15	0.859105435	1	0.7314	7.3140E-04	0.001087	48.60559	48.60559	3.751392
	308.15	0.797472789	0	1.9999	1.9999E-03	0.00187	-6.49516	6.495165	
	308.15	0.805083225	0.0989	1.6567	1.6567E-03	0.001488	-10.1933	10.19327	
	308.15	0.811086748	0.1844	1.3976	1.3976E-03	0.001334	-4.51712	4.517123	
	308.15	0.81772059	0.2877	1.135	1.1350E-03	0.001135	-9.8E-05	9.78E-05	
	308.15	0.823935052	0.3941	0.9456	9.4560E-04	0.000944	-0.12794	0.127941	
	308.15	0.830533978	0.5189	0.8025	8.0250E-04	0.000788	-1.84993	1.849929	
	308.15	0.836975013	0.6544	0.7291	7.2910E-04	0.000706	-3.12662	3.126624	
	308.15	0.843019971	0.796	0.7157	7.1570E-04	0.000705	-1.50759	1.507594	
	308.15	0.850699025	1	0.6366	6.3660E-04	0.000938	47.36102	47.36102	3.046083
Average Error for Temp.									
Total Error for All Temp									
%AAD= 1.731455									

1-BUTANOL (1) - ETHYLBENZENE (2)

AL - AR

00357 Fermegilla, M.; Lapasin, R.; J. Chem. Eng. Data, 33(4), 415-417(1988)

P= 1 atm

	1-Butanol	(mPa s)	
298.15	0.805704299	1	2.578
298.15	0.811795327	0.9191	2.126
298.15	0.817870728	0.8339	1.756
298.15	0.824149836	0.7407	1.435

298.15	0.805704299	1	2.578	2.5780E-03	0.002438	-5.41742	5.417418
298.15	0.811795327	0.9191	2.126	2.1260E-03	0.001991	-6.33927	6.339267
298.15	0.817870728	0.8339	1.756	1.7560E-03	0.001673	-4.72353	4.723533
298.15	0.824149836	0.7407	1.435	1.4350E-03	0.00141	-1.72421	1.72421

Total Error for All Temp 0.517196 1.563342

%AAD= 1.731455

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	298.15	0.83058882	0.6392	1.183	1.1830E-03	0.001184	0.10176	0.10176	
	298.15	0.836890355	0.5335	0.999	9.9900E-04	0.000999	0.000742	0.000742	
	298.15	0.843049778	0.4235	0.849	8.4900E-04	0.000853	0.443514	0.443514	
	298.15	0.850025872	0.2901	0.735	7.3500E-04	0.000731	-0.51855	0.518552	
	298.15	0.856321664	0.1608	0.666	6.6600E-04	0.000666	-6E-05	5.97E-05	
	298.15	0.8635796	0	0.627	6.2700E-04	0.000661	5.380426	5.380426	
Average Error for Temp.								1.731455	
Total Error for All T_{oi}								k_{ij}	l_{ij}
								0.83255	1.164641

1-BUTANOL (1) - P-XYLENE (2)

AL - BR

00357 Fermeglia, M.; Lapasin, R.; J. Chem. Eng. Data, 33(4), 415-417(1988)

P= 1 atm

1-Butanol		(mPa s)						
298.15	0.805704299	1	2.578	2.5780E-03	0.002438	-5.41742	5.417418	
298.15	0.820408509	0.7688	1.493	1.4930E-03	0.001441	-3.49681	3.496809	
298.15	0.824753977	0.6932	1.275	1.2750E-03	0.001255	-1.57078	1.570783	
298.15	0.830626532	0.585	1.047	1.0470E-03	0.001047	1.36E-07	1.36E-07	
298.15	0.834931421	0.5009	0.914	9.1400E-04	0.000921	0.789331	0.789331	
298.15	0.839958193	0.3971	0.797	7.9700E-04	0.0008	0.40563	0.40563	
298.15	0.845942549	0.2649	0.692	6.9200E-04	0.000691	-0.12984	0.129843	
298.15	0.850782974	0.1504	0.636	6.3600E-04	0.000631	-0.79483	0.794832	
298.15	0.856707144	0	0.604	6.0400E-04	0.000596	-1.29369	1.293694	
Average Error for Temp.							1.026747	

Total Error for All T_{oi} **k_{ij}** **l_{ij}**
0.882335 7.18723 1.094737

TOLUENE (1) - BUTYL ALCOHOL (2)

AR - AL

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{red} (Pa.s)	%D	%AD	%AAD
01002 Lilkenhous, E. E.; VanArsdale, J. D.; Hutchison, I. W.; J. Phys. Chem., 44, 377-387(1940)									
P=		1 atm		(Poise)		%AAD= 1.300717			
		Toluene							
	298,15	0.805704299	0	0.02463	2.4630E-03	0.002438	-1.00126	1.00126	
	298,15	0.811171614	0.0820499	0.0212	2.1200E-03	0.00202	-4.73021	4.730207	
	298,15	0.816713635	0.1674392	0.0173	1.7300E-03	0.001706	-1.40897	1.408967	
	298,15	0.822331905	0.2563762	0.01441	1.4410E-03	0.001441	-0.02031	0.020315	
	298,15	0.828028007	0.3490866	0.01199	1.1990E-03	0.001209	0.794185	0.794185	
	298,15	0.833803572	0.4458158	0.00997	9.9700E-04	0.001008	1.088018	1.088018	
	298,15	0.839660272	0.5468308	0.0084	8.4000E-04	0.000841	0.15332	0.15332	
	298,15	0.84559983	0.6524229	0.00715	7.1500E-04	0.000711	-0.60431	0.604313	
	298,15	0.851624016	0.7629105	0.00635	6.3500E-04	0.000617	-2.90712	2.90712	
	298,15	0.857734654	0.8786421	0.0056	5.6000E-04	0.00056	4.27E-06	4.27E-06	
	298,15	0.863933615	1	0.00551	5.5100E-04	0.000548	-0.63166	0.631657	
Average Error for Temp.									1.300717
Total Error for All Temp.									1.203352

n-BUTANOL (1) - PENTANE (2)

AL - AA

00563 Bamells, P.; Huyskens, P.; Meeussen, E.; J. Chim. Phys. Phys. Chim. Biol., 62, 158-170(1965)

P=	1 atm	<i>n</i> -Butanol	(cP)			%AAD=
283.15	0.817772991	1	3.805	3.8050E-03	0.003743	-1.61917
283.15	0.789025081	0.869	2.674	2.6740E-03	0.002584	-3.3616
283.15	0.773384632	0.7941	2.061	2.0610E-03	0.002072	0.53573
283.15	0.752418559	0.6892	1.448	1.4480E-03	0.001497	3.353254
283.15	0.733185392	0.5883	1.073	1.0730E-03	0.001082	0.799217
283.15	0.715901231	0.4935	0.816	8.1600E-04	0.000797	-2.29948
283.15	0.702562177	0.4175	0.607	6.0700E-04	0.00063	3.715545
283.15	0.673630848	0.2435	0.381	3.8100E-04	0.000392	2.766652

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	283.15	0.654852812	0.1233	0.3	3.0000E-04	0.000307	2.301951	2.301951	
	283.15	0.636530197	0	0.251	2.5100E-04	0.000264	5.093284	5.093284	2.39168
	298.15	0.805704299	1	2.583	2.5830E-03	0.002438	-5.6005	5.600505	
	298.15	0.776312425	0.869	1.832	1.8320E-03	0.001731	-5.49183	5.491831	
	298.15	0.760365721	0.7941	1.44	1.4400E-03	0.001414	-1.8304	1.830405	
	298.15	0.739002614	0.6892	1.042	1.0420E-03	0.00105	0.764685	0.764685	
	298.15	0.71945212	0.5883	0.809	8.0900E-04	0.000782	-3.36916	3.36916	
	298.15	0.701913349	0.4935	0.609	6.0900E-04	0.000594	-2.48126	2.481261	
	298.15	0.688397531	0.4175	0.481	4.8100E-04	0.000481	-7.1E-05	7.07E-05	
	298.15	0.659141721	0.2435	0.319	3.1900E-04	0.000317	-0.57702	0.577015	
	298.15	0.640196107	0.1233	0.258	2.5800E-04	0.000258	-0.00197	0.001969	
	298.15	0.621742523	0	0.219	2.1900E-04	0.000229	4.509248	4.509248	1.81455
<i>Average Error for Temp.</i>									
<i>Total Error for All Tei</i>									
<i>k_{ij} l_{ij}</i>									
<i>0.888517 1.283307</i>									

n-BUTANOL (1) - CYCLOHEXANE (2)

AL - CA

00563 Bamells, P.; Huyskens, P.; Maeussens, E.; J. Chim. Phys. Phys. Chim. Biol., 62, 158-170(1965)

P= 1 atm

%AAD= 1.384211

n-Butanol (cP)

298.15	0.805704299	1	2.583	2.5830E-03	0.002438	-5.6005	5.600505
298.15	0.799654335	0.8385	2.07	2.0700E-03	0.002044	-1.27504	1.275042
298.15	0.795180975	0.7128	1.752	1.7520E-03	0.001776	1.379066	1.379066
298.15	0.789079666	0.532	1.357	1.3570E-03	0.001417	4.451544	4.451544
298.15	0.783837083	0.3673	1.09	1.0900E-03	0.001149	5.423335	5.423335
298.15	0.778197872	0.1796	0.931	9.3100E-04	0.000945	1.52103	1.52103
298.15	0.7774837	0.155	0.921	9.2100E-04	0.000928	0.742209	0.742209
298.15	0.776500043	0.1208	0.903	9.0300E-04	0.000908	0.534872	0.534872
298.15	0.77509781	0.0714	0.887	8.8700E-04	0.000888	0.11188	0.11188

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	298.15	0.773706018	0.0216	0.876	8.7600E-04	0.00088	0.4836	0.4836	
	298.15	0.773109026	0	0.889	8.8900E-04	0.000881	-0.87218	0.872182	1.830942
	308.15	0.797472789	1	2.015	2.0150E-03	0.00187	-7.19587	7.195871	
	308.15	0.791265836	0.8385	1.627	1.6270E-03	0.00158	-2.88202	2.882025	
	308.15	0.786678604	0.7128	1.387	1.3870E-03	0.001387	-0.00014	0.000141	
	308.15	0.780425005	0.532	1.089	1.0890E-03	0.001128	3.570491	3.570491	
	308.15	0.77505435	0.3673	0.898	8.9800E-04	0.000934	3.996019	3.996019	
	308.15	0.769280247	0.1796	0.787	7.8700E-04	0.000789	0.306017	0.306017	
	308.15	0.768549203	0.155	0.779	7.7900E-04	0.000778	-0.15086	0.150856	
	308.15	0.767542386	0.1208	0.765	7.6500E-04	0.000765	-2.6E-05	2.6E-05	
	308.15	0.766107295	0.0714	0.754	7.5400E-04	0.000754	-0.0198	0.0198	
	308.15	0.764683072	0.0216	0.745	7.4500E-04	0.000753	1.037871	1.037871	
	308.15	0.764072224	0	0.763	7.6300E-04	0.000756	-0.92945	0.929451	1.135153
	318.15	0.789081556	1	1.589	1.5890E-03	0.001459	-8.19038	8.190379	
	318.15	0.782717579	0.8385	1.298	1.2980E-03	0.001239	-4.5128	4.512801	
	318.15	0.77801662	0.7128	1.114	1.1140E-03	0.001098	-1.48058	1.480583	
	318.15	0.771611159	0.532	0.895	8.9500E-04	0.000908	1.498824	1.498824	
	318.15	0.766113006	0.3673	0.754	7.5400E-04	0.000768	1.790706	1.790706	
	318.15	0.760204839	0.1796	0.672	6.7200E-04	0.000666	-0.90722	0.907225	
	318.15	0.759457044	0.155	0.664	6.6400E-04	0.000658	-0.83607	0.836069	
	318.15	0.758427239	0.1208	0.652	6.5200E-04	0.000651	-0.18933	0.189326	
	318.15	0.756959545	0.0714	0.645	6.4500E-04	0.000646	0.119509	0.119509	
	318.15	0.755503155	0.0216	0.643	6.4300E-04	0.000649	0.967833	0.967833	
	318.15	0.75487857	0	0.655	6.5500E-04	0.000654	-0.17957	0.179565	0.973759
	328.15	0.780519873	1	1.269	1.2690E-03	0.001158	-8.7178	8.717795	
	328.15	0.773998765	0.8385	1.047	1.0470E-03	0.000987	-5.76748	5.767485	
	328.15	0.769184182	0.7128	0.909	9.0900E-04	0.00088	-3.17396	3.173959	
	328.15	0.762627242	0.532	0.743	7.4300E-04	0.000741	-0.3291	0.329098	
	328.15	0.757002139	0.3673	0.638	6.3800E-04	0.000638	-0.0348	0.034795	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	328.15	0.750960717	0.1796	0.577	5.7700E-04	0.000567	-1.70062	1.70062	
	328.15	0.749143665	0.1208	0.562	5.6200E-04	0.000559	-0.58891	0.588907	
	328.15	0.74764362	0.0714	0.558	5.5800E-04	0.000558	0.004448	0.004448	
	328.15	0.746155329	0.0216	0.558	5.5800E-04	0.000565	1.176596	1.176596	
	328.15	0.745517123	0	0.568	5.6800E-04	0.00057	0.363093	0.363093	
Average Error for Temp.									1.596988
Total Error for All Tei									0.869525
k_{ij}									1.220875

NAPHTHALENE (1) - 1-BUTANOL (2)

DR - AL

01235 Chatterji, A. C.; Bose, A. N.; J. Indian Chem. Soc., 25, 39-42(1948)

P= 0.101 MPa

%AAD= 1.226148

		Naphthalene		(g/m s)					
303.15	0.824269009	0.079576	2.076	2.0760E-03	0.002077	0.032617	0.032617		
308.15	0.820147376	0.079576	1.848	1.8480E-03	0.00183	-0.95164	0.951644		
313.15	0.815987216	0.079576	1.633	1.6330E-03	0.001619	-0.83282	0.832823		
318.15	0.811787272	0.079576	1.461	1.4610E-03	0.001438	-1.56337	1.56337		
323.15	0.807546219	0.079576	1.312	1.3120E-03	0.001282	-2.27728	2.277277		
									1.131546
308.15	0.830484783	0.117395	1.796	1.7960E-03	0.001817	1.180792	1.180792		
313.15	0.826333857	0.117395	1.601	1.6010E-03	0.001611	0.628716	0.628716		
318.15	0.82214388	0.117395	1.427	1.4270E-03	0.001433	0.450453	0.450453		
323.15	0.817913555	0.117395	1.28	1.2800E-03	0.00128	3.59E-08	3.59E-08		
									0.56499

NAPHTHALENE (1) - 1-BUTANOL (2)

DR - AL

01236 Bose, A. N.; J. Indian Chem. Soc., 25, 33-38(1948)

P= 0.101 MPa

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
<i>Naphthalene</i>									
	313.15	0.811896105	0.064893	1.67	1.6700E-03	0.001623	-2.79806	2.798058	
	313.15	0.815987216	0.079576	1.633	1.6330E-03	0.001619	-0.83282	0.832823	
	313.15	0.820341267	0.09537	1.624	1.6240E-03	0.001616	-0.51222	0.512216	
	313.15	0.826333857	0.117395	1.601	1.6010E-03	0.001611	0.628716	0.628716	
	313.15	0.833351764	0.143621	1.567	1.5670E-03	0.001606	2.495923	2.495923	1.453547
	323.15	0.803447819	0.064893	1.33	1.3300E-03	0.001284	-3.49044	3.490436	
	323.15	0.807546219	0.079576	1.312	1.3120E-03	0.001282	-2.27728	2.277277	
	323.15	0.811908584	0.09537	1.3	1.3000E-03	0.001281	-1.46216	1.462162	
	323.15	0.817913555	0.117395	1.28	1.2800E-03	0.00128	3.59E-08	3.59E-08	
	323.15	0.824947341	0.143621	1.26	1.2600E-03	0.001279	1.542663	1.542663	1.754508
<i>Average Error for Temp.</i>									
<i>Total Error for All Temp.</i>							<i>k_{ij}</i>	<i>l_{ij}</i>	
							0.9062	1.069413	

METHYLCYCLOHEXANE (1) - 1-BUTANOL (2)

HA - AL

01527 Rao, M. V. P.; Naidu, P. R.; Indian J. Chem., Sect. A (15), 239-242(1977)

P= 0.1013 MPa

%AAD= 1.177223

Methylcyclohex									
(g/m s)									
303.15	0.801607882	0	2.24	2.2400E-03	0.002131	-4.87166	4.871657		
303.15	0.796239332	0.1	1.825	1.8250E-03	0.001775	-2.73019	2.730189		
303.15	0.788429973	0.2604	1.383	1.3830E-03	0.001364	-1.40852	1.408518		
303.15	0.781500672	0.42	1.072	1.0720E-03	0.001072	0.003923	0.003923		
303.15	0.775310821	0.5788	0.854	8.5400E-04	0.000864	1.209213	1.209213		
303.15	0.769594339	0.7414	0.719	7.1900E-04	0.000719	0.002137	0.002137		
303.15	0.764500176	0.9013	0.643	6.4300E-04	0.000632	-1.70936	1.709357		
303.15	0.761585695	1	0.637	6.3700E-04	0.000604	-5.20054	5.200537		
Average Error for Temp.									
1.177223									

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
									<i>klj</i> <i>llj</i>
Total Error for All Tei									0.932434 1.093336

ISO-BUTANOL (1) - n-BUTANOL (2)

AL - AL

(From Irving, NEL Report, 1977 - Trew, 1933)

P= 0.101 MPa

%AAD= 1.714762

		<i>IsoButanol</i>		(cP)					
298.15	0.805704299	0	2.557	2.5570E-03	0.002438	-4.64064	4.640635		
298.15	0.804905328	0.1	2.61	2.6100E-03	0.002535	-2.86565	2.865655		
298.15	0.80410794	0.2	2.665	2.6650E-03	0.002632	-1.24955	1.249548		
298.15	0.80331213	0.3	2.725	2.7250E-03	0.002725	-3.5E-05	3.52E-05		
298.15	0.802517893	0.4	2.79	2.7900E-03	0.002812	0.793193	0.793193		
298.15	0.801725226	0.5	2.86	2.8600E-03	0.00289	1.050078	1.050078		
298.15	0.800934123	0.6	2.935	2.9350E-03	0.002956	0.703939	0.703939		
298.15	0.800144579	0.7	3.02	3.0200E-03	0.003006	-0.45968	0.459676		
298.15	0.799356591	0.8	3.112	3.1120E-03	0.003039	-2.35181	2.351814		
298.15	0.798570153	0.9	3.245	3.2450E-03	0.003052	-5.95892	5.958923		
298.15	0.797785261	1	3.556	3.5560E-03	0.003043	-14.4223	14.4225		
Average Error for Temp.									1.714762

Total Error for All Tei	<i>klj</i> <i>llj</i>
15.43286	0.9857 1.033027

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
n-HEXANE (1) - ISOBUTANOL [2-Methyl-1-Propanol] (2)									
AA - OL									
00309 Rajkumar, X. R.; Raman, K. V.; Arulraj, S. J.; Indian. J. Pure Appl. Phys., 22, 241-243(1984)									
P=			1 atm					%AAD=	1.362197
			<i>n-Hexane</i>	(cP)					
			0	2.54	2.5400E-03	0.00258	1.565579	1.565579	
303.15	0.793648258		0.1512	1.479	1.4790E-03	0.001447	-2.14328	2.143276	
303.15	0.7650113		0.3018	0.932	9.3200E-04	0.00091	-2.39787	2.397874	
303.15	0.739671574		0.4515	0.621	6.2100E-04	0.000625	0.71203	0.71203	
303.15	0.717133918		0.5985	0.46	4.6000E-04	0.000466	1.303984	1.303984	
303.15	0.697191037		0.7483	0.37	3.7000E-04	0.00037	-0.00077	0.000768	
303.15	0.67876286		0.8984	0.319	3.1900E-04	0.000314	-1.61525	1.615248	
303.15	0.662013792		1	0.3	3.0000E-04	0.000291	-2.88824	2.888244	
303.15	0.651502859								
							Average Error for Temp.		1.362197
							Total Error for All T _{o,i}	8.173181	0.948782
							kij	ljj	1.023374

CYCLOHEXANE (1) - ISOBUTANOL (2)									
CA - OL									
00309 Rajkumar, X. R.; Raman, K. V.; Arulraj, S. J.; Indian. J. Pure Appl. Phys., 22, 241-243(1984)									
P= 1 atm									
		Cyclohexane		(cP)		%AAD=			
303.15	0.793648258	0	2.54	2.5400E-03	0.00258	1.565579	1.565579	0.91237	
303.15	0.789397752	0.1485	1.976	1.9760E-03	0.001938	-1.91225	1.912249		
303.15	0.785314465	0.2985	1.513	1.5130E-03	0.001513	-3.1E-05	3.06E-05		
303.15	0.781351388	0.4515	1.185	1.1850E-03	0.00119	0.443908	0.443908		
303.15	0.777563223	0.6051	0.962	9.6200E-04	0.000962	-0.00147	0.001472		
303.15	0.774343775	0.7417	0.839	8.3900E-04	0.000836	-0.3842	0.384201		
303.15	0.77081892	0.8981	0.762	7.6200E-04	0.000783	2.73236	2.73236		
303.15	0.768609593	1	0.751	7.5100E-04	0.000815	8.56306	8.56306		
								Average Error for Temp.	
								0.91237	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
n-HEPTANE (1) - ISOBUTANOL (2)									
AA - OL									
00309 Rajkumar, X. R.; Raman, K. V.; Arulraj, S. J.; Indian. J. Pure Appl. Phys., 22, 241-243(1984)									
P= 1 atm									
<i>n-Heptane</i>									
				(cP)					%AAD= 1.686773
	303.15	0.793648258	0	2.54	2.5400E-03	0.00258	1.565579	1.565579	
	303.15	0.768026565	0.1513	1.552	1.5520E-03	0.001514	-2.46127	2.461274	
	303.15	0.746386411	0.3016	1.023	1.0230E-03	0.001006	-1.65461	1.654612	
	303.15	0.727798504	0.4515	0.724	7.2400E-04	0.000732	1.104345	1.104345	
	303.15	0.71153868	0.6022	0.562	5.6200E-04	0.00057	1.453412	1.453412	
	303.15	0.698653881	0.7374	0.478	4.7800E-04	0.000478	-0.00011	0.000107	
	303.15	0.685051287	0.8984	0.421	4.2100E-04	0.000406	-3.446889	3.446886	
	303.15	0.677298453	1	0.403	4.0300E-04	0.000375	-6.86493	6.864926	
<i>Average Error for Temp.</i>									
1.686773									
<i>Total Error for All Tei</i>									
kij 0.849232 1.162028									

n-HEPTANE (1) - ISOBUTANOL (2)

AA - OL

00309 Rajkumar, X. R.; Raman, K. V.; Arulraj, S. J.; Indian. J. Pure Appl. Phys., 22, 241-243(1984)

P= 1 atm

n-Heptane

				(cP)					%AAD= 1.686773
	303.15	0.793648258	0	2.54	2.5400E-03	0.00258	1.565579	1.565579	
	303.15	0.768026565	0.1513	1.552	1.5520E-03	0.001514	-2.46127	2.461274	
	303.15	0.746386411	0.3016	1.023	1.0230E-03	0.001006	-1.65461	1.654612	
	303.15	0.727798504	0.4515	0.724	7.2400E-04	0.000732	1.104345	1.104345	
	303.15	0.71153868	0.6022	0.562	5.6200E-04	0.00057	1.453412	1.453412	
	303.15	0.698653881	0.7374	0.478	4.7800E-04	0.000478	-0.00011	0.000107	
	303.15	0.685051287	0.8984	0.421	4.2100E-04	0.000406	-3.446889	3.446886	
	303.15	0.677298453	1	0.403	4.0300E-04	0.000375	-6.86493	6.864926	

Average Error for Temp.

1.686773

Total Error for All Tei 0.967832 0.982363

ISOBUTYL ALCOHOL (1) - WATER (2)

OL - Ol

00550 Traube, J.; Ber. Dtsch. Chem. Ges., 19, 871-892(1886)

P= 1 atm

isoButyl Alcol

				(P)					%AAD= 14.33729
	293.15	0.991675803	0.0049356	0.01124	1.1240E-03	0.000838	-25.4259	25.42591	
	293.15	0.986908682	0.0100253	0.01222	1.2220E-03	0.000903	-26.0876	26.08758	
	293.15	0.982187175	0.0152764	0.01332	1.3320E-03	0.000975	-26.8071	26.80709	
	293.15	0.977510628	0.0206967	0.01453	1.4530E-03	0.001054	-27.4467	27.44672	
	293.15	0.801880686	1	0.04008	4.0080E-03	0.00361	-9.93336	9.933356	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
0.02	303.15	0.987888656	0.0049356	0.00899	8.9900E-04	0.000722	-19.6948	19.69481	26.44183
0.04	303.15	0.982978903	0.0100253	0.00967	9.6700E-04	0.000776	-19.7399	19.73992	
0.06	303.15	0.978117712	0.0152764	0.0104	1.0400E-03	0.000836	-19.6336	19.63363	
0.08	303.15	0.973304364	0.0206967	0.01119	1.1190E-03	0.000902	-19.4189	19.41895	
1	303.15	0.793648258	1	0.02982	2.9820E-03	0.00258	-13.4887	13.48874	19.62183
0.02	313.15	0.983742562	0.0049356	0.00721	7.2100E-04	0.000627	-13.1029	13.10287	
0.04	313.15	0.97869358	0.0100253	0.00767	7.6700E-04	0.000672	-12.393	12.39299	
0.06	313.15	0.973696162	0.0152764	0.00815	8.1500E-04	0.000722	-11.42	11.42001	
1	313.15	0.785243875	1	0.02186	2.1860E-03	0.001887	-13.6781	13.67814	12.30529
0.02	323.15	0.979229659	0.0049356	0.00604	6.0400E-04	0.000548	-9.33559	9.335593	
0.04	323.15	0.97404478	0.0100253	0.00642	6.4200E-04	0.000586	-8.73865	8.738653	
0.06	323.15	0.968914518	0.0152764	0.00675	6.7500E-04	0.000628	-6.96711	6.967112	
1	323.15	0.776655449	1	0.01663	1.6630E-03	0.001415	-14.8991	14.89905	8.34712
0.02	333.15	0.974341568	0.0049356	0.00516	5.1600E-04	0.000482	-6.61407	6.614066	
0.04	333.15	0.969024007	0.0100253	0.00542	5.4200E-04	0.000514	-5.10998	5.109983	
0.06	333.15	0.963764173	0.0152764	0.00568	5.6800E-04	0.00055	-3.18713	3.187134	
1	333.15	0.76786945	1	0.01279	1.2790E-03	0.00109	-14.7891	14.78906	4.970394
Average Error for Temp.									
Total Error for All T_{oi}							261.123	k_{ij}	1.5
								l_{ij}	1.5

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
TERT-BUTYL ALCOHOL (1) - WATER (2)									
OL - Ol (aka. 2-Methyl-2-Propanol)									
00330 Broadwater, T. L.; Kay, R. L.; J. Phys. Chem., 74(21), 3802-3812(1970)									
P= 1 atm									
<i>tert-Butyl Alco., (10-2 Poise)</i>									
298.15	0.974344226	0.02	1.315	1.3150E-03	0.000848	-35.4961	35.49605		
298.15	0.957162563	0.0397	1.85	1.8500E-03	0.000981	-46.9923	46.99225		
298.15	0.941844575	0.06	2.379	2.3790E-03	0.001126	-52.6872	52.68716		
298.15	0.928796881	0.0798	2.818	2.8180E-03	0.001274	-54.7848	54.78482		
298.15	0.916522781	0.101	3.238	3.2380E-03	0.00144	-55.5202	55.52016		
298.15	0.907691189	0.1181	3.532	3.5320E-03	0.001579	-55.2928	55.29279		
298.15	0.897769903	0.1395	3.842	3.8420E-03	0.001759	-54.2282	54.22821		
298.15	0.888916622	0.1609	4.176	4.1760E-03	0.001944	-53.4381	53.43813		
298.15	0.875633736	0.198	4.441	4.4410E-03	0.002282	-48.6112	48.61118		
298.15	0.848002608	0.3027	4.984	4.9840E-03	0.00334	-32.9759	32.9759		
298.15	0.817267397	0.5001	4.811	4.8110E-03	0.005239	8.889172	8.889172		
298.15	0.799514128	0.6976	4.409	4.4090E-03	0.005097	15.59404	15.59404		
298.15	0.793372123	0.7931	4.254	4.2540E-03	0.00438	2.955232	2.955232		
298.15	0.787302933	0.9088	4.222	4.2220E-03	0.003919	-7.16727	7.167273		
298.15	0.785772482	0.9422	4.288	4.2880E-03	0.004005	-6.59937	6.599368		
298.15	0.78441916	0.9734	4.408	4.4080E-03	0.004228	-4.0935	4.093499		
298.15	0.783319291	1	4.52	4.5200E-03	0.004561	0.914942	0.914942		33.45783

2-METHYL-2-PROPANOL [tert-Butanol] (1) - WATER (2)

OL - Ol Absolute viscosities calculated from measured kinematic viscosities and densities
Kentamaa, J.; Tommila, E.; Martti, M. Ann. Acad. Sci. Fenn. 93A, 3, 1959.

02559 Velo, E.; Puljaner, L.; Recasens, F.; J. Chem. Eng. Data, 36, 55-7(1991)

P= 1 atm									
<i>tert-Butyl Alco,mPa s or Pa s?</i>									
303	0.992904981	0	0.793	7.9300E-04	0.000674	-14.9871	14.98715		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	313	0.988906678	0	0.646	6.4600E-04	0.000586	-9.22838	9.228377	
	323	0.984538413	0	0.553	5.5300E-04	0.000514	-7.10445	7.104452	
	333	0.979791932	0	0.449	4.4900E-04	0.000453	0.913681	0.913681	8.058415
	303	0.983326685	0.0088	0.941	9.4100E-04	0.000722	-23.2244	23.22442	
	313	0.978888901	0.0088	0.765	7.6500E-04	0.000625	-18.2615	18.26148	
	323	0.974096775	0.0088	0.627	6.2700E-04	0.000545	-13.0545	13.05455	
	333	0.968910779	0.0088	0.503	5.0300E-04	0.000479	-4.86182	4.861819	14.85057
	303	0.974122361	0.0179	1.111	1.1110E-03	0.000774	-30.3177	30.31767	
	313	0.969290874	0.0179	0.887	8.8700E-04	0.000667	-24.8292	24.8292	
	323	0.96408185	0.0179	0.717	7.1700E-04	0.000578	-19.3174	19.31738	
	333	0.958484628	0.0179	0.567	5.6700E-04	0.000505	-10.8605	10.86047	21.33118
	303	0.951936369	0.0429	1.652	1.6520E-03	0.000925	-44.037	44.03701	
	313	0.946168016	0.0429	1.25	1.2500E-03	0.000786	-37.1031	37.10312	
	323	0.940018351	0.0429	0.936	9.3600E-04	0.000674	-28.0227	28.02265	
	333	0.933474296	0.0429	0.74	7.4000E-04	0.000582	-21.4161	21.41607	32.64471
	303	0.943914557	0.0532	1.867	1.8670E-03	0.00099	-46.9966	46.99656	
	313	0.937820037	0.0532	1.465	1.4650E-03	0.000837	-42.8388	42.83884	
	323	0.931344148	0.0532	1.023	1.0230E-03	0.000714	-30.1914	30.19144	
	333	0.924473042	0.0532	0.804	8.0400E-04	0.000614	-23.6876	23.6876	35.92861

t-BUTANOL (1) - WATER (2)

OL - OI

01844 Kenttamaa, J.; Tommila, E.; Martti, M.; Ann. Acad. Sci. Fenn. Ser. A2, 93, 1-20(1959)

P= 1 atm

t-Butanol (10-2 P)

298.15	0.994713268	0	0.8941	8.9410E-04	0.000723	-19.1037	19.10371
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Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	298.15	0.968212304	0.0267	1.46	1.4600E-03	0.000892	-38.8849	38.8849	
	298.15	0.928982381	0.0795	2.7	2.7000E-03	0.001272	-52.8939	52.89394	
	298.15	0.898604874	0.1376	3.61	3.6100E-03	0.001742	-51.7352	51.73522	
	298.15	0.864467686	0.235	4.44	4.4400E-03	0.002639	-40.5572	40.55717	
	298.15	0.842476118	0.33	4.66	4.6600E-03	0.003635	-21.9964	21.99642	
	298.15	0.831473598	0.3935	4.67	4.6700E-03	0.004314	-7.61274	7.612741	
	298.15	0.816836475	0.5039	4.55	4.5500E-03	0.005262	15.64458	15.64458	
	298.15	0.807239873	0.6	4.37	4.3700E-03	0.005513	26.15035	26.15035	
	298.15	0.799309188	0.7005	4.19	4.1900E-03	0.005077	21.15798	21.15798	
	298.15	0.793064453	0.7984	4.05	4.0500E-03	0.004342	7.220961	7.220961	
	298.15	0.787783465	0.8987	4	4.0000E-03	0.003919	-2.0352	2.035196	
	298.15	0.783319291	1	4.204	4.2040E-03	0.004561	8.500366	8.500366	25.98995

T-BUTANOL (1) - WATER (2)

OL - OI

00303 Nakanishi, K.; Ozasa, T.; J. Phys. Chem., 74(15), 2956-2960(1970)

P= 1 atm

		<i>tert-Butyl Alco.</i> (cP)							
	298.15	0.994713268	0	0.8903	8.9030E-04	0.000723	-18.7584	18.75842	
	298.15	0.973782079	0.0206	1.337	1.3370E-03	0.000852	-36.2656	36.2656	
	298.15	0.953184518	0.0447	2.015	2.0150E-03	0.001016	-49.5987	49.59867	
	298.15	0.93212671	0.0745	2.78	2.7800E-03	0.001234	-55.6208	55.62084	
	298.15	0.910691377	0.1121	3.55	3.5500E-03	0.00153	-56.9047	56.90474	
	298.15	0.890298821	0.1574	4.288	4.2880E-03	0.001914	-55.3735	55.3735	
	298.15	0.868806072	0.2199	4.888	4.8880E-03	0.002491	-49.0368	49.03676	
	298.15	0.847832715	0.3035	5.292	5.2920E-03	0.003349	-36.7148	36.71479	
	298.15	0.826307215	0.4285	5.484	5.4840E-03	0.004664	-14.9613	14.9613	
	298.15	0.825917292	0.4313	5.285	5.2850E-03	0.00469	-11.258	11.25804	
	298.15	0.825889566	0.4315	5.316	5.3160E-03	0.004692	-11.7401	11.74012	
	298.15	0.817980103	0.4939	5.199	5.1990E-03	0.005199	-4.9E-05	4.94E-05	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac. <i>tert-Butyl Alco.</i>	Exp. Viscosity (DIPPR units) (10-3 Poise)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	298.15	0.873007427	0	6.02	6.0200E-04	0.000602	-0.01747	0.017467	
	298.15	0.872010993	0.0105117	5.9865	5.9865E-04	0.0006	0.303634	0.303634	
	298.15	0.871082507	0.020318	5.9658	5.9658E-04	0.000599	0.473796	0.473796	
	298.15	0.870446064	0.0270463	5.958	5.9580E-04	0.000599	0.507927	0.507927	
	298.15	0.869795667	0.0339274	5.9545	5.9545E-04	0.000598	0.487859	0.487859	
	298.15	0.868866939	0.0437628	5.954	5.9540E-04	0.000598	0.418662	0.418662	
	298.15	0.868276244	0.0500241	5.9539	5.9539E-04	0.000598	0.392386	0.392386	
	298.15	0.867071621	0.0628069	5.966	5.9660E-04	0.000598	0.182738	0.182738	
	298.15	0.865859521	0.0756881	5.98	5.9800E-04	0.000598	0.010127	0.010127	
	298.15	0.865083433	0.0839457	5.9953	5.9953E-04	0.000599	-0.17016	0.170156	
	298.15	0.857996584	0.1597129	6.2008	6.2008E-04	0.00061	-1.59191	1.59191	
	298.15	0.849886588	0.2472298	6.577	6.5770E-04	0.000641	-2.54439	2.544389	
	298.15	0.825663572	0.5139067	8.8603	8.8603E-04	0.000886	6.45E-07	6.45E-07	
	298.15	0.79161457	0.9027041	25.789	2.5789E-03	0.002692	4.401763	4.401763	
	298.15	0.783319291	1	41.905	4.1905E-03	0.004561	8.849908	8.849908	
					Average Error for Temp.				0.883488
					Total Error for All T_{el}				$\frac{klj}{llj}$ 0.848359 0.986693

2-BUTANOL [sec-Butyl Alcohol] (1) - WATER (2)

OL - OJ Values for 2-butanol are from 15 % lower to 27 % higher than those from DIPPR 801 .
00627 Weber, W.; Rheol. Acta, 14, 1012-1025(1975)

P (MPa)		2-Butanol	(g/m s)	%AAD=
0.1	273.1	0.830147369	1 8.317	17.82942
0.1	293.1	0.810638773	1 4.036	
0.1	323.1	0.780032516	1 1.626	
0.1	353.1	0.747469233	1 0.787	
0.1	373.1	0.724411457	1 0.529	
				14.96535
				16.89026
				19.55956
				17.18614
				11.89387
				16.09903

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
9.9	293.1	0.810638773	1	4.49	4.4900E-03	0.003354	-25.2938	25.29378	
9.9	323.1	0.780032516	1	1.808	1.8080E-03	0.001308	-27.657	27.65699	
9.9	353.1	0.747469233	1	0.876	8.7600E-04	0.000652	-25.5999	25.59987	
9.9	373.1	0.724411457	1	0.591	5.9100E-04	0.000466	-21.1368	21.13681	24.92187
29.5	293.1	0.810638773	1	5.51	5.5100E-03	0.003354	-39.1232	39.12324	
29.5	323.1	0.780032516	1	2.195	2.1950E-03	0.001308	-40.4118	40.41177	
29.5	353.1	0.747469233	1	1.062	1.0620E-03	0.000652	-38.6304	38.6304	
29.5	373.1	0.724411457	1	0.719	7.1900E-04	0.000466	-35.1764	35.17643	38.33546
49.1	293.1	0.810638773	1	6.64	6.6400E-03	0.003354	-49.4833	49.48329	
49.1	323.1	0.780032516	1	2.613	2.6130E-03	0.001308	-49.9441	49.94407	
49.1	353.1	0.747469233	1	1.264	1.2640E-03	0.000652	-48.4379	48.43789	
49.1	373.1	0.724411457	1	0.85	8.5000E-04	0.000466	-45.1669	45.16689	48.25803
0.1	273.1	0.85215048	0.5793	8.533	8.5330E-03	0.006665	-21.893	21.89299	
0.1	293.1	0.833975263	0.5793	3.807	3.8070E-03	0.003631	-4.63178	4.631781	
0.1	323.1	0.805117524	0.5793	1.517	1.5170E-03	0.001591	4.887306	4.887306	
0.1	353.1	0.774023273	0.5793	0.765	7.6500E-04	0.000775	1.271975	1.271975	
0.1	373.1	0.751803148	0.5793	0.51	5.1000E-04	0.00051	-3.9E-07	3.89E-07	6.536811
9.9	293.1	0.833975263	0.5793	4.13	4.1300E-03	0.003631	-12.0904	12.09036	
9.9	323.1	0.805117524	0.5793	1.641	1.6410E-03	0.001591	-3.03836	3.038365	
9.9	353.1	0.774023273	0.5793	0.829	8.2900E-04	0.000775	-6.54637	6.546369	
9.9	373.1	0.751803148	0.5793	0.555	5.5500E-04	0.00051	-8.10811	8.108108	7.445801
29.5	293.1	0.833975263	0.5793	4.84	4.8400E-03	0.003631	-24.9862	24.9862	
29.5	323.1	0.805117524	0.5793	1.901	1.9010E-03	0.001591	-16.2998	16.29982	
29.5	353.1	0.774023273	0.5793	0.964	9.6400E-04	0.000775	-19.6338	19.63375	
29.5	373.1	0.751803148	0.5793	0.647	6.4700E-04	0.00051	-21.1747	21.17465	20.52361
49.1	293.1	0.833975263	0.5793	6.26	6.2600E-03	0.003631	-42.0021	42.00211	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
49.1	323.1	0.805117524	0.5793	2.177	2.1770E-03	0.001591	-26.9113	26.91133	
49.1	353.1	0.774023273	0.5793	1.096	1.0960E-03	0.000775	-29.3129	29.3129	
49.1	373.1	0.751803148	0.5793	0.734	7.3400E-04	0.00051	-30.5177	30.51771	32.18601
0.1	273.1	0.99035673	0.0153	2.65	2.6500E-03	0.001097	-58.6218	58.62175	
0.1	293.1	0.982963784	0.0153	1.324	1.3240E-03	0.000788	-40.4842	40.48416	
0.1	323.1	0.969227234	0.0153	0.659	6.5900E-04	0.00051	-22.5576	22.55755	
0.1	353.1	0.952109991	0.0153	0.406	4.0600E-04	0.000352	-13.3009	13.30093	
0.1	373.1	0.938681461	0.0153	0.317	3.1700E-04	0.000283	-10.6458	10.6458	29.12204
9.9	293.1	0.982963784	0.0153	1.321	1.3210E-03	0.000788	-40.349	40.349	
9.9	323.1	0.969227234	0.0153	0.662	6.6200E-04	0.00051	-22.9085	22.9085	
9.9	353.1	0.952109991	0.0153	0.409	4.0900E-04	0.000352	-13.9369	13.93686	
9.9	373.1	0.938681461	0.0153	0.32	3.2000E-04	0.000283	-11.4835	11.4835	22.16947
29.5	293.1	0.982963784	0.0153	1.314	1.3140E-03	0.000788	-40.0312	40.03122	
29.5	323.1	0.969227234	0.0153	0.669	6.6900E-04	0.00051	-23.7151	23.71514	
29.5	353.1	0.952109991	0.0153	0.415	4.1500E-04	0.000352	-15.1812	15.18115	
29.5	373.1	0.938681461	0.0153	0.327	3.2700E-04	0.000283	-13.3783	13.37835	23.07646
49.1	293.1	0.982963784	0.0153	1.311	1.3110E-03	0.000788	-39.894	39.894	
49.1	323.1	0.969227234	0.0153	0.675	6.7500E-04	0.00051	-24.3932	24.39322	
49.1	353.1	0.952109991	0.0153	0.423	4.2300E-04	0.000352	-16.7853	16.78529	
49.1	373.1	0.938681461	0.0153	0.334	3.3400E-04	0.000283	-15.1938	15.19377	24.06657
Average Error for Temp.									
Total Error for All T_{oi}									
							k_{ij}	l_{ij}	
							1.041762	1.197512	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD		
WATER (1) - n-PENTANOL (2)											
OI - AL											
00610 D'Aprano, A.; Donato, I. D.; Caponetti, E.; Agrigento, V.; J. Solution Chem., 8(11), 793-800(1979)											
P=		1 atm		%AAD=							
Water											
(cP)											
288.15	0.81991866	0	4.755	4.7550E-03	0.004539	-4.54714	4.547137	1.797521			
288.15	0.821026028	0.0359	4.709	4.7090E-03	0.004619	-1.91727	1.917274				
288.15	0.822092387	0.0685	4.674	4.6740E-03	0.004661	-0.26787	0.267869				
288.15	0.822878898	0.0914	4.659	4.6590E-03	0.004672	0.276209	0.276209				
288.15	0.82428447	0.1301	4.649	4.6490E-03	0.004649	-4.5E-05	4.49E-05				
288.15	0.825799415	0.1689	4.646	4.6460E-03	0.004573	-1.57871	1.57871				
288.15	0.827197726	0.2023	4.667	4.6670E-03	0.004464	-4.34663	4.346631				
288.15	0.828981693	0.2419	4.701	4.7010E-03	0.004287	-8.80348	8.80348				
2.455745											
298.15	0.812150725	0	3.548	3.5480E-03	0.003369	-5.04658	5.046577	1.626575			
298.15	0.813049611	0.0288	3.509	3.5090E-03	0.003423	-2.45205	2.452055				
298.15	0.813584796	0.0453	3.487	3.4870E-03	0.003447	-1.13349	1.133491				
298.15	0.81427823	0.066	3.468	3.4680E-03	0.00347	0.071623	0.071623				
298.15	0.814969152	0.0859	3.451	3.4510E-03	0.003484	0.945405	0.945405				
298.15	0.815950729	0.113	3.437	3.4370E-03	0.003486	1.429224	1.429224				
298.15	0.816595681	0.1301	3.431	3.4310E-03	0.003478	1.371329	1.371329				
298.15	0.817261578	0.1472	3.429	3.4290E-03	0.003462	0.970419	0.970419				
298.15	0.818138396	0.1689	3.424	3.4240E-03	0.003431	0.205703	0.205703				
298.15	0.818500381	0.1776	3.426	3.4260E-03	0.003415	-0.32096	0.320958				
298.15	0.820174562	0.216	3.428	3.4280E-03	0.003321	-3.13018	3.130178	1.626575			
298.15	0.821379523	0.2419	3.438	3.4380E-03	0.003236	-5.86195	5.861945				
308.15	0.804256633	0	2.694	2.6940E-03	0.002539	-5.75142	5.751423				
308.15	0.805170174	0.0288	2.654	2.6540E-03	0.002581	-2.75868	2.75868				
308.15	0.80571411	0.0453	2.638	2.6380E-03	0.0026	-1.42247	1.422471				
308.15	0.80641891	0.066	2.62	2.6200E-03	0.00262	-0.00565	0.005648				
308.15	0.807121189	0.0859	2.606	2.6060E-03	0.002632	1.003667	1.003667				

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
308.15	0.808118954	0.113	2.591	2.5910E-03	0.002638	1.807926	1.807926		
308.15	0.808774577	0.1301	2.585	2.5850E-03	0.002634	1.911261	1.911261		
308.15	0.809451521	0.1472	2.579	2.5790E-03	0.002625	1.795424	1.795424		
308.15	0.810200787	0.1655	2.577	2.5770E-03	0.002609	1.248512	1.248512		
308.15	0.810710951	0.1776	2.576	2.5760E-03	0.002595	0.732334	0.732334		
308.15	0.812413169	0.216	2.572	2.5720E-03	0.002531	-1.61245	1.612446		
308.15	0.813638424	0.2419	2.575	2.5750E-03	0.002472	-4.01721	4.017209		1.665053
318.15	0.796229002	0	2.085	2.0850E-03	0.001944	-6.7484	6.748402		
318.15	0.797162574	0.029	2.055	2.0550E-03	0.001975	-3.8869	3.886897		
318.15	0.798511314	0.0685	2.026	2.0260E-03	0.002007	-0.95327	0.953268		
318.15	0.799337355	0.0914	2.016	2.0160E-03	0.002017	0.073214	0.073214		
318.15	0.799927517	0.1072	2.006	2.0060E-03	0.002021	0.75491	0.75491		
318.15	0.800813891	0.1301	1.997	1.9970E-03	0.002021	1.177663	1.177663		
318.15	0.801574604	0.149	1.991	1.9910E-03	0.002014	1.176787	1.176787		
318.15	0.802405781	0.1689	1.985	1.9850E-03	0.002002	0.876468	0.876468		
318.15	0.803875536	0.2023	1.98	1.9800E-03	0.001969	-0.5492	0.549198		
318.15	0.805751242	0.2419	1.979	1.9790E-03	0.001909	-3.53598	3.535985		
Average Error for Temp.									1.44271
Total Error for All Temp.									1.29336

1-PENTANOL (1) - BENZENE (2)

AL - AR Relative viscosities were converted into absolute values using the IUPAC value for the viscosity of solvent.

The equation for the specific viscosity is ((vis. sol'n / vis. solvt)-1)

00799 Staveley, L. A. K.; Taylor, P. F.; J. Chem. Soc., 200-209(1956)

P= 0.101 MPa

		1-Pentanol (g/m s)	%AAD=
293.15	0.877568325	0.0057	1.248094
293.15	0.87717861	0.0109	
293.15	0.876774821	0.0163	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	293.15	0.876386866	0.0215	0.6436	6.4360E-04	0.000655	1.706084	1.706084	
	293.15	0.87599977	0.0267	0.6444	6.4440E-04	0.000657	1.945	1.945	
	293.15	0.876576437	0.0324	0.6453	6.4530E-04	0.00066	2.218665	2.218665	1.438166
1-PENTANOL (1) - BENZENE (2)									
AL - AR									
00043 Jones, W. J.; Bowden, S. T.; Yarnold, W. W.; Jones, W. H.; J. Phys. Chem., 52, 753-760(1948)									
P= 0.101 MPa									
			<i>1-Pentanol</i>	(g/m s)					
	298.15	0.873007427	0	0.603	6.0300E-04	0.000602	-0.18328	0.183275	
	298.15	0.869745973	0.0446	0.616	6.1600E-04	0.000618	0.378094	0.378094	
	298.15	0.866516906	0.0896	0.641	6.4100E-04	0.000641	-3.7E-05	3.73E-05	
	298.15	0.863306173	0.1352	0.669	6.6900E-04	0.00067	0.195403	0.195403	
	298.15	0.860114445	0.1814	0.709	7.0900E-04	0.000707	-0.31766	0.317655	
	298.15	0.847600369	0.3714	0.936	9.3600E-04	0.000938	0.192361	0.192361	
	298.15	0.841481362	0.4698	1.132	1.1320E-03	0.001119	-1.12784	1.127838	
	298.15	0.83544442	0.5707	1.36	1.3600E-03	0.00136	-0.00034	0.000343	
	298.15	0.823631439	0.78	1.963	1.9630E-03	0.002086	6.252442	6.252442	
	298.15	0.812150725	1	3.347	3.3470E-03	0.003369	0.655735	0.655735	1.058022
Average Error for Temp.									
Total Error for All T _{el}									
Total Error for All T _{el} 17.09317 0.908853 1.117357									
Total Error for All T _{el} 17.09317 0.908853 1.117357									
n-PENTANOL (1) - HEXANE (2)									
AL - AA									
00563 Bamellis, P.; Huyskens, P.; Meeussen, E.; J. Chim. Phys. Phys. Chim. Biol., 62, 158-170(1965)									
P= 1 atm									
			<i>n-Pentanol</i>	(cP)					
	298.15	0.812150725	1	3.556	3.5560E-03	0.003369	-5.2602	5.260196	%AAD= 2.214922

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	298.15	0.795988755	0.9129	2.715	2.7150E-03	0.002659	-2.07373	2.073735	
	298.15	0.783556852	0.8437	2.164	2.1640E-03	0.002199	1.632475	1.632475	
	298.15	0.764618975	0.7344	1.555	1.5550E-03	0.001616	3.902527	3.902527	
	298.15	0.749028383	0.6407	1.19	1.1900E-03	0.001232	3.500878	3.500878	
	298.15	0.733432072	0.5434	0.874	8.7400E-04	0.000929	6.28491	6.28491	
	298.15	0.718907947	0.4494	0.677	6.7700E-04	0.000713	5.371401	5.371401	
	298.15	0.70179504	0.3342	0.518	5.1800E-04	0.00053	2.22945	2.22945	
	298.15	0.687673303	0.2353	0.423	4.2300E-04	0.000425	0.414192	0.414192	
	298.15	0.67830845	0.1677	0.371	3.7100E-04	0.000374	0.92818	0.92818	
	298.15	0.656026202	0	0.299	2.9900E-04	0.000305	2.150543	2.150543	
	298.15	0.683211812	0.2033	0.395	3.9500E-04	0.000399	1.023612	1.023612	2.926416
	298.15	0.682284191	0.1966	0.39	3.9000E-04	0.000394	1.052099	1.052099	
	298.15	0.68051822	0.1838	0.382	3.8200E-04	0.000385	0.804022	0.804022	
	298.15	0.675540301	0.1474	0.362	3.6200E-04	0.000362	0.043304	0.043304	
	298.15	0.674224654	0.1377	0.357	3.5700E-04	0.000357	-0.08203	0.08203	
	298.15	0.672374192	0.124	0.35	3.5000E-04	0.000349	-0.15484	0.154842	
	298.15	0.66886031	0.0978	0.337	3.3700E-04	0.000337	-4.6E-05	4.57E-05	
	298.15	0.667674057	0.0889	0.333	3.3300E-04	0.000333	0.051949	0.051949	
	298.15	0.665246578	0.0706	0.324	3.2400E-04	0.000326	0.594776	0.594776	
	298.15	0.664163918	0.0624	0.321	3.2100E-04	0.000323	0.606345	0.606345	
	298.15	0.661536318	0.0424	0.312	3.1200E-04	0.000316	1.394148	1.394148	
	298.15	0.659551614	0.0272	0.307	3.0700E-04	0.000312	1.616397	1.616397	
	298.15	0.658849055	0.0218	0.305	3.0500E-04	0.000311	1.813678	1.813678	
	298.15	0.657603323	0.0122	0.302	3.0200E-04	0.000308	2.037271	2.037271	
	298.15	0.656026202	0	0.299	2.9900E-04	0.000305	2.150543	2.150543	
									0.805323
	313.15	0.800259998	1	2.368	2.3680E-03	0.002217	-6.36189	6.361894	
	313.15	0.783814989	0.9129	1.843	1.8430E-03	0.001784	-3.18514	3.18514	
	313.15	0.771180189	0.8437	1.5	1.5000E-03	0.001501	0.042865	0.042865	
	313.15	0.751957955	0.7344	1.134	1.1340E-03	0.001134	-0.00014	0.000135	
	313.15	0.736155622	0.6407	0.893	8.9300E-04	0.000887	-0.61728	0.617278	
	313.15	0.720367653	0.5434	0.668	6.6800E-04	0.000689	3.161614	3.161614	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	313.15	0.705683142	0.4494	0.545	5.4500E-04	0.000545	-5.8E-05	5.8E-05	
	313.15	0.688403615	0.3342	0.427	4.2700E-04	0.00042	-1.71251	1.712515	
	313.15	0.674162561	0.2353	0.356	3.5600E-04	0.000347	-2.48567	2.48567	
	313.15	0.66472763	0.1677	0.318	3.1800E-04	0.000312	-1.82699	1.82699	
	313.15	0.642307604	0	0.26	2.6000E-04	0.000266	2.207792	2.207792	1.448029
	328.15	0.788059729	1	1.611	1.6110E-03	0.001514	-6.03381	6.033809	
	328.15	0.771302364	0.9129	1.299	1.2990E-03	0.001238	-4.70953	4.709533	
	328.15	0.758444179	0.8437	1.08	1.0800E-03	0.001056	-2.19874	2.198743	
	328.15	0.738909697	0.7344	0.829	8.2900E-04	0.000819	-1.213	1.212999	
	328.15	0.722875568	0.6407	0.686	6.8600E-04	0.000657	-4.27055	4.270549	
	328.15	0.706878398	0.5434	0.551	5.5100E-04	0.000524	-4.922	4.922001	
	328.15	0.692019351	0.4494	0.438	4.3800E-04	0.000426	-2.80626	2.806255	
	328.15	0.674559133	0.3342	0.357	3.5700E-04	0.000339	-5.05666	5.056665	
	328.15	0.660189183	0.2353	0.303	3.0300E-04	0.000288	-4.89536	4.895359	
	328.15	0.650678803	0.1677	0.272	2.7200E-04	0.000264	-3.04718	3.047181	
	328.15	0.628111223	0	0.228	2.2800E-04	0.000233	2.105876	2.105876	3.679921
<i>Average Error for Temp.</i>									
<i>Total Error for All T_{ei}</i>				<i>k_{ij}</i>	<i>l_{ij}</i>				
				0.900038	1.219604				

n-PENTANOL (1) - CYCLOHEXANE (2)

AL - CA

00563 Bamelis, P.; Huyskens, P.; Meeussen, E.; J. Chim. Phys. Phys. Chim. Biol., 62, 158-170(1965)

P= 1 atm

		<i>n</i> -Pentanol	(cP)				
298,15	0,812150725	1	3,556	3,5560E-03	0,003369	-5,2602	5,260196
298,15	0,808392662	0,904	3,066	3,0660E-03	0,00295	-3,78795	3,787948
298,15	0,805430783	0,8283	2,738	2,7380E-03	0,00265	-3,21975	3,219752
298,15	0,80091814	0,7129	2,264	2,2640E-03	0,002232	-1,41009	1,410091
298,15	0,798006507	0,6384	1,974	1,9740E-03	0,001988	0,725178	0,725178

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	298.15	0.792776619	0.5045	1.548	1.5480E-03	0.001608	3.856745	3.856745	
	298.15	0.78860038	0.3975	1.326	1.3260E-03	0.001361	2.610959	2.610959	
	298.15	0.782142189	0.2319	1.064	1.0640E-03	0.001079	1.392273	1.392273	
	298.15	0.778560938	0.14	0.991	9.9100E-04	0.000973	-1.79493	1.794929	
	298.15	0.775223053	0.0543	0.908	9.0800E-04	0.000907	-0.13491	0.134908	
	298.15	0.774000494	0.0229	0.889	8.8900E-04	0.00089	0.155667	0.155667	
	298.15	0.773109026	0	0.889	8.8900E-04	0.000881	-0.87218	0.872182	1.908845
	308.15	0.804256633	1	2.724	2.7240E-03	0.002539	-6.7894	6.789403	
	308.15	0.800381612	0.904	2.335	2.3350E-03	0.002243	-3.93901	3.939007	
	308.15	0.797328601	0.8283	2.09	2.0900E-03	0.00203	-2.85703	2.857033	
	308.15	0.792678885	0.7129	1.732	1.7320E-03	0.001732	-2.7E-05	2.65E-05	
	308.15	0.789679946	0.6384	1.537	1.5370E-03	0.001557	1.27535	1.27535	
	308.15	0.784295474	0.5045	1.248	1.2480E-03	0.001281	2.610368	2.610368	
	308.15	0.779997856	0.3975	1.078	1.0780E-03	0.0011	2.049003	2.049003	
	308.15	0.773355563	0.2319	0.894	8.9400E-04	0.000894	-0.00574	0.005736	
	308.15	0.769674107	0.14	0.822	8.2200E-04	0.000818	-0.51352	0.513524	
	308.15	0.766244034	0.0543	0.772	7.7200E-04	0.000772	-0.03033	0.030325	
	308.15	0.764988002	0.0229	0.757	7.5700E-04	0.000761	0.564135	0.564135	
	308.15	0.764072224	0	0.763	7.6300E-04	0.000756	-0.92945	0.929451	1.384451
	318.15	0.796229002	1	2.074	2.0740E-03	0.001944	-6.25382	6.253817	
	318.15	0.792234063	0.904	1.802	1.8020E-03	0.001731	-3.95412	3.954125	
	318.15	0.789087697	0.8283	1.628	1.6280E-03	0.001577	-3.10651	3.106514	
	318.15	0.784297709	0.7129	1.364	1.3640E-03	0.001362	-0.16882	0.168816	
	318.15	0.781209518	0.6384	1.227	1.2270E-03	0.001234	0.58446	0.58446	
	318.15	0.775667196	0.5045	1.01	1.0100E-03	0.001032	2.207975	2.207975	
	318.15	0.7712458	0.3975	0.883	8.8300E-04	0.0009	1.884752	1.884752	
	318.15	0.764416056	0.2319	0.758	7.5800E-04	0.000748	-1.25672	1.25672	
	318.15	0.760632721	0.14	0.694	6.9400E-04	0.000694	-0.02488	0.024876	
	318.15	0.757109018	0.0543	0.658	6.5800E-04	0.000663	0.716057	0.716057	
	318.15	0.755819012	0.0229	0.649	6.4900E-04	0.000656	1.152374	1.152374	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	318.15	0.75487857	0	0.655	6.5500E-04	0.000654	-0.17957	0.179565	1.505667
	328.15	0.788059729	1	1.611	1.6110E-03	0.001514	-6.03381	6.033809	
	328.15	0.783941562	0.904	1.417	1.4170E-03	0.001356	-4.31208	4.312084	
	328.15	0.780699358	0.8283	1.291	1.2910E-03	0.001243	-3.69633	3.696333	
	328.15	0.775765521	0.7129	1.101	1.1010E-03	0.001085	-1.45619	1.456192	
	328.15	0.7725859	0.6384	0.995	9.9500E-04	0.000991	-0.384	0.384002	
	328.15	0.766882071	0.5045	0.832	8.3200E-04	0.000842	1.227913	1.227913	
	328.15	0.762334206	0.3975	0.743	7.4300E-04	0.000744	0.150048	0.150048	
	328.15	0.755313242	0.2319	0.637	6.3700E-04	0.000633	-0.61636	0.616361	
	328.15	0.751426142	0.14	0.596	5.9600E-04	0.000594	-0.3004	0.300398	
	328.15	0.747807179	0.0543	0.568	5.6800E-04	0.000574	1.048583	1.048583	
	328.15	0.746482633	0.0229	0.562	5.6200E-04	0.000571	1.564295	1.564295	
	328.15	0.745517123	0	0.568	5.6800E-04	0.00057	0.363093	0.363093	1.475621
Average Error for Temp.									
Total Error for All Temp.									
<div> <div> <div>kij</div> <div>1.155985</div> </div> <div> <div>ljj</div> <div>0.911169</div> </div> </div>									

METHYLCYCLOHEXANE (1) - 1-PENTANOL (2)

HA - AL

01527 Rao, M. V. P.; Naidu, P. R.; Indian J. Chem., Sect. A (15), 239-242(1977)

P= 0.1013 MPa

		Methylcyclohex	(g/m s)					
303,15	0.808219894	0	3.012	3.0120E-03	0.002919	-3.08674	3.08674	
303,15	0.803087982	0.0947	2.283	2.2830E-03	0.002399	5.059832	5.059832	
303,15	0.794464746	0.2614	1.737	1.7370E-03	0.001728	-0.49012	0.490122	
303,15	0.786711953	0.42	1.289	1.2890E-03	0.001289	-0.00058	0.000575	
303,15	0.779377804	0.5783	0.968	9.6800E-04	0.000986	1.844022	1.844022	
303,15	0.772176669	0.7422	0.777	7.7700E-04	0.000777	-0.00017	0.000174	
303,15	0.765482656	0.9027	0.663	6.6300E-04	0.00065	-1.92069	1.920687	
303,15	0.761585695	1	0.637	6.3700E-04	0.000604	-5.20054	5.200537	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	293	0.673228147	0.1	0.304	3.0400E-04	0.00034	11.75263	11.75263	
	293	0.686248732	0.2	0.351	3.5100E-04	0.000392	11.56925	11.56925	
	293	0.699720161	0.3	0.428	4.2800E-04	0.000484	13.09262	13.09262	
	293	0.713666262	0.4	0.633	6.3300E-04	0.000631	-0.24039	0.240394	
	293	0.728112575	0.5	0.793	7.9300E-04	0.000855	7.798302	7.798302	
	293	0.743086501	0.6	1.092	1.0920E-03	0.00118	8.035398	8.035398	
	293	0.758617484	0.7	1.563	1.5630E-03	0.001633	4.463362	4.463362	
	293	0.774737198	0.8	2.082	2.0820E-03	0.002239	7.533619	7.533619	
	293	0.791479764	0.9	2.843	2.8430E-03	0.003035	6.763596	6.763596	
	293	0.808881994	1	3.742	3.7420E-03	0.004145	10.78121	10.78121	7.916574
	303	0.65163926	0	0.273	2.7300E-04	0.000292	6.866213	6.866213	
	303	0.664234425	0.1	0.28	2.8000E-04	0.000302	7.948551	7.948551	
	303	0.67726525	0.2	0.31	3.1000E-04	0.00034	9.579536	9.579536	
	303	0.690754738	0.3	0.382	3.8200E-04	0.000408	6.866182	6.866182	
	303	0.704727539	0.4	0.537	5.3700E-04	0.000517	-3.708	3.707998	
	303	0.719210102	0.5	0.682	6.8200E-04	0.00068	-0.35277	0.352773	
	303	0.73423084	0.6	0.878	8.7800E-04	0.000911	3.813163	3.813163	
	303	0.74982032	0.7	1.228	1.2280E-03	0.001228	0.000945	0.000945	
	303	0.766011467	0.8	1.588	1.5880E-03	0.001642	3.42729	3.42729	
	303	0.782839798	0.9	1.965	1.9650E-03	0.002176	10.74349	10.74349	
	303	0.800343682	1	2.677	2.6770E-03	0.002909	8.669023	8.669023	5.159992
	313	0.642447055	0	0.247	2.4700E-04	0.000266	7.733116	7.733116	
	313	0.655046354	0.1	0.249	2.4900E-04	0.00027	8.629564	8.629564	
	313	0.668088822	0.2	0.277	2.7700E-04	0.000297	7.258631	7.258631	
	313	0.681598259	0.3	0.36	3.6000E-04	0.000348	-3.35261	3.352612	
	313	0.695600203	0.4	0.44	4.4000E-04	0.000429	-2.56262	2.562624	
	313	0.710122084	0.5	0.544	5.4400E-04	0.000548	0.720234	0.720234	
	313	0.725193412	0.6	0.802	8.0200E-04	0.000715	-10.8301	10.83014	
	313	0.740845971	0.7	0.967	9.6700E-04	0.000939	-2.88116	2.88116	
	313	0.757114045	0.8	1.21	1.2100E-03	0.001227	1.406207	1.406207	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	313	0.77403467	0.9	1.484	1.484E-03	0.001592	7.291658	7.291658	
	313	0.79164791	1	2.014	2.014E-03	0.002091	3.813882	3.813882	4.992537
	323	0.633043016	0	0.226	2.2600E-04	0.000243	7.723081	7.723081	
	323	0.645647642	0.1	0.228	2.2800E-04	0.000243	6.732542	6.732542	
	323	0.658703433	0.2	0.254	2.5400E-04	0.000262	3.098008	3.098008	
	323	0.672235054	0.3	0.31	3.1000E-04	0.0003	-3.37625	3.376245	
	323	0.686269001	0.4	0.385	3.8500E-04	0.00036	-6.54272	6.542717	
	323	0.700833775	0.5	0.472	4.7200E-04	0.000448	-5.08836	5.088365	
	323	0.715960072	0.6	0.634	6.3400E-04	0.00057	-10.1047	10.10472	
	323	0.731681006	0.7	0.805	8.0500E-04	0.000731	-9.22849	9.228494	
	323	0.748032342	0.8	0.981	9.8100E-04	0.000934	-4.75231	4.75231	
	323	0.765052774	0.9	1.138	1.1380E-03	0.001191	4.624416	4.624416	
	323	0.782784231	1	1.466	1.4660E-03	0.001542	5.198373	5.198373	5.949757
	333	0.623408241	0	0.207	2.0700E-04	0.000223	7.888605	7.888605	
	333	0.636019653	0.1	0.22	2.2000E-04	0.00022	-0.00272	0.002717	
	333	0.649090784	0.2	0.229	2.2900E-04	0.000232	1.515456	1.515456	
	333	0.662647236	0.3	0.261	2.6100E-04	0.00026	-0.25297	0.252975	
	333	0.676716552	0.4	0.33	3.3000E-04	0.000306	-7.40724	7.407244	
	333	0.691328395	0.5	0.454	4.5400E-04	0.000371	-18.1968	18.19685	
	333	0.706514763	0.6	0.548	5.4800E-04	0.000461	-15.7961	15.79611	
	333	0.722310221	0.7	0.666	6.6600E-04	0.000579	-13.1068	13.10683	
	333	0.738752162	0.8	0.844	8.4400E-04	0.000726	-13.9909	13.99094	
	333	0.755881105	0.9	0.991	9.9100E-04	0.000911	-8.05891	8.058911	
	333	0.773741026	1	1.196	1.1960E-03	0.00117	-2.21383	2.213828	8.703115
Average Error for Temp.									
Total Error for All Tei							kIj	IjIj	
							0.851901	1.22849	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
1-HEXANOL (1) - BENZENE (2)									
AL - AR original data, specific viscosity (vis. sol'n/vis. solv't)-1)									
00799 Staveley, L. A. K.; Taylor, P. F.; J. Chem. Soc., 200-209(1956)									
P= 0.101 MPa			1-Hexanol	(g/m s)	%AAD= 1.555115				
293.15	0.877564512	0.0053	0.64	6.4000E-04	0.000648	1.183301	1.183301	1.183301	
293.15	0.877150542	0.0104	0.6395	6.3950E-04	0.000649	1.548344	1.548344	1.548344	
293.15	0.876625372	0.0169	0.6403	6.4030E-04	0.000652	1.815025	1.815025	1.815025	
293.15	0.876295508	0.021	0.6419	6.4190E-04	0.000654	1.825807	1.825807	1.825807	
293.15	0.875870688	0.0263	0.6434	6.4340E-04	0.000656	1.948922	1.948922	1.948922	
293.15	0.87534416	0.0329	0.6459	6.4590E-04	0.000659	2.031751	2.031751	2.031751	1.725525

1-HEXANOL (1) - BENZENE (2)

AL - AR

00043 Jones, W. J.; Bowden, S. T.; Yamold, W. W.; Jones, W. H.; J. Phys. Chem., 52, 753-760(1948)

P= 1 atm

	1-Hexanol	(cP)							
298.15	0.873007427	0	0.603	6.0300E-04	0.000602	-0.18328	0.183275		
298.15	0.869973403	0.0387	0.615	6.1500E-04	0.000615	-0.02272	0.022716		
298.15	0.86696293	0.0783	0.633	6.3300E-04	0.000635	0.329486	0.329486		
298.15	0.863970785	0.1189	0.663	6.6300E-04	0.000663	0.018563	0.018563		
298.15	0.860999498	0.1605	0.709	7.0900E-04	0.0007	-1.30616	1.306163		
298.15	0.849323399	0.3376	0.98	9.8000E-04	0.000958	-2.24051	2.240509		
298.15	0.843599797	0.4333	1.195	1.1950E-03	0.001183	-0.98875	0.988748		
298.15	0.837955599	0.5342	1.505	1.5050E-03	0.001505	-2.7E-06	2.74E-06		
298.15	0.826889139	0.7536	2.444	2.4440E-03	0.002595	6.171451	6.171451		
298.15	0.816112616	1	4.239	4.2390E-03	0.004815	13.58059	13.58059		
Average Error for Temp.									1.384705

kij

ijj

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD	k_{ij}	l_{ij}
Total Error for All T_{ei}											
								7.62878	0.981028		1.01497

1-HEXANOL (1) - HEPTANE (2)

AL - AA original data, specific viscosity ((vis. sol'n/vis. solv't)-1)
00799 Staveley, L. A. K.; Taylor, P. F.; J. Chem. Soc., 200-209(1956)
P= 0.101 MPa

%AAD= 90.1512

		1-Hexanol		(g/m s)							
293.15	0.686334955	0.005	5.37	5.3700E-03	0.000443	-91.7545	91.75452				
293.15	0.687079424	0.0115	5.401	5.4010E-03	0.000481	-91.0881	91.08814				
293.15	0.68769899	0.0169	5.432	5.4320E-03	0.000516	-90.4985	90.49848				
293.15	0.688296542	0.0221	5.467	5.4670E-03	0.000552	-89.8989	89.89894				
293.15	0.688929585	0.0276	5.506	5.5060E-03	0.000593	-89.2221	89.22208				
293.15	0.689609769	0.0335	5.551	5.5510E-03	0.000641	-88.4451	88.44505				
Average Error for Temp.								90.1512			

Total Error for All T_{ei}	kij	lij
540.9072	1.5	1.5

HEXANE (1) - 1-HEXANOL (2)

AA - AL
01461 Singh, R. P.; Sinha, C. P.; J. Chem. Eng. Data, 29(2), 132-135(1984)
P= 0.101 MPa

%AAD= 2.278757

		Hexane		(g/m s)							
303.1	0.812536461	0	3.769	3.7690E-03	0.004157	10.29078	10.29078				
303.1	0.796461994	0.0954	2.883	2.8830E-03	0.003	4.05915	4.05915				
303.1	0.780378839	0.1918	2.18	2.1800E-03	0.00218	0.004331	0.004331				
303.1	0.764289586	0.2892	1.6	1.6000E-03	0.001599	-0.0699	0.069904				
303.1	0.748196777	0.3876	1.19	1.1900E-03	0.001187	-0.29108	0.291076				
303.1	0.732102906	0.487	0.8951	8.9510E-04	0.000893	-0.18549	0.185491				
303.1	0.716010415	0.5874	0.6793	6.7930E-04	0.000684	0.75739	0.75739				
303.1	0.699890126	0.689	0.5301	5.3010E-04	0.000535	0.830404	0.830404				

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	303.1	0.683792225	0.7915	0.4188	4.1880E-04	0.000427	1.877776	1.877776	
	303.1	0.667672125	0.8952	0.3557	3.5570E-04	0.000348	-2.0451	2.045099	
	303.1	0.651548331	1	0.2977	2.9770E-04	0.000291	-2.09215	2.092148	1.124513
	313.1	0.805226092	0	2.934	2.9340E-03	0.003122	6.413374	6.413374	
	313.1	0.788887622	0.0954	2.883	2.8830E-03	0.002299	-20.2499	20.24987	
	313.1	0.772557244	0.1918	1.71	1.7100E-03	0.001706	-0.24744	0.247441	
	313.1	0.756237584	0.2892	1.295	1.2950E-03	0.001278	-1.33555	1.335553	
	313.1	0.73993121	0.3876	0.9896	9.8960E-04	0.000969	-2.12279	2.122787	
	313.1	0.723640628	0.487	0.7581	7.5810E-04	0.000745	-1.73897	1.738966	
	313.1	0.707368286	0.5874	0.5894	5.8940E-04	0.000583	-1.16394	1.163937	
	313.1	0.691084695	0.689	0.4749	4.7490E-04	0.000464	-2.30579	2.305787	
	313.1	0.674840529	0.7915	0.3791	3.7910E-04	0.000377	-0.51035	0.510346	
	313.1	0.658590773	0.8952	0.3285	3.2850E-04	0.000313	-4.67129	4.671291	
	313.1	0.642354093	1	0.2768	2.7680E-04	0.000266	-3.95218	3.952181	3.816219
	323.1	0.797795649	0	2.169	2.1690E-03	0.00238	9.705917	9.705917	
	323.1	0.781177252	0.0954	1.682	1.6820E-03	0.001787	6.256418	6.256418	
	323.1	0.764585375	0.1918	1.32	1.3200E-03	0.001353	2.495215	2.495215	
	323.1	0.748022627	0.2892	1.02	1.0200E-03	0.001034	1.400587	1.400587	
	323.1	0.731491544	0.3876	0.8098	8.0980E-04	0.0008	-1.18768	1.187678	
	323.1	0.714994587	0.487	0.6263	6.2630E-04	0.000628	0.241378	0.241378	
	323.1	0.698534147	0.5874	0.5103	5.1030E-04	0.0005	-1.92351	1.923506	
	323.1	0.682080355	0.689	0.404	4.0400E-04	0.000406	0.465302	0.465302	
	323.1	0.665684338	0.7915	0.3396	3.3960E-04	0.000335	-1.21161	1.211614	
	323.1	0.649300575	0.8952	0.2844	2.8440E-04	0.000283	-0.58102	0.581022	
	323.1	0.632947844	1	0.2524	2.5240E-04	0.000243	-3.62871	3.628706	1.751413
	333.1	0.790238277	0	1.655	1.6550E-03	0.001841	11.2628	11.2628	
	333.1	0.773321865	0.0954	1.321	1.3210E-03	0.00141	6.720136	6.720136	
	333.1	0.756452304	0.1918	1.03	1.0300E-03	0.001088	5.641776	5.641776	
	333.1	0.739632111	0.2892	0.8313	8.3130E-04	0.000848	2.029577	2.029577	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	333.1	0.722863717	0.3876	0.6497	6.4970E-04	0.000669	2.958391	2.958391	
	333.1	0.706149469	0.487	0.5261	5.2610E-04	0.000535	1.633687	1.633687	
	333.1	0.689491629	0.5874	0.4298	4.2980E-04	0.000434	0.945641	0.945641	
	333.1	0.67285986	0.689	0.3577	3.5770E-04	0.000358	-7.4E-06	7.4E-06	
	333.1	0.656305695	0.7915	0.2995	2.9950E-04	0.0003	0.207458	0.207458	
	333.1	0.639783018	0.8952	0.2607	2.6070E-04	0.000256	-1.66927	1.669275	
	333.1	0.623310657	1	0.2347	2.3470E-04	0.000223	-4.92564	4.925644	
Average Error for Temp.									2.422883
Total Error for All Tei									0.989353
									1.053028

TOLUENE (1) - HEXANOL (2)

AR - AL

00682 Singh, R. P.; Sinha, C. P.; Indian J. Chem. Sect. A, 22, 282-285(1983)

P= 0.101 MPa

		Toluene		(g/m s)					
303.1	0.812536461	0	3.765	3.7650E-03	0.004157	10.40795	10.40795		
303.1	0.817214035	0.1151	2.859	2.8590E-03	0.002972	3.949304	3.949304		
303.1	0.821897603	0.2265	2.167	2.1670E-03	0.002203	1.664188	1.664188		
303.1	0.826579416	0.3342	1.692	1.6920E-03	0.001681	-0.65026	0.650256		
303.1	0.831260328	0.4384	1.351	1.3510E-03	0.001316	-2.58519	2.585189		
303.1	0.835946567	0.5394	1.099	1.0990E-03	0.001056	-3.90291	3.902912		
303.1	0.840631079	0.6372	0.882	8.8200E-04	0.000869	-1.4553	1.455298		
303.1	0.845321408	0.7321	0.7364	7.3640E-04	0.000734	-0.35818	0.358175		
303.1	0.850010986	0.8241	0.6235	6.2350E-04	0.000636	1.985377	1.985377		
303.1	0.854698163	0.9133	0.5592	5.5920E-04	0.000566	1.181355	1.181355		
303.1	0.859392509	1	0.5372	5.3720E-04	0.000517	-3.78823	3.788228		1.970228
313.1	0.805226092	0	2.934	2.9340E-03	0.003122	6.413374	6.413374		
313.1	0.809715351	0.1151	2.206	2.2060E-03	0.002279	3.289336	3.289336		
313.1	0.814208738	0.2265	1.701	1.7010E-03	0.001723	1.271366	1.271366		

%AAD= 2.481788

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	313.1	0.818698818	0.3342	1.341	1.3410E-03	0.00134	-0.0934	0.093404	
	313.1	0.823186412	0.4384	1.097	1.0970E-03	0.001069	-2.58647	2.58647	
	313.1	0.827677491	0.5394	0.9164	9.1640E-04	0.000873	-4.71099	4.710991	
	313.1	0.83216529	0.6372	0.7593	7.5930E-04	0.000731	-3.68418	3.684179	
	313.1	0.836657039	0.7321	0.6439	6.4390E-04	0.000628	-2.50285	2.502853	
	313.1	0.841146445	0.8241	0.5569	5.5690E-04	0.000553	-0.76242	0.76242	
	313.1	0.84563193	0.9133	0.5069	5.0690E-04	0.000499	-1.56024	1.560244	
	313.1	0.850122651	1	0.4851	4.8510E-04	0.000462	-4.76367	4.76367	2.273474
	323.1	0.797795649	0	2.169	2.1690E-03	0.00238	9.705917	9.705917	
	323.1	0.802094688	0.1151	1.661	1.6610E-03	0.001771	6.638182	6.638182	
	323.1	0.806396084	0.2265	1.321	1.3210E-03	0.001365	3.307852	3.307852	
	323.1	0.81069272	0.3342	1.057	1.0570E-03	0.001081	2.274127	2.274127	
	323.1	0.814985384	0.4384	0.8845	8.8450E-04	0.000878	-0.75886	0.758863	
	323.1	0.819279789	0.5394	0.7532	7.5320E-04	0.00073	-3.1106	3.110599	
	323.1	0.823569469	0.6372	0.6516	6.5160E-04	0.000621	-4.64103	4.641032	
	323.1	0.827861332	0.7321	0.5418	5.4180E-04	0.000542	-0.00017	0.000171	
	323.1	0.832149367	0.8241	0.4674	4.6740E-04	0.000484	3.548618	3.548618	
	323.1	0.836432071	0.9133	0.4336	4.3360E-04	0.000443	2.15186	2.15186	
	323.1	0.840718187	1	0.4272	4.2720E-04	0.000415	-2.81297	2.812967	2.936812
	333.1	0.790238277	0	1.655	1.6550E-03	0.001841	11.2628	11.2628	
	333.1	0.7943445034	0.1151	1.333	1.3330E-03	0.001397	4.775592	4.775592	
	333.1	0.798452475	0.2265	1.069	1.0690E-03	0.001096	2.493029	2.493029	
	333.1	0.8025553805	0.3342	0.8832	8.8320E-04	0.000883	5.04E-07	5.04E-07	
	333.1	0.806649784	0.4384	0.7193	7.1930E-04	0.000729	1.399983	1.399983	
	333.1	0.810745864	0.5394	0.6029	6.0290E-04	0.000616	2.226521	2.226521	
	333.1	0.81483588	0.6372	0.5141	5.1410E-04	0.000533	3.665348	3.665348	
	333.1	0.818926421	0.7321	0.4508	4.5080E-04	0.000472	4.595273	4.595273	
	333.1	0.823011759	0.8241	0.4046	4.0460E-04	0.000427	5.518566	5.518566	
	333.1	0.82709047	0.9133	0.3954	3.9540E-04	0.000396	0.045416	0.045416	
	333.1	0.83117088	1	0.3905	3.9050E-04	0.000375	-3.97053	3.970528	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
<i>Average Error for Temp.</i>									
									2.746637
<i>Total Error for All Tei</i>									
									<i>kij</i>
									<i>lij</i>
									0.936136 1.054358
1-HEXANOL (1) - WATER (2)									
AL - OI									
00610 D'Aprano, A.; Donato, I. D.; Caponetti, E.; Agrigento, V.; J. Solution Chem., 8(11), 793-800(1979)									
P= 0.101 MPa									
			1-Hexanol	(g/m s)					%AAD=
288.15	0.998176407	0	6.336	6.3360E-03	0.000841	-86.7241	86.7241		44.17436
288.15	0.998624475	0.0013	6.331	6.3310E-03	0.000849	-86.587	86.58704		
288.15	0.947902953	0.0554	6.184	6.1840E-03	0.001278	-79.3337	79.33369		
288.15	0.921510915	0.1019	6.109	6.1090E-03	0.001809	-70.3832	70.38322		
288.15	0.902858112	0.1483	6.063	6.0630E-03	0.002515	-58.5158	58.51578		
288.15	0.890871241	0.1875	6.068	6.0680E-03	0.003273	-46.0645	46.06448		
288.15	0.881674587	0.2248	6.096	6.0960E-03	0.004155	-31.843	31.84299		
288.15	0.873620212	0.2645	6.152	6.1520E-03	0.005293	-13.957	13.95699		
288.15	0.868868541	0.2919	6.213	6.2130E-03	0.006213	0.000893	0.000893		
									48.33564
298.15	0.994713268	0	4.582	4.5820E-03	0.000723	-84.2145	84.21445		
298.15	0.98965333	0.0042	4.567	4.5670E-03	0.000745	-83.6905	83.69055		
298.15	0.94050513	0.0593	4.427	4.4270E-03	0.001114	-74.8444	74.84444		
298.15	0.913382691	0.1079	4.355	4.3550E-03	0.001583	-63.6424	63.64245		
298.15	0.897158126	0.1483	4.324	4.3240E-03	0.002083	-51.5932	51.59319		
298.15	0.883344658	0.1933	4.314	4.3140E-03	0.00281	-34.8654	34.86537		
298.15	0.872924353	0.2367	4.322	4.3220E-03	0.003675	-14.9728	14.97276		
298.15	0.866823095	0.2673	4.341	4.3410E-03	0.004401	1.390889	1.390889		
298.15	0.861489002	0.2981	4.369	4.3690E-03	0.005239	19.90673	19.90673		
									43.1133
308.15	0.990891567	0	3.391	3.3910E-03	0.000627	-81.5144	81.5144		
308.15	0.985708901	0.0042	3.388	3.3880E-03	0.000645	-80.9726	80.97261		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	308.15	0.935446292	0.0593	3.295	3.2950E-03	0.000949	-71.1859	71.18589	
	308.15	0.907769028	0.1079	3.237	3.2370E-03	0.001337	-58.7116	58.71164	
	308.15	0.891232969	0.1483	3.209	3.2090E-03	0.001755	-45.3207	45.3207	
	308.15	0.877166312	0.1933	3.193	3.1930E-03	0.002339	-26.7359	26.73595	
	308.15	0.866562317	0.2367	3.192	3.1920E-03	0.00304	-4.7734	4.773402	
	308.15	0.860018418	0.2691	3.198	3.1980E-03	0.00366	14.45515	14.45515	
	308.15	0.854932605	0.2981	3.213	3.2130E-03	0.004292	33.56981	33.56981	41.96564
	318.15	0.986703734	0	2.576	2.5760E-03	0.000547	-78.7545	78.75454	
	318.15	0.985035481	0.0013	2.573	2.5730E-03	0.000552	-78.5546	78.55464	
	318.15	0.932892206	0.0554	2.513	2.5130E-03	0.000794	-68.4141	68.41411	
	318.15	0.904831582	0.1019	2.475	2.4750E-03	0.001091	-55.9068	55.90683	
	318.15	0.885077238	0.1483	2.447	2.4470E-03	0.001481	-39.4681	39.4681	
	318.15	0.872416301	0.1875	2.432	2.4320E-03	0.001893	-22.1702	22.17016	
	318.15	0.86272036	0.2248	2.425	2.4250E-03	0.002363	-2.54822	2.54822	
	318.15	0.853701919	0.2673	2.427	2.4270E-03	0.003002	23.70736	23.70736	
	318.15	0.846005844	0.3116	2.439	2.4390E-03	0.003792	55.4935	55.4935	
					Average Error for Temp.				43.28286
					Total Error for All Temp.				113.2951

1-OCTANOL (1) - HEPTANE (2)

AL - AA original data, specific viscosity ((vis. sol'n/vis. solvt')-1)

00799 Slaveley, L. A. K.; Taylor, P. F.; J. Chem. Soc., 200-209(1956)

P= 0.101 MPa

<i>1-Octanol</i>	(g/m s)				
293,15	0,686446763	0,0045	8,816	8,8160E-03	0,000441
293,15	0,687175311	0,0093	8,879	8,8790E-03	0,000471
293,15	0,687857829	0,0138	8,951	8,9510E-03	0,000501
293,15	0,688676218	0,0192	9,048	9,0480E-03	0,000539
293,15	0,689448509	0,0243	9,142	9,1420E-03	0,000578
					-94,9934
					-94,695
					-94,4053
					-94,0407
					-93,6728
					94,99341
					94,695
					94,40527
					94,04068
					93,67281

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
Total Error for All T_{ei}									
								0.522485	1

1-DECANOL (1) - BENZENE (2)

AL - AR original data, specific viscosity (vis. sol'n/vis. solv't)-1)
 00799 Staveley, L. A. K.; Taylor, P. F.; J. Chem. Soc., 200-209(1956)
 P= 0.101 MPa

%AAD= 0.536285

		1-Decanol			
			(g/m s)		
293.15	0.87741497	0.0055	0.645	6.4500E-04	0.00065
293.15	0.876871819	0.0107	0.6498	6.4980E-04	0.000655
293.15	0.876324772	0.016	0.6559	6.5590E-04	0.000659
293.15	0.875774084	0.0214	0.6631	6.6310E-04	0.000664
Average Error for Temp.					
					0.536285

Total Error for All T_{ei}	kij	lij
	1	1

1-DECANOL (1) - CYCLOHEXANE (2)

AL - CA original data, specific viscosity (vis. sol'n/vis. solv't)-1)
 00799 Staveley, L. A. K.; Taylor, P. F.; J. Chem. Soc., 200-209(1956)
 P= 0.101 MPa

%AAD= 0.731284

		1-Decanol			
			(g/m s)		
293.15	0.777813708	0.0027	0.9638	9.6380E-04	0.000958
293.15	0.7780547	0.0054	0.967	9.6700E-04	0.000961
293.15	0.778285831	0.008	0.9726	9.7260E-04	0.000964
Average Error for Temp.					
					0.731284

Total Error for All T_{ei}	kij	lij
	1	1

1-DECANOL (1) - HEPTANE (2)

AL - AA original data, specific viscosity (vis. sol'n/vis. solv't)-1)
 00799 Staveley, L. A. K.; Taylor, P. F.; J. Chem. Soc., 200-209(1956)

[illegible]

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
METHANOL (1) - ACETONITRILE (2)									
(From Irving, NEL Report, 1977 - Coplan, 1964)									
P= 0.1013 MPa									
Wt Frac	Methanol			(cP)	%AAD= 0.230625				
0	298.15	0.778748427	0	0.345	3.4500E-04	0.000352	2.054898	2.054898	
0.1	298.15	0.779821593	0.1246165	0.337	3.3700E-04	0.000338	0.271107	0.271107	
0.2	298.15	0.780897721	0.2425975	0.337	3.3700E-04	0.000334	-0.89032	0.890319	
0.3	298.15	0.781976823	0.3544594	0.338	3.3800E-04	0.000338	-0.03378	0.033782	
0.4	298.15	0.783058912	0.460666	0.348	3.4800E-04	0.000348	0.078204	0.078204	
0.5	298.15	0.784143999	0.5616358	0.364	3.6400E-04	0.000365	0.143544	0.143544	
0.6	298.15	0.785232098	0.6577467	0.387	3.8700E-04	0.000386	-0.14704	0.147041	
0.7	298.15	0.786323221	0.7493411	0.413	4.1300E-04	0.000414	0.270619	0.270619	
0.8	298.15	0.78741738	0.8367302	0.448	4.4800E-04	0.000448	-2.6E-06	2.68E-06	
0.9	298.15	0.788514589	0.9201971	0.49	4.9000E-04	0.000489	-0.241	0.241004	
1	298.15	0.78961486	1	0.545	5.4500E-04	0.000538	-1.33582	1.335819	0.230625
Average Error for Temp.									
Total Error for All T _o									
							kij	ljj	
							0.936858	1.041485	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
WATER (1) - TRIETHYL AMINE (2)									
OI - BM									
00802 Zhuravlev, E. F.; J. Gen. Chem. USSR, 31, 327-330(1961)									
P=			1 atm	%AAD= 44.76804					
Water									
(cP)									
			Water						
278.15	0.742189086		0	0.4922	4.9220E-04	0.000454	-7.74589	7.745893	
278.15	0.745933168		0.1	0.5802	5.8020E-04	0.000586	0.999522	0.999522	
278.15	0.750513923		0.201	0.6728	6.7280E-04	0.000742	10.30424	10.30424	
278.15	0.756183254		0.302	0.8486	8.4860E-04	0.000902	6.301247	6.301247	
278.15	0.7629798		0.398	1.1639	1.1639E-03	0.001027	-11.7877	11.7877	
278.15	0.772075301		0.497	1.6755	1.6755E-03	0.001098	-34.4932	34.49315	
278.15	0.783971768		0.593	2.5065	2.5065E-03	0.001103	-56.0116	56.01159	
278.15	0.808077118		0.721	5.4624	5.4624E-03	0.001042	-80.9259	80.92591	
278.15	0.83170311		0.8	7.3604	7.3604E-03	0.00099	-86.5433	86.54332	
278.15	0.882850626		0.9	7.9896	7.9896E-03	0.000937	-88.2765	88.27652	
278.15	1.001288139		1	1.516	1.5160E-03	0.000986	-34.9281	34.92813	41.73813
288.15	0.733416371		0	0.4688	4.6880E-04	0.000403	-14.0714	14.07139	
288.15	0.7372093		0.1	0.5189	5.1890E-04	0.000519	-0.05099	0.050986	
288.15	0.741851119		0.201	0.5922	5.9220E-04	0.000654	10.45389	10.45389	
288.15	0.747598013		0.302	0.7137	7.1370E-04	0.000791	10.83188	10.83188	
288.15	0.754490444		0.398	0.9263	9.2630E-04	0.000896	-3.28972	3.289717	
288.15	0.763719213		0.497	1.256	1.2560E-03	0.000953	-24.1135	24.11347	
288.15	0.775798544		0.593	1.7234	1.7234E-03	0.000953	-44.6864	44.68637	
288.15	0.800304217		0.721	3.1722	3.1722E-03	0.000895	-71.7917	71.79171	
288.15	0.824361356		0.8	4.1811	4.1811E-03	0.000847	-79.752	79.75201	
288.15	0.876574238		0.9	4.5483	4.5483E-03	0.000797	-82.4862	82.48615	
288.15	0.998176407		1	1.141	1.1410E-03	0.000841	-26.2786	26.2786	36.38402

WATER (1) - TRIETHYLAMINE (2)

Press. (DIPPR) Temp. (K) Pred. Density (g/cm3) Mole Frac. (DIPPR units) Exp. Viscosity (Pa s) Exp. Viscosity (η_{pred} (Pa·s)) %D %AD %AAD

Ol - BM concentrations are average values; density values are also available.
01377 Vitagliano, V.; Sartorio, R.; Chiaravalle, E.; Ortona, O.; J. Chem. Eng. Data, 25(2), 121-124(1980)
P= 0.101 MPa

Water (g/m s)

292.15	0.72986621	0	0.3667	3.6670E-04	0.000385	4.911246	4.911246	4.911246
292.15	0.733702628	0.1006	0.4262	4.2620E-04	0.000496	16.26147	16.26147	16.26147
292.15	0.738496256	0.204	0.5207	5.2070E-04	0.000627	20.39677	20.39677	20.39677
292.15	0.74396554	0.2996	0.6473	6.4730E-04	0.000749	15.70082	15.70082	15.70082
292.15	0.75126806	0.4007	0.8519	8.5190E-04	0.000852	6.71E-05	6.71E-05	6.71E-05
292.15	0.76061962	0.4997	1.1675	1.1675E-03	0.000903	-22.6517	22.65166	
292.15	0.773482221	0.5997	1.6803	1.6803E-03	0.000899	-46.4846	46.48458	
292.15	0.792767846	0.7028	2.5108	2.5108E-03	0.000854	-65.9903	65.99027	
292.15	0.821208315	0.7996	3.489	3.4890E-03	0.000797	-77.1592	77.1592	
292.15	0.960694094	0.98	1.8115	1.8115E-03	0.000763	-57.8963	57.89627	
292.15	0.96890708	0.985	1.6042	1.6042E-03	0.000768	-52.1138	52.11382	
292.15	0.978536521	0.9905	1.3677	1.3677E-03	0.000775	-43.3091	43.30911	
292.15	0.987115747	0.9951	1.1916	1.1916E-03	0.000782	-34.3401	34.34012	
292.15	0.996833712	1	1.0299	1.0299E-03	0.000791	-23.187	23.18703	
37.69201								
293.15	0.728974881	0	0.3608	3.6080E-04	0.00038	5.423574	5.423574	
293.15	0.732815838	0.1006	0.4211	4.2110E-04	0.00049	16.31031	16.31031	
293.15	0.737615273	0.204	0.5113	5.1130E-04	0.000619	21.14063	21.14063	
293.15	0.743091368	0.2996	0.6374	6.3740E-04	0.00074	16.03272	16.03272	
293.15	0.750403287	0.4007	0.8296	8.2960E-04	0.000841	1.354848	1.354848	
293.15	0.759767396	0.4997	1.1347	1.1347E-03	0.000891	-21.4857	21.48571	
293.15	0.772648196	0.5997	1.6137	1.6137E-03	0.000887	-45.0495	45.04954	
293.15	0.791963146	0.7028	2.385	2.3850E-03	0.000842	-64.7111	64.71114	
293.15	0.960248113	0.98	1.7217	1.7217E-03	0.000751	-56.3741	56.37405	
293.15	0.968483404	0.985	1.5544	1.5544E-03	0.000757	-51.3294	51.32944	
293.15	0.978139561	0.9905	1.323	1.3230E-03	0.000764	-42.28	42.28002	
293.15	0.986743106	0.9951	1.1757	1.1757E-03	0.000771	-34.4555	34.45548	
293.15	0.996489202	1	1.005	1.0050E-03	0.000779	-22.4663	22.46631	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
WATER (1) - TRIETHYLAMINE (2)									
OI - BM									
(From Irving, NEL Report, 1977 - Tsakalotos, 1909)									
P= 0.101 MPa									
Wt. Frac.	Water			(cP)					
0	288.15	0.733416371	0	0.397	3.9700E-04	0.000403	1.469349	1.469349	
0.2	288.15	0.774502772	0.5840741	2.25	2.2500E-03	0.000955	-57.5427	57.54267	
0.3	288.15	0.798821982	0.7065148	3.2	3.2000E-03	0.000903	-71.7718	71.77181	
0.4	288.15	0.820465728	0.7892399	4.167	4.1670E-03	0.000853	-79.5267	79.52671	
0.5	288.15	0.845555523	0.8488763	4.683	4.6830E-03	0.000819	-82.518	82.51805	
0.6	288.15	0.872228211	0.8939065	4.55	4.5500E-03	0.000799	-82.4492	82.44921	
0.7	288.15	0.900638467	0.929111	4	4.0000E-03	0.000791	-80.2212	80.22122	
0.8	288.15	0.930961797	0.9573895	3.283	3.2830E-03	0.000796	-75.7622	75.76222	
0.9	288.15	0.963398163	0.9806028	2.317	2.3170E-03	0.000812	-64.9447	64.94467	
1	288.15	0.998176407	1	1.134	1.1340E-03	0.000841	-25.8235	25.82353	
Average Error for Temp.								74.34207	
					k_{ij}	l_{ij}			
Total Error for All T_{oi}					1.44599	0.756167			

TRIETHYLAMINE (1) - ISO-OCTANE (2)

OT - OA The values for the viscosity of triethylamine at T = 303.15 K and T = 313.15 K are about 9% higher than those of DIPPR 801 and TRC SOURCE DATABASE.

04558 Oswal, S. L.; Patel, S. G.; Int. J. Thermophys., 13(5), 817-825(1992)

P= 1 atm

Triethylamin									
(mPa s)									
303.15	0.686269104	0	0.4474	4.4740E-04	0.000532	18.88398	18.88398		
303.15	0.689221884	0.1021	0.4259	4.2590E-04	0.000452	6.038087	6.038087		
303.15	0.692216943	0.2024	0.4088	4.0880E-04	0.000413	0.917677	0.917677		

%AAD= 3.131475

Press. (DIPPR)	Temp. (K)	Prod. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	303.15	0.698448021	0.4012	0.3835	3.8350E-04	0.000382	-0.47896	0.478957	
	303.15	0.701834226	0.504	0.374	3.7400E-04	0.000371	-0.8674	0.867401	
	303.15	0.705069725	0.599	0.3676	3.6760E-04	0.00036	-2.17763	2.177633	
	303.15	0.712234693	0.7989	0.3604	3.6040E-04	0.000339	-6.00787	6.007868	
	303.15	0.715786714	0.893	0.3597	3.5970E-04	0.000336	-6.69258	6.692576	
	303.15	0.719975368	1	0.3592	3.5920E-04	0.000341	-5.14754	5.147543	3.311457
	313.15	0.677861019	0	0.4008	4.0080E-04	0.000463	15.54845	15.54845	
	313.15	0.680748843	0.1021	0.3815	3.8150E-04	0.000401	5.201276	5.201276	
	313.15	0.683677765	0.2024	0.3672	3.6720E-04	0.000373	1.455726	1.455726	
	313.15	0.689770444	0.4012	0.3448	3.4480E-04	0.000351	1.748734	1.748734	
	313.15	0.693080982	0.504	0.3369	3.3690E-04	0.000342	1.464591	1.464591	
	313.15	0.696243882	0.599	0.3315	3.3150E-04	0.000332	0.000339	0.000339	
	313.15	0.703247038	0.7989	0.3255	3.2550E-04	0.00031	-4.81107	4.811073	
	313.15	0.706718308	0.893	0.3244	3.2440E-04	0.000305	-5.97872	5.978718	
	313.15	0.710811285	1	0.3249	3.2490E-04	0.000307	-5.52117	5.521172	2.951494
<i>Average Error for Temp.</i>									
<i>Total Error for All T_{o,i}</i>									
<i>k_{ij}</i>									
<i>l_{ij}</i>									
0.5									

DIETHYLAMINE (1) - BENZENE (2)

BM - AR

00769 Lutskil, A. E.; Obukhova, E. M.; Sidorov, I. A.; J. Gen. Chem. USSR, 28, 2423-2432(1958)

P= 0.101 MPa

%AAD= 10.90922

	Diethylamine (g/m s)	
293.15	0.975764405	0.2
293.15	0.894442589	0.4
293.15	0.857984007	0.5
293.15	0.823953777	0.6
293.15	0.76226852	0.8
293.15	0.707834502	1

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	303.15	0.972064129	0.2	0.463	4.6300E-04	0.000613	32.31411	32.31411	9.877968
	303.15	0.888163306	0.4	0.393	3.9300E-04	0.000408	3.87262	3.87262	
	303.15	0.850724769	0.5	0.367	3.6700E-04	0.000355	-3.23291	3.232912	
	303.15	0.815877733	0.6	0.348	3.4800E-04	0.000321	-7.78968	7.789678	
	303.15	0.752951534	0.8	0.314	3.1400E-04	0.000288	-8.2975	8.297498	
	303.15	0.697677487	1	0.288	2.8800E-04	0.000294	2.254829	2.254829	11.10136
	308.15	1.070624384	0	0.527	5.2700E-04	0.001217	131.0162	131.0162	
	308.15	0.970151567	0.2	0.438	4.3800E-04	0.000576	31.52464	31.52464	
	308.15	0.88493366	0.4	0.374	3.7400E-04	0.000381	1.936127	1.936127	
	308.15	0.846999295	0.5	0.35	3.5000E-04	0.000331	-5.37374	5.373736	
	308.15	0.811741545	0.6	0.333	3.3300E-04	0.000299	-10.1746	10.17461	
	308.15	0.748197412	0.8	0.298	2.9800E-04	0.000269	-9.73251	9.73251	
	308.15	0.692511563	1	0.274	2.7400E-04	0.000277	1.199502	1.199502	11.74832
<i>Average Error for Temp.</i>									
<i>Total Error for All Tei</i>							<i>kij</i>	<i>ijj</i>	1.5
							163.6383	0.699839	

DIETHYLAMINE (1) - WATER (2)

BM - OI

02231 Chabert, D.; Chevalier, J. L.; Chem. Eng. Sci., 31(5), 355-7(1976)

P= 0.101 MPa

	<i>Diethylamine</i> (g/m s)	%AAD=
297.65	0.989453472	0.0033
297.65	0.980902222	0.0087
297.65	0.969267627	0.0165
297.65	0.960165064	0.023
297.65	0.954679242	0.0271
297.65	0.945613628	0.0342
297.65	0.931881473	0.0458
	9.2800E-04	0.000749
	1.0510E-03	0.000783
	1.2400E-03	0.000834
	1.4050E-03	0.000879
	1.5080E-03	0.000908
	1.6910E-03	0.000961
	1.9850E-03	0.001051
	-19.3171	19.31707
	-25.5297	25.52967
	-32.7401	32.74005
	-37.4453	37.44534
	-39.7765	39.77649
	-43.1903	43.19033
	-47.0414	47.04137

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD	
	297.65	0.9174871	0.0592	2.305	2.3050E-03	0.001163	-49.5341	49.5341		
	297.65	0.903806742	0.0733	2.604	2.6040E-03	0.001289	-50.4818	50.48177		
	297.65	0.890502697	0.0885	2.863	2.8630E-03	0.001435	-49.8851	49.88514		
	297.65	0.878258992	0.104	3.037	3.0370E-03	0.001592	-47.5658	47.56585		
	297.65	0.866619862	0.1203	3.096	3.0960E-03	0.001768	-42.9002	42.9002		
	297.65	0.854907499	0.1385	3.121	3.1210E-03	0.001974	-36.7428	36.74278		
Average Error for Temp.							40.1654			
							kij	1.5	1.5	
							Total Error for All Tej			522.1502
							ljj		1.5	1.5

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
BUTYLAMINE (1) - WATER (2)									
AM - OI									
00332 Cota Galan, J.; Rodriguez Patino, J. M.; Rosello Segado, A.; Afinidad, 41(393), 435-439(1984)									
P= 0.101 MPa							%AAD= 32.32655		
Butylamine (g/m s)									
298.15	0.896262055		0.1	2.372	2.3720E-03	0.000854	-64.0171	64.01707	
298.15	0.844415152		0.2	2.685	2.6850E-03	0.000984	-63.3694	63.36945	
298.15	0.7906944		0.4	2.006	2.0060E-03	0.001239	-38.2229	38.22293	
298.15	0.763099296		0.6	1.153	1.1530E-03	0.001153	-3.8E-05	3.82E-05	
298.15	0.74629936		0.8	0.686	6.8600E-04	0.000754	9.975161	9.975161	35.11693
313.15	0.886829126		0.1	1.574	1.5740E-03	0.000688	-56.2693	56.2693	
313.15	0.833486134		0.2	1.742	1.7420E-03	0.000796	-54.3214	54.32136	
313.15	0.778489537		0.4	1.353	1.3530E-03	0.001006	-25.6795	25.67953	
313.15	0.750346921		0.6	0.842	8.4200E-04	0.00094	11.65796	11.65796	
313.15	0.733249345		0.8	0.54	5.4000E-04	0.000617	14.21117	14.21117	32.42786
328.15	0.876660955		0.1	1.132	1.1320E-03	0.000563	-50.2307	50.23071	
328.15	0.821901084		0.2	1.219	1.2190E-03	0.000653	-46.4322	46.43216	
328.15	0.765725274		0.4	0.972	9.7200E-04	0.000829	-14.7572	14.75718	
328.15	0.737089118		0.6	0.645	6.4500E-04	0.00078	20.87136	20.87136	
328.15	0.719727859		0.8	0.447	4.4700E-04	0.000514	14.88288	14.88288	29.43486
Average Error for Temp.									
29.43486									
Total Error for All Tei									
							kij	lij	
								1.5	0.520893

PROPIONIC ACID (1) - n-BUTYLAMINE (2)

AC - AM The values for the viscosity of n-butylamine are 16 % lower than those of DIPPR 801 but agree well with other literature data over the temperature range in TRC SOURCE DATABASE.

00516 Ratkovics, F.; Salamon, T.; Acta Chim. Acad. Sci. Hung., 106(4), 313-323(1981)

P= 1 atm

%AAD= 36.08523

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac. <i>Propionic Ac</i>	Exp. Viscosity (DIPPR units) (mPa s)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	293.15	0.739015576	0	0.523	5.2300E-04	0.000532	1.768281	1.768281	
	298.15	0.734996343	0	0.48	4.8000E-04	0.000494	3.001108	3.001108	
	303.15	0.730631456	0	0.444	4.4400E-04	0.000458	3.110058	3.110058	
	308.15	0.726220315	0	0.421	4.2100E-04	0.000425	0.939326	0.939326	
	313.15	0.721761234	0	0.401	4.0100E-04	0.000395	-1.39716	1.397159	2.043186
	293.15	0.779564599	0.2	1.82	1.8200E-03	0.00479	163.1848	163.1848	
	298.15	0.775115839	0.2	1.75	1.7500E-03	0.00434	147.9964	147.9964	
	303.15	0.770622928	0.2	1.63	1.6300E-03	0.003939	141.6636	141.6636	
	308.15	0.766084317	0.2	1.56	1.5600E-03	0.003582	129.5854	129.5854	
	313.15	0.761498363	0.2	1.44	1.4400E-03	0.003262	126.5277	126.5277	
	318.15	0.756863329	0.2	1.41	1.4100E-03	0.002976	111.0639	111.0639	136.6703
	293.15	0.801291671	0.3	15.13	1.5130E-02	0.016352	8.079072	8.079072	
	298.15	0.796778115	0.3	12.72	1.2720E-02	0.014539	14.29731	14.29731	
	303.15	0.792220836	0.3	10.92	1.0920E-02	0.012951	18.59951	18.59951	
	308.15	0.787618316	0.3	9.48	9.4800E-03	0.011559	21.92838	21.92838	
	313.15	0.782968948	0.3	8.34	8.3400E-03	0.010335	23.92682	23.92682	
	318.15	0.77827103	0.3	7.31	7.3100E-03	0.009259	26.65665	26.65665	
	323.15	0.773522754	0.3	6.66	6.6600E-03	0.008309	24.75731	24.75731	
	328.15	0.768722204	0.3	6.08	6.0800E-03	0.00747	22.85618	22.85618	
	333.15	0.763667336	0.3	5.43	5.4300E-03	0.006727	23.88274	23.88274	20.55377
	293.15	0.82388494	0.4	63.74	6.3740E-02	0.04952	-22.3099	22.30992	
	298.15	0.819625654	0.4	51.68	5.1680E-02	0.043476	-15.8746	15.87459	
	303.15	0.815004101	0.4	41.89	4.1890E-02	0.037889	-9.55167	9.551665	
	308.15	0.810337917	0.4	34.98	3.4980E-02	0.0331	-5.37504	5.375037	
	313.15	0.805625537	0.4	29.06	2.9060E-02	0.028984	-0.25991	0.259914	
	318.15	0.800865306	0.4	24.58	2.4580E-02	0.025439	3.495452	3.495452	
	323.15	0.796055468	0.4	21.02	2.1020E-02	0.022378	6.458324	6.458324	
	328.15	0.791194158	0.4	18.51	1.8510E-02	0.019727	6.576248	6.576248	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	333.15	0.786279394	0.4	15.4	1.5400E-02	0.017428	13.1671	13.1671	9.229806
	293.15	0.848401462	0.5	566.2	5.6620E-01	0.096468	-82.9623	82.96228	
	298.15	0.84375847	0.5	400.2	4.0020E-01	0.082606	-79.3588	79.35882	
	303.15	0.83907306	0.5	300.9	3.0090E-01	0.070955	-76.419	76.41901	
	308.15	0.834343805	0.5	230.9	2.3090E-01	0.06113	-73.5255	73.52553	
	313.15	0.829569192	0.5	176.5	1.7650E-01	0.052816	-70.0758	70.07582	
	318.15	0.824747625	0.5	136.6	1.3660E-01	0.04576	-66.5005	66.50052	
	323.15	0.81987741	0.5	112.7	1.1270E-01	0.039754	-64.7263	64.72626	
	328.15	0.814956751	0.5	85.4	8.5400E-02	0.034625	-59.4557	59.45569	
	333.15	0.809983738	0.5	70.3	7.0300E-02	0.030233	-56.9936	56.99365	70.00195
	293.15	0.873995121	0.6	178	1.7800E-01	0.084199	-52.697	52.69701	
	298.15	0.869288156	0.6	137.5	1.3750E-01	0.072646	-47.1666	47.16655	
	303.15	0.864539704	0.6	107.7	1.0770E-01	0.062854	-41.6395	41.63947	
	308.15	0.859748397	0.6	85.1	8.5100E-02	0.05453	-35.922	35.92202	
	313.15	0.854912791	0.6	71.2	7.1200E-02	0.047433	-33.3801	33.38014	
	318.15	0.850031359	0.6	57.9	5.7900E-02	0.041365	-28.5576	28.55763	
	323.15	0.845102485	0.6	47.7	4.7700E-02	0.036162	-24.1881	24.18813	
	328.15	0.840124456	0.6	41.4	4.1400E-02	0.031689	-23.4556	23.45564	
	333.15	0.835095456	0.6	35.3	3.5300E-02	0.027834	-21.1501	21.15013	34.23964
	293.15	0.901109471	0.7	54.56	5.4560E-02	0.036023	-33.9761	33.97612	
	298.15	0.896339609	0.7	43.2	4.3200E-02	0.031854	-26.2647	26.26469	
	303.15	0.891529419	0.7	35.21	3.5210E-02	0.028224	-19.8404	19.84039	
	308.15	0.886677607	0.7	29.21	2.9210E-02	0.025058	-14.2151	14.21507	
	313.15	0.88178281	0.7	24.51	2.4510E-02	0.02229	-9.05913	9.059125	
	318.15	0.876843589	0.7	20.64	2.0640E-02	0.019865	-3.75625	3.756248	
	323.15	0.871858423	0.7	17.83	1.7830E-02	0.017736	-0.52549	0.525495	
	328.15	0.866825702	0.7	15.1	1.5100E-02	0.015865	5.062944	5.062944	
	333.15	0.86174372	0.7	13.58	1.3580E-02	0.014215	4.677679	4.677679	13.04197

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	293.15	0.915279898	0.75	30.14	3.0140E-02	0.020363	-32.4373	32.43729	
	298.15	0.910479162	0.75	25.03	2.5030E-02	0.018245	-27.1085	27.10849	
	303.15	0.905638774	0.75	20.17	2.0170E-02	0.016375	-18.8159	18.81592	
	308.15	0.900757486	0.75	17.49	1.7490E-02	0.014722	-15.8288	15.82884	
	313.15	0.895833981	0.75	15.02	1.5020E-02	0.013257	-11.7361	11.73609	
	318.15	0.89086687	0.75	12.59	1.2590E-02	0.011958	-5.01892	5.018925	
	323.15	0.885854687	0.75	11.15	1.1150E-02	0.010804	-3.10672	3.106721	
	328.15	0.880795881	0.75	9.98	9.9800E-03	0.009776	-2.04518	2.045175	
	333.15	0.875688812	0.75	7.97	7.9700E-03	0.00886	11.16141	11.16141	14.13987
	293.15	0.929884194	0.8	18.72	1.8720E-02	0.011135	-40.5199	40.51988	
	298.15	0.925053073	0.8	15.68	1.5680E-02	0.010095	-35.6156	35.61558	
	303.15	0.920183051	0.8	13	1.3000E-02	0.009167	-29.4821	29.48206	
	308.15	0.915272926	0.8	11.15	1.1150E-02	0.008337	-25.2277	25.22769	
	313.15	0.910321434	0.8	9.51	9.5100E-03	0.007593	-20.1539	20.15385	
	318.15	0.905327242	0.8	8.34	8.3400E-03	0.006926	-16.9532	16.95323	
	323.15	0.900288944	0.8	7.33	7.3300E-03	0.006327	-13.6894	13.68945	
	328.15	0.895205056	0.8	6.47	6.4700E-03	0.005787	-10.5549	10.5549	
	333.15	0.890074009	0.8	5.81	5.8100E-03	0.005301	-8.76104	8.761043	22.32863
	293.15	0.952648757	0.875	5.08	5.0800E-03	0.004574	-9.95258	9.952579	
	298.15	0.947773177	0.875	4.48	4.4800E-03	0.004206	-6.11428	6.114277	
	303.15	0.942859973	0.875	4.05	4.0500E-03	0.003873	-4.37306	4.373063	
	308.15	0.937908024	0.875	3.57	3.5700E-03	0.003571	0.030316	0.030316	
	313.15	0.932916152	0.875	3.09	3.0900E-03	0.003297	6.709836	6.709836	
	318.15	0.92788312	0.875	2.86	2.8600E-03	0.003049	6.598189	6.598189	
	323.15	0.922807625	0.875	2.73	2.7300E-03	0.002823	3.392032	3.392032	
	328.15	0.917688294	0.875	2.52	2.5200E-03	0.002617	3.837609	3.837609	
	333.15	0.912523679	0.875	2.43	2.4300E-03	0.002429	-0.04227	0.042265	4.56113
Average Error for Temp.									

klj *llj*

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%D	%AD	%AAD
PROPIONIC ACID (1) - DI-n-BUTYLAMINE (2) AC - BM 00516 Ralkovics, F.; Salamon, T.; Acta Chim. Acad. Sci. Hung., 106(4), 313-323(1981) P= 1 atm									
				<i>Propionic Ac</i>	<i>(mPa s)</i>			%AAD=	53.39172
	293.15	0.762608208	0	0	0.85	8.5000E-04	0.001002	17.83245	17.83245
	303.15	0.754917952	0	0	0.73	7.3000E-04	0.00849	16.27903	16.27903
	313.15	0.747120784	0	0	0.64	6.4000E-04	0.00726	13.43548	13.43548
	323.15	0.739210638	0	0	0.56	5.6000E-04	0.00626	11.86215	11.86215
	333.15	0.731180871	0	0	0.5	5.0000E-04	0.00545	9.029167	9.029167
								13.68765	13.68765
	293.5	0.785178205	0.2	2.45	2.45	2.4500E-03	0.003112	27.02024	27.02024
	298.15	0.781509945	0.2	2.21	2.21	2.2100E-03	0.002882	30.39613	30.39613
	303.15	0.777539623	0.2	2.05	2.05	2.0500E-03	0.002659	29.71525	29.71525
	308.15	0.773541687	0.2	1.87	1.87	1.8700E-03	0.002459	31.51801	31.51801
	313.15	0.769515371	0.2	1.69	1.69	1.6900E-03	0.00228	34.89311	34.89311
	318.15	0.765459873	0.2	1.54	1.54	1.5400E-03	0.002118	37.51347	37.51347
	323.15	0.761374356	0.2	1.44	1.44	1.4400E-03	0.001971	36.90006	36.90006
	328.15	0.757257943	0.2	1.34	1.34	1.3400E-03	0.001839	37.22765	37.22765
	333.15	0.753109714	0.2	1.24	1.24	1.2400E-03	0.001719	38.5969	38.5969
								33.75342	33.75342
	293.15	0.814890726	0.4	20.21	20.21	2.0210E-02	0.017642	-12.7077	12.7077
	298.15	0.810804144	0.4	15.81	15.81	1.5810E-02	0.01581	-0.00135	0.001354
	303.15	0.806689551	0.4	12.24	12.24	1.2240E-02	0.014212	16.10999	16.10999
	308.15	0.802546184	0.4	9.94	9.94	9.9400E-03	0.012813	28.90844	28.90844
	313.15	0.798373244	0.4	7.97	7.97	7.9700E-03	0.011586	45.36771	45.36771
	318.15	0.794169896	0.4	6.42	6.42	6.4200E-03	0.010505	63.62199	63.62199
	323.15	0.789935266	0.4	5.61	5.61	5.6100E-03	0.009549	70.21825	70.21825
	328.15	0.785668441	0.4	4.66	4.66	4.6600E-03	0.008703	86.7529	86.7529
	333.15	0.781368461	0.4	3.99	3.99	3.9900E-03	0.00795	99.25401	99.25401
Total Error for All Test Data = 1.5116255									

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	303.15	0.82466438	0.5	48.04	4.8040E-02	0.023668	-50.732	50.73199	46.99359
	308.15	0.820431495	0.5	35.66	3.5660E-02	0.021089	-40.8609	40.86085	45.43473
	313.15	0.816168298	0.5	27.31	2.7310E-02	0.018852	-30.97	30.97004	
	318.15	0.811873931	0.5	21.32	2.1320E-02	0.016905	-20.7081	20.70813	
	323.15	0.8075475	0.5	17.49	1.7490E-02	0.015204	-13.0687	13.06871	
	328.15	0.803188066	0.5	13.81	1.3810E-02	0.013714	-0.69823	0.698234	
	333.15	0.798794648	0.5	11.45	1.1450E-02	0.012403	8.319467	8.319467	23.62249
	293.15	0.854254647	0.6	109.28	1.0928E-01	0.027921	-74.4497	74.4497	34.88629
	298.15	0.84997718	0.6	80.86	8.0860E-02	0.024783	-69.3511	69.3511	
	303.15	0.845670179	0.6	64.2	6.4200E-02	0.02207	-65.6235	65.62353	
	308.15	0.841332838	0.6	49.41	4.9410E-02	0.019716	-60.0966	60.09657	
	313.15	0.836964314	0.6	39.46	3.9460E-02	0.017668	-55.2262	55.22625	
	318.15	0.832563726	0.6	31.87	3.1870E-02	0.015878	-50.1773	50.17729	
	323.15	0.828130155	0.6	25.8	2.5800E-02	0.014311	-44.5325	44.53246	
	328.15	0.823662634	0.6	21.24	2.1240E-02	0.012932	-39.1135	39.11345	
	333.15	0.819160152	0.6	17.99	1.7990E-02	0.011717	-34.8704	34.87043	54.82675
	293.15	0.879372599	0.7	125.94	1.2594E-01	0.01459	-88.4155	88.41549	62.7722
	298.15	0.874973644	0.7	94.32	9.4320E-02	0.013162	-86.0449	86.04487	
	303.15	0.870544174	0.7	72.81	7.2810E-02	0.011906	-83.6484	83.64836	
	308.15	0.866083356	0.7	54.5	5.4500E-02	0.010796	-80.1913	80.19133	
	313.15	0.86159032	0.7	42.04	4.2040E-02	0.009813	-76.658	76.65797	
	318.15	0.857064155	0.7	34.15	3.4150E-02	0.008941	-73.8196	73.81965	
	323.15	0.85250391	0.7	27.7	2.7700E-02	0.008164	-70.5265	70.52652	
	328.15	0.847908588	0.7	22.53	2.2530E-02	0.007471	-66.8381	66.83809	
	333.15	0.843277142	0.7	18.98	1.8980E-02	0.006852	-63.9004	63.90038	76.67141
	293.15	0.893749605	0.75	139.33	1.3933E-01	0.009369	-93.2753	93.27533	77.48099
	298.15	0.889281222	0.75	102.52	1.0252E-01	0.008529	-91.6805	91.68046	
	303.15	0.884781761	0.75	74.31	7.4310E-02	0.007782	-89.528	89.52796	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	308,15	0.880250372	0.75	58.19	5.8190E-02	0.007115	-87.7721	87.77207	
	313,15	0.875686168	0.75	44.26	4.4260E-02	0.00652	-85.2688	85.2688	
	318,15	0.871088224	0.75	35.31	3.5310E-02	0.005987	-83.045	83.04499	
	323,15	0.866455569	0.75	27.67	2.7670E-02	0.005508	-80.0931	80.09311	
	328,15	0.861787187	0.75	22.14	2.2140E-02	0.005078	-77.0653	77.06529	
	333,15	0.857082013	0.75	18.63	1.8630E-02	0.00469	-74.8274	74.82736	84.72837 83.89881
	293,15	0.909584425	0.8	16.74	1.6740E-02	0.005871	-64.9274	64.92744	
	298,15	0.905039668	0.8	14.24	1.4240E-02	0.005388	-62.164	62.16398	
	303,15	0.900463208	0.8	11.85	1.1850E-02	0.004954	-58.1924	58.19237	
	308,15	0.89585418	0.8	10.22	1.0220E-02	0.004564	-55.3391	55.3391	
	313,15	0.891211679	0.8	8.75	8.7500E-03	0.004213	-51.8496	51.84957	
	318,15	0.88653476	0.8	7.62	7.6200E-03	0.003896	-48.8687	48.86869	
	323,15	0.881822432	0.8	6.98	6.9800E-03	0.00361	-48.2867	48.28675	
	328,15	0.877073659	0.8	6.22	6.2200E-03	0.00335	-46.1431	46.14315	
	333,15	0.872287356	0.8	5.42	5.4200E-03	0.003114	-42.5432	42.54323	53.14603 46.80797
Average Error for Temp.									
Total Error for All T_{oi}				k_{ij}		l_{ij}		0.5	
				3316.434		1.493688			

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
ANILINE (1) - TOLUENE (2)									
RM - AR									
01407 Katz, M.; Lobo, P. W.; Minano, A. S.; Solimo, H.; Can. J. Chem., 49, 2605-2609(1971)									
P= 1 atm									
%AAD= 3.845843									
Aniline (cP)									
			Aniline						
298.15	1.014093197		1	3.773	3.7730E-03	0.002517	-33.3012	33.30123	
298.15	0.996897428		0.8998	2.822	2.8220E-03	0.002193	-22.2834	22.28342	
298.15	0.980454697		0.80091	2.199	2.1990E-03	0.001918	-12.774	12.77396	
298.15	0.963838367		0.69777	1.723	1.7230E-03	0.001636	-5.05676	5.056764	
298.15	0.94860993		0.60028	1.406	1.4060E-03	0.001385	-1.46021	1.460214	
298.15	0.9333306709		0.49932	1.146	1.1460E-03	0.001158	1.01038	1.01038	
298.15	0.917491044		0.39168	0.94	9.4000E-04	0.000956	1.709793	1.709793	
298.15	0.904463177		0.30038	0.814	8.1400E-04	0.000817	0.422932	0.422932	
298.15	0.89026125		0.19802	0.701	7.0100E-04	0.000694	-1.05984	1.059844	
298.15	0.876739716		0.0977	0.62	6.2000E-04	0.000603	-2.78731	2.787313	
298.15	0.863933615		0	0.557	5.5700E-04	0.000548	-1.70205	1.702052	
5.396069									
303.15	1.010097422		1	3.184	3.1840E-03	0.002309	-27.4768	27.47677	
303.15	0.992812892		0.8998	2.423	2.4230E-03	0.002007	-17.1876	17.18759	
303.15	0.976290381		0.80091	1.907	1.9070E-03	0.001752	-8.1314	8.131396	
303.15	0.959598489		0.69777	1.522	1.5220E-03	0.001494	-1.8496	1.8496	
303.15	0.944305264		0.60028	1.253	1.2530E-03	0.001267	1.090608	1.090608	
303.15	0.928941235		0.49932	1.074	1.0740E-03	0.001061	-1.21759	1.21759	
303.15	0.913067253		0.39168	0.867	8.6700E-04	0.00088	1.462229	1.462229	
303.15	0.899994802		0.30038	0.752	7.5200E-04	0.000755	0.451152	0.451152	
303.15	0.885747826		0.19802	0.653	6.5300E-04	0.000645	-1.26045	1.260446	
303.15	0.872186845		0.0977	0.576	5.7600E-04	0.000564	-2.03976	2.039758	
303.15	0.859346482		0	0.524	5.2400E-04	0.000517	-1.42127	1.421274	
3.854486									
308.15	1.006081709		1	2.748	2.7480E-03	0.002123	-22.7545	22.75453	
308.15	0.988706407		0.8998	2.122	2.1220E-03	0.001839	-13.3199	13.31993	
308.15	0.972102364		0.80091	1.696	1.6960E-03	0.001603	-5.45992	5.459918	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	308.15	0.955333301	0.69777	1.367	1.3670E-03	0.001367	-0.00018	0.000184	
	308.15	0.939973955	0.60028	1.139	1.1390E-03	0.00116	1.886142	1.886142	
	308.15	0.924547911	0.49932	0.954	9.5400E-04	0.000974	2.134685	2.134685	
	308.15	0.908614498	0.39168	0.803	8.0300E-04	0.000811	0.999446	0.999446	
	308.15	0.895496645	0.30038	0.72	7.2000E-04	0.000699	-2.8603	2.860304	
	308.15	0.88120383	0.19802	0.615	6.1500E-04	0.0006	-2.36039	2.36039	
	308.15	0.867602742	0.0977	0.545	5.4500E-04	0.000529	-2.91696	2.916961	
	308.15	0.854727572	0	0.501	5.0100E-04	0.000488	-2.58725	2.587249	3.548662
	313.15	1.002045841	1	2.345	2.3450E-03	0.001955	-16.6383	16.63831	
	313.15	0.984577467	0.8998	1.863	1.8630E-03	0.001689	-9.32563	9.32563	
	313.15	0.967890064	0.80091	1.486	1.4860E-03	0.00147	-1.0538	1.053797	
	313.15	0.951042154	0.69777	1.216	1.2160E-03	0.001253	3.079041	3.079041	
	313.15	0.935615299	0.60028	1.03	1.0300E-03	0.001065	3.433455	3.433455	
	313.15	0.920125981	0.49932	0.872	8.7200E-04	0.000897	2.829473	2.829473	
	313.15	0.904131976	0.39168	0.74	7.4000E-04	0.000749	1.242575	1.242575	
	313.15	0.890967871	0.30038	0.65	6.5000E-04	0.000649	-0.18726	0.18726	
	313.15	0.876628392	0.19802	0.57	5.7000E-04	0.00056	-1.71641	1.716409	
	313.15	0.862986512	0.0977	0.495	4.9500E-04	0.000497	0.38976	0.38976	
	313.15	0.850075971	0	0.47	4.7000E-04	0.000462	-1.75772	1.757723	2.584156
Average Error for Temp.									
Total Error for All Temp.							k/J	h/J	1.5
							0.76554		

PHENOL (1) - ANILINE (2)

RL - RM

00298 Thole, F. B.; Mussel, A. G.; Dunstan, A. E.; J. Chem. Soc., 103, 1108-1119(1913)

P= 1 atm

Wt. Frac.		Phenol	(P)	%AAD=
0	308.15	1.006081709	0	2.585358
0.351	308.15	1.025431005	0.3486	
			0.0279	
			2.7900E-03	
			0.002123	
			-23.9174	
			23.91737	
			0.00539	
			5.3900E-03	
			0.00042	
			0.00042	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
0.514	308.15	1.034674171	0.5114	0.0654	6.5400E-03	0.006807	4.079113	4.079113	
0.679	308.15	1.044198125	0.6767	0.0721	7.2100E-03	0.007178	-0.43925	0.439246	
0.797	308.15	1.05111935	0.7953	0.0692	6.9200E-03	0.006517	-5.82265	5.822651	
1	308.15	1.063241896	1	0.0555	5.5500E-03	0.004059	-26.8703	26.87034	2.585358
Average Error for Temp.									
Total Error for All T_{oi}									
							k_{ij}	l_{ij}	1.5

ANILINE (1) - ETHANOL (2)

RM - AL Viscosity values converted from relative viscosity using TRC value for ethanol.

00037 Hirata, T.; J. Fac. Sci. Imp. Univ. Tokyo Sect. 1, 25(5), 1-15(1908)

P= 0.101 MPa

	Aniline (g/m s)	%AAD=
298.1 0.843083127 0.1757636	1.3079	1.3079E-03 0.001317 0.698863 0.698863
298.1 0.814519286 0.0837375	1.1761	1.1761E-03 0.00109 -7.2832 7.283202
298.1 0.800231428 0.0409043	1.1301	1.1301E-03 0.00099 -12.3627 12.36275
298.1 0.793086014 0.0202193	1.1128	1.1128E-03 0.000944 -15.202 15.20203
298.1 0.789512917 0.0100524	1.1017	1.1017E-03 0.000921 -16.397 16.39703
298.1 0.787726277 0.005012	1.0938	1.0938E-03 0.00091 -16.8072 16.80723
		11.45852

ANILINE (1) - ETHANOL (2)

RM - AL

(From Irving, NEL Report, 1977 - Hatem, 1949)

P= 0.101 MPa

Wt Frac	Aniline (cP)	%AAD=
0 293.15 0.790327145 0	1.2	1.2000E-03 0.001008 -16.017 16.01699
0.1 293.15 0.808411319 0.0521011	1.265	1.2650E-03 0.001138 -10.008 10.00797
0.2 293.15 0.827342473 0.1100596	1.36	1.3600E-03 0.001292 -4.33233 4.332331
0.3 293.15 0.847181538 0.1749223	1.47	1.4700E-03 0.00147 -0.0006 0.000598

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
0.4	293.15	0.86799543	0.2480009	1.62	1.6200E-03	0.001676	3.427806	3.427806	
0.5	293.15	0.88985781	0.3309619	1.82	1.8200E-03	0.001907	4.780097	4.780097	
0.6	293.15	0.912849951	0.4259553	2.09	2.0900E-03	0.002158	3.230715	3.230715	
0.7	293.15	0.937061746	0.5358036	2.41	2.4100E-03	0.00241	-0.00013	0.000131	
0.8	293.15	0.962592888	0.6642867	2.835	2.8350E-03	0.002631	-7.18431	7.184313	
0.9	293.15	0.989554239	0.8165861	3.5	3.5000E-03	0.002768	-20.92	20.92	
1	293.15	1.018069437	1	4.45	4.4500E-03	0.002748	-38.2541	38.25409	
Average Error for Temp.									5.987107
Total Error for All Temp.									1.051993
									0.993551

ANILINE (1) - ACETIC ACID (2)

RM - AC

00045 Mathews, J. H.; Cooke, R. D.; J. Phys. Chem., 18, 559-573(1914)

P= 0.101 MPa

Wt. Frac.		Aniline (g/m s)	%AAD=
0.25	317.1	1.016465247	0.1769
0.4	317.1	1.012891933	0.3006
0.55	317.1	1.009340716	0.4408
0.7	317.1	1.005818303	0.6007
			55.27388
			54.09732

ANILINE (1) - ACETIC ACID (2)

RM - AC

00574 Faust, O.; Z. Phys. Chem. Stoechiom. Verwandtschaftsl., 79, 97-123(1912)

P= 0.101 MPa

	Aniline (g/m s)	%AAD=
291.15	1.049080547	0
291.15	1.040689901	0.2
291.15	1.038864074	0.25
		22.03394
		86.78913
		86.46342

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	291.15	1.0371305	0.3	22.57	2.2570E-02	0.003298	-85.3855	85.38553	
	291.15	1.033913485	0.4	19.55	1.9550E-02	0.004007	-79.5048	79.50479	
	291.15	1.028326348	0.6	8.7	8.7000E-03	0.004805	-44.7647	44.76475	
	291.15	1.023640663	0.8	4.6	4.6000E-03	0.004326	-5.96424	5.964237	
	291.15	1.019654551	1	3.28	3.2800E-03	0.002848	-13.186	13.18595	64.81198
	332.15	1.006512345	0	0.7	7.0000E-04	0.000696	-0.52115	0.521148	
	332.15	1.000844378	0.2	2.93	2.9300E-03	0.001302	-55.5507	55.55066	
	332.15	0.998607428	0.25	3.37	3.3700E-03	0.001477	-56.1654	56.16545	
	332.15	0.998431787	0.3	3.54	3.5400E-03	0.001651	-53.3475	53.34752	
	332.15	0.996247059	0.4	3.22	3.2200E-03	0.001973	-38.7223	38.72231	
	332.15	0.992443209	0.6	2.23	2.2300E-03	0.002335	4.689387	4.689387	
	332.15	0.989243725	0.8	1.74	1.7400E-03	0.002122	21.95566	21.95566	
	332.15	0.986515172	1	1.5	1.5000E-03	0.001452	-3.18338	3.183381	38.40516
	373.15	0.960648387	0	0.43	4.3000E-04	0.00044	2.221424	2.221424	
	373.15	0.958174528	0.2	0.74	7.4000E-04	0.00074	-1.2E-07	1.24E-07	
	373.15	0.957632623	0.25	0.85	8.5000E-04	0.000827	-2.74252	2.74252	
	373.15	0.957116902	0.3	0.83	8.3000E-04	0.000913	9.995589	9.995589	
	373.15	0.956156772	0.4	0.8	8.0000E-04	0.001072	33.99695	33.99695	
	373.15	0.954479627	0.6	0.7	7.0000E-04	0.001252	78.86419	78.86419	
	373.15	0.953063561	0.8	0.6	6.0000E-04	0.001153	92.12657	92.12657	
	373.15	0.951852012	1	0.52	5.2000E-04	0.000829	59.40972	59.40972	36.28764

ANILINE (1) - ACETIC ACID (2)

RM - AC

00298 Thole, F. B.; Mussel, A. G.; Dunstan, A. E.; J. Chem. Soc., 103, 1108-1119(1913)

P= 0.101 MPa

Wt. Frac.	0	298.1	1.04206328	Aniline	0	1.34	1.3400E-03	0.001109	-17.2312	17.23116
			(g/m s)							

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
0.155	298.1	1.037632694	0.1058	7.29	7.2900E-03	0.00166	-77.2314	77.23141	
0.247	298.1	1.035022077	0.1746	12.3	1.2300E-02	0.002083	-83.0667	83.06674	
0.379	298.1	1.031298787	0.2824	21.9	2.1900E-02	0.002795	-87.2394	87.23938	
0.409	298.1	1.030454694	0.3086	21.4	2.1400E-02	0.002967	-86.1364	86.13642	
0.445	298.1	1.029447205	0.3408	20.3	2.0300E-02	0.003173	-84.3692	84.36918	
0.4955	298.1	1.028032835	0.3878	18.1	1.8100E-02	0.003457	-80.9026	80.90265	
0.623	298.1	1.024484624	0.5159	11.8	1.1800E-02	0.004045	-65.717	65.71695	
1	298.1	1.014133055	1	3.62	3.6200E-03	0.002519	-30.4217	30.42172	80.6661
0	323.1	1.01265463	0.1058	2.96	2.9600E-03	0.001128	-61.9049	61.90487	
0.155	323.1	1.007629253	0.2824	5.65	5.6500E-03	0.001835	-67.53	67.52997	
0.247	323.1	1.006958671	0.3086	5.58	5.5800E-03	0.001941	-65.2121	65.21207	
0.379	323.1	1.006158011	0.3408	5.23	5.2300E-03	0.002069	-60.4468	60.44685	
0.409	323.1	1.002208931	0.5159	3.82	3.8200E-03	0.002606	-31.7815	31.7815	
0.445	323.1	0.993951593	1	2.01	2.0100E-03	0.001668	-17.0186	17.01856	57.37505
Average Error for Temp.									
Total Error for All T_{oi}							k_{ij}	l_{ij}	1.5

ANILINE (1) - 1-BUTANOL (2)

RM - AL

01407 Katz, M.; Lobo, P. W.; Minano, A. S.; Solimo, H.; Can. J. Chem., 49, 2605-2609(1971)

P= 0.101 MPa

%AAD= 5.063027

Aniline	(g/m s)	%AAD
298.15	1.014093197	1
298.15	0.993129108	0.89956
298.15	0.972931861	0.80276
298.15	0.950370501	0.69459
298.15	0.930750827	0.60049
298.15	0.90641363	0.48372
298.15	0.890125007	0.40554
	3.773	3.7730E-03
	3.231	3.2310E-03
	2.899	2.8990E-03
	2.637	2.6370E-03
	2.474	2.4740E-03
	2.343	2.3430E-03
	2.287	2.2870E-03
	0.002517	-33.3012
	0.002496	-22.754
	0.00245	-15.5007
	0.002379	-9.76914
	0.002313	-6.51079
	0.002238	-4.47163
	0.002201	-3.755

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	298.15	0.869213539	0.30514	2.249	2.2490E-03	0.002179	-3.13057	3.130566	
	298.15	0.845967667	0.19349	2.278	2.2780E-03	0.002202	-3.3531	3.353103	
	298.15	0.826474484	0.09983	2.368	2.3680E-03	0.002277	-3.85186	3.851865	
	298.15	0.805704299	0	2.592	2.5920E-03	0.002438	-5.92828	5.928281	8.121864
	303.15	1.010097422	1	3.184	3.1840E-03	0.002309	-27.4768	27.47677	
	303.15	0.98910152	0.89956	2.745	2.7450E-03	0.002281	-16.8999	16.89993	
	303.15	0.968878216	0.80276	2.468	2.4680E-03	0.00223	-9.6363	9.6363	
	303.15	0.946293078	0.69459	2.248	2.2480E-03	0.002157	-4.0597	4.0597	
	303.15	0.926657295	0.60049	2.13	2.1300E-03	0.002088	-1.94976	1.949763	
	303.15	0.90230602	0.48372	2.01	2.0100E-03	0.002011	0.06043	0.06043	
	303.15	0.886011625	0.40554	1.965	1.9650E-03	0.001971	0.310009	0.310009	
	303.15	0.865097038	0.30514	1.941	1.9410E-03	0.001942	0.028967	0.028967	
	303.15	0.84185336	0.19349	1.965	1.9650E-03	0.00195	-0.76088	0.760877	
	303.15	0.822366607	0.09983	2.049	2.0490E-03	0.002005	-2.17134	2.171344	
	303.15	0.801607882	0	2.224	2.2240E-03	0.002131	-4.18728	4.18728	3.986369
	308.15	1.006081709	1	2.748	2.7480E-03	0.002123	-22.7545	22.75453	
	308.15	0.985051323	0.89956	2.375	2.3750E-03	0.002089	-12.0436	12.04359	
	308.15	0.964799565	0.80276	2.144	2.1440E-03	0.002035	-5.09489	5.09489	
	308.15	0.94218817	0.69459	1.971	1.9710E-03	0.00196	-0.57577	0.575771	
	308.15	0.92253429	0.60049	1.857	1.8570E-03	0.001891	1.823086	1.823086	
	308.15	0.898166683	0.48372	1.77	1.7700E-03	0.001813	2.413405	2.413405	
	308.15	0.881865138	0.40554	1.722	1.7220E-03	0.001771	2.839832	2.839832	
	308.15	0.860945809	0.30514	1.703	1.7030E-03	0.001737	1.969614	1.969614	
	308.15	0.837702709	0.19349	1.734	1.7340E-03	0.001734	-0.0023	0.002305	
	308.15	0.818221186	0.09983	1.8	1.8000E-03	0.001772	-1.55505	1.555047	
	308.15	0.797472789	0	1.958	1.9580E-03	0.00187	-4.49422	4.494219	3.146394
	313.15	1.002045641	1	2.345	2.3450E-03	0.001955	-16.6383	16.63831	
	313.15	0.980977976	0.89956	2.048	2.0480E-03	0.001917	-6.40888	6.408878	
	313.15	0.960695255	0.80276	1.861	1.8610E-03	0.00186	-0.02919	0.029191	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	313.15	0.93805501	0.69459	1.709	1.7090E-03	0.001785	4.439325	4.439325	
	313.15	0.918380957	0.60049	1.613	1.6130E-03	0.001717	6.41833	6.41833	
	313.15	0.893994666	0.48372	1.529	1.5290E-03	0.001639	7.180689	7.180689	
	313.15	0.87768453	0.40554	1.468	1.4680E-03	0.001596	8.739934	8.739934	
	313.15	0.856758767	0.30514	1.44	1.4400E-03	0.001559	8.250208	8.250208	
	313.15	0.833514567	0.19349	1.5	1.5000E-03	0.001548	3.193161	3.193161	
	313.15	0.814037024	0.09983	1.568	1.5680E-03	0.001573	0.317625	0.317625	
	313.15	0.793297782	0	1.7	1.7000E-03	0.001648	-3.05313	3.053125	
Average Error for Temp.									4.997482
Total Error for All T_{ei}							182.269	1.04095	0.84553

BENZENE (1) - ANILINE (2)

AR - RM

01178 Pannettier, G.; Abello, L.; Bull. Soc. Chim. Fr., 7, 2048(1965)

P= 0.101 MPa

		Benzene	(g/m s)					%AAD=
298.1	1.014133055	0	3.72	3.7200E-03	0.002519	-32.2921	32.29211	
298.1	1.012758189	0.01	3.64	3.6400E-03	0.002484	-31.7659	31.76587	
298.1	1.010556933	0.026	3.555	3.5550E-03	0.002432	-31.5951	31.59507	
298.1	0.997587895	0.12	2.895	2.8950E-03	0.00218	-24.7068	24.7068	
298.1	0.985806359	0.205	2.461	2.4610E-03	0.001972	-19.8893	19.8893	
298.1	0.972018961	0.304	2.022	2.0220E-03	0.001727	-14.6096	14.60961	
298.1	0.95998453	0.39	1.67	1.6700E-03	0.001519	-9.04275	9.042746	
298.1	0.949023035	0.468	1.448	1.4480E-03	0.001343	-7.23525	7.235251	
298.1	0.941690636	0.52	1.307	1.3070E-03	0.001235	-5.50339	5.503388	
298.1	0.92668216	0.626	1.1	1.1000E-03	0.001039	-5.53568	5.535675	
298.1	0.921566025	0.662	1.056	1.0560E-03	0.00098	-7.20096	7.200963	
298.1	0.902724215	0.794	0.861	8.6100E-04	0.000793	-7.8954	7.895398	
298.1	0.888075047	0.896	0.714	7.1400E-04	0.00068	-4.6933	4.693297	
298.1	0.87305751	1	0.604	6.0400E-04	0.000602	-0.27926	0.279261	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
									14.13945

ANILINE (1) - BENZENE (2)

RM - AR

(From Irving, NEL Report, 1977 - Udovenko, 1940)

P= 0.101 MPa

		Aniline		(cP)	
298.15	0.873007427	0	0.603	6.0300E-04	0.000602
298.15	0.887449698	0.1	0.7	7.0000E-04	0.000676
298.15	0.90181626	0.2	0.82	8.2000E-04	0.000785
298.15	0.916107706	0.3	0.993	9.9300E-04	0.000921
298.15	0.930324624	0.4	1.133	1.1330E-03	0.001083
298.15	0.944467597	0.5	1.347	1.3470E-03	0.001275
298.15	0.958537198	0.6	1.607	1.6070E-03	0.001494
298.15	0.972533998	0.7	1.967	1.9670E-03	0.001735
298.15	0.98645856	0.8	2.4	2.4000E-03	0.001982
298.15	1.000311442	0.9	2.967	2.9670E-03	0.002227
298.15	1.014093197	1	3.715	3.7150E-03	0.002517

9.546054

ANILINE (1) - BENZENE (2)

RM - AR

(From Irving, NEL Report, 1977 - Wiukander, 1878)

P= 0.101 MPa

		Aniline		(cP)	
303.15	0.867979124	0	0.5	5.0000E-04	0.000562
303.15	0.882503231	0.1	0.58	5.8000E-04	0.000627
303.15	0.896956591	0.2	0.673	6.7300E-04	0.000723
303.15	0.911339719	0.3	0.793	7.9300E-04	0.000844
303.15	0.925653127	0.4	0.953	9.5300E-04	0.000989

3.811449

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	303,15	0.93989732	0.5	1.133	1.1330E-03	0.001161	2.510465	2.510465	9.659081
	303,15	0.954072798	0.6	1.427	1.4270E-03	0.00136	-4.69658	4.696583	
	303,15	0.968180059	0.7	1.793	1.7930E-03	0.001579	-11.9376	11.93761	
	303,15	0.982219593	0.8	2.2	2.2000E-03	0.001806	-17.8923	17.8923	
	303,15	0.996191886	0.9	2.687	2.6870E-03	0.002036	-24.2367	24.2367	
	303,15	1.010097422	1	3.238	3.2380E-03	0.002309	-28.6862	28.68624	
	313,15	0.85779985	0	0.453	4.5300E-04	0.000493	8.757539	8.757539	5.207882
	313,15	0.872491248	0.1	0.513	5.1300E-04	0.000541	5.466402	5.466402	
	313,15	0.88712238	0.2	0.593	5.9300E-04	0.000617	4.007199	4.007199	
	313,15	0.901693616	0.3	0.687	6.8700E-04	0.000713	3.82876	3.82876	
	313,15	0.916205323	0.4	0.807	8.0700E-04	0.000831	2.928282	2.928282	
	313,15	0.930657865	0.5	0.94	9.4000E-04	0.000971	3.261456	3.261456	
	313,15	0.945051604	0.6	1.133	1.1330E-03	0.001134	0.073071	0.073071	
	313,15	0.959386897	0.7	1.36	1.3600E-03	0.001316	-3.21489	3.214893	
	313,15	0.9736641	0.8	1.66	1.6600E-03	0.00151	-9.05755	9.057547	
	313,15	0.987883565	0.9	2.013	2.0130E-03	0.00171	-15.0333	15.03333	
	313,15	1.002045641	1	2.45	2.4500E-03	0.001955	-20.211	20.21095	
	323,15	0.847448009	0	0.387	3.8700E-04	0.000435	12.37208	12.37208	4.218606
	323,15	0.862311827	0.1	0.44	4.4000E-04	0.000471	6.959708	6.959708	
	323,15	0.877126664	0.2	0.5	5.0000E-04	0.00053	6.048608	6.048608	
	323,15	0.891892762	0.3	0.593	5.9300E-04	0.000608	2.488008	2.488008	
	323,15	0.90661036	0.4	0.687	6.8700E-04	0.000703	2.334387	2.334387	
	323,15	0.921279696	0.5	0.807	8.0700E-04	0.000818	1.344109	1.344109	
	323,15	0.935901009	0.6	0.953	9.5300E-04	0.000953	2.79E-06	2.79E-06	
	323,15	0.950474533	0.7	1.133	1.1330E-03	0.001106	-2.37285	2.372853	
	323,15	0.965000502	0.8	1.36	1.3600E-03	0.001271	-6.50762	6.507624	
	323,15	0.979479149	0.9	1.607	1.6070E-03	0.001448	-9.91215	9.912154	
	323,15	0.993910705	1	1.925	1.9250E-03	0.001667	-13.422	13.42202	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
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ANILINE (1) - BENZENE (2)

RM - AR

(From Irving, NEL Report, 1977 - Kremann, 1916)

P= 0.101 MPa

Aniline (cP)

350.15	0.818538552	0	0.326	3.2600E-04	0.00032	-1.71186	1.711856
350.15	0.833896814	0.1	0.346	3.4600E-04	0.000334	-3.46095	3.460954
350.15	0.849241261	0.2	0.368	3.6800E-04	0.000365	-0.76354	0.763536
350.15	0.864571913	0.3	0.389	3.8900E-04	0.000409	5.140334	5.140334
350.15	0.879888788	0.4	0.411	4.1100E-04	0.000465	13.15305	13.15305
350.15	0.895191903	0.5	0.454	4.5400E-04	0.000535	17.75923	17.75923
350.15	0.910481279	0.6	0.5	5.0000E-04	0.000619	23.769	23.769
350.15	0.925756933	0.7	0.543	5.4300E-04	0.000718	32.13867	32.13867
350.15	0.941018884	0.8	0.587	5.8700E-04	0.000829	41.24959	41.24959
350.15	0.95626715	0.9	0.673	6.7300E-04	0.000956	41.99143	41.99143
350.15	0.971501749	1	0.742	7.4200E-04	0.001121	51.01984	51.01984

Average Error for Temp.

19.9362

Total Error for All Tei	kij	ljj
606.7838	0.759542	1.5
443.4931	0.462099	2.171107

PROPRIONIC ACID (1) - ANILINE (2)

AC - RM

00471 Sollino, H. N.; Rigglo, R.; Davollo, F.; Katz, M.; Can. J. Chem., 53(9), 1258-1262(1975)

P= 0.101 MPa

Propionic Aci (g/m s)

298.15	1.014093197	0	3.773	3.7730E-03	0.002517	-33.3012	33.30123
298.15	1.011941874	0.0996	4.218	4.2180E-03	0.003622	-16.4914	16.49143
298.15	1.009656301	0.2015	4.652	4.6520E-03	0.004752	2.148199	2.148199
298.15	1.007441638	0.2966	5.177	5.1770E-03	0.005922	14.39812	14.39812
298.15	1.00523465	0.388	5.87	5.8700E-03	0.006753	15.0472	15.0472

%AAD= 18.84239

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa-s)	%D	%AD	%AAD
	298.15	1.002534603	0.4955	6.898	6.8980E-03	0.006898	-3.4E-05	3.45E-05	
	298.15	0.99989676	0.5962	7.775	7.7750E-03	0.006067	-21.9681	21.96811	
	298.15	0.996612284	0.716	7.294	7.2940E-03	0.004352	-40.3348	40.3348	
	298.15	0.994225762	0.7994	5.282	5.2820E-03	0.003141	-40.5427	40.54273	
	298.15	0.991382523	0.895	2.477	2.4770E-03	0.002015	-18.6509	18.6509	
	298.15	0.988118807	1	1.014	1.0140E-03	0.001163	14.70674	14.70674	18.84239

PROPIONIC ACID (1) - ANILINE (2)

AC - RM

02727 Sollimo, H. N.; Riggio, R.; Davollo, F.; Katz, M.; Can. J. Chem., 53, 1258-62(1975)

P= 0.101 MPa

	Propionic Aci	(g/m s)							
298.15	1.014093197	0	3.773	3.7730E-03	0.002517	-33.3012	33.30123		
298.15	1.011941874	0.0996	4.218	4.2180E-03	0.003622	-16.4914	16.49143		
298.15	1.009656301	0.2015	4.652	4.6520E-03	0.004752	2.148199	2.148199		
298.15	1.007441638	0.2966	5.177	5.1770E-03	0.005922	14.39812	14.39812		
298.15	1.00523465	0.388	5.87	5.8700E-03	0.006753	15.0472	15.0472		
298.15	1.002534603	0.4955	6.898	6.8980E-03	0.006898	-3.4E-05	3.45E-05		
298.15	0.99989676	0.5962	7.775	7.7750E-03	0.006067	-21.9681	21.96811		
298.15	0.996612284	0.716	7.294	7.2940E-03	0.004352	-40.3348	40.3348		
298.15	0.994225762	0.7994	5.282	5.2820E-03	0.003141	-40.5427	40.54273		
298.15	0.991382523	0.895	2.477	2.4770E-03	0.002015	-18.6509	18.6509		
298.15	0.988118807	1	1.014	1.0140E-03	0.001163	14.70674	14.70674		18.84239
Average Error for Temp.									

Total Error for All Tei 339.1631 1.216886 1.08708

NAPHTHALENE (1) - ANILINE (2)

DR - RM

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
01236 Chatterji, A. C.; Bose, A. N.; J. Indian Chem. Soc., 25, 39-42(1948)									
P= 0.101 MPa									
<i>Naphthalene</i> (g/m s)									
	308.15	1.007856183	0.209158	2.365	2.3650E-03	0.002177	-7.96358	7.963582	%AAD= 3.559064
	313.15	1.00389988	0.209158	2.092	2.0920E-03	0.001997	-4.51735	4.517348	
	318.15	0.999923698	0.209158	1.868	1.8680E-03	0.001836	-1.68729	1.687294	
	323.15	0.995927222	0.209158	1.687	1.6870E-03	0.001691	0.265799	0.265799	
	308.15	1.00857702	0.303596	2.224	2.2240E-03	0.002117	-4.81136	4.811357	3.608506
	313.15	1.004653211	0.303596	1.988	1.9880E-03	0.001943	-2.2423	2.242304	
	318.15	1.000709901	0.303596	1.783	1.7830E-03	0.001787	0.250038	0.250038	
	323.15	0.996746688	0.303596	1.616	1.6160E-03	0.001647	1.919477	1.919477	
									2.305794

NAPHTHALENE (1) - ANILINE (2)

DR - RM

01236 Bose, A. N.; J. Indian Chem. Soc., 25, 33-38(1948)

P= 0.101 MPa									
<i>Naphthalene</i> (g/m s)									
	308.15	1.007856183	0.209158	2.365	2.3650E-03	0.002177	-7.96358	7.963582	6.191084
	308.15	1.008171132	0.249685	2.291	2.2910E-03	0.002158	-5.79831	5.798313	
	308.15	1.00857702	0.303596	2.224	2.2240E-03	0.002117	-4.81136	4.811357	
	328.15	0.991910021	0.209158	1.53	1.5300E-03	0.001561	2.00384	2.00384	
	328.15	0.992282742	0.249685	1.5	1.5000E-03	0.001548	3.170313	3.170313	Average Error for Temp.
	328.15	0.992763153	0.303596	1.475	1.4750E-03	0.00152	3.071389	3.071389	
	328.15	0.993407272	0.379008	1.433	1.4330E-03	0.001468	2.408768	2.408768	
	328.15	0.993903322	0.439684	1.417	1.4170E-03	0.001417	-4E-05	3.97E-05	
									2.13087

kij

luj

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
<i>Total Error for All Tei</i>									
								52.8848	0.773812
									1.5

p-CRESOL (1) - ANILINE (2)

RL - RM

00298 Thole, F. B.; Mussel, A. G.; Dunstan, A. E.; J. Chem. Soc., 103, 1108-1119(1913)

P= 0.101 MPa

%AAD= 20.99346

Wt. Frac.			p-Cresol	(g/m s)					
0	298.1	1.014133055	0	3.62	3.6200E-03	0.002519	-30.4217	30.42172	
0.3	298.1	1.018591131	0.2696	6.95	6.9500E-03	0.004925	-29.1363	29.13633	
0.536	298.1	1.022125278	0.4987	10.7	1.0700E-02	0.007649	-28.5157	28.51572	
0.627	298.1	1.023494128	0.5914	12.4	1.2400E-02	0.008477	-31.6411	31.64111	
0.795	298.1	1.026032961	0.7696	14.4	1.4400E-02	0.008694	-39.6245	39.6245	
0.9	298.1	1.027624786	0.8857	14.5	1.4500E-02	0.007595	-47.6227	47.62272	
									35.30808
0	323.1	0.993951593	0	2.01	2.0100E-03	0.001668	-17.0186	17.01856	
0.3	323.1	0.998842063	0.2696	2.93	2.9300E-03	0.00293	-8.6E-06	8.65E-06	
0.536	323.1	1.002722619	0.4987	3.97	3.9700E-03	0.004303	8.399826	8.399826	
0.627	323.1	1.004226505	0.5914	4.26	4.2600E-03	0.004704	10.41561	10.41561	
0.795	323.1	1.007017068	0.7696	4.62	4.6200E-03	0.004764	3.118845	3.118845	
0.9	323.1	1.008767573	0.8857	4.71	4.7100E-03	0.00417	-11.4599	11.45991	
1	323.1	1.010441495	1	4.62	4.6200E-03	0.003242	-29.819	29.81895	
									6.67884
<i>Average Error for Temp.</i>									

<i>Total Error for All Tei</i>	<i>kij</i>	<i>ljj</i>
209.9346	0.809132	1.5

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
BENZALDEHYDE (1) - ETHANOL (2)									
LD - AL First specimen									
00014 Dunstan, A. E.; J. Chem. Soc., 85, 817-827(1904)									
P= 1 atm									
Wt. Frac.			Benzaldehyd	(Poise)					%AAD= 4.119732
0	298.15	0.785894999	0	0.01113	1.1130E-03	0.000898	-19.3188	19.31884	
0.1165	298.15	0.809009934	0.0541	0.01092	1.0920E-03	0.000943	-13.6771	13.67708	
0.2067	298.15	0.827888962	0.1016	0.0105	1.0500E-03	0.000982	-6.43004	6.430039	
0.236	298.15	0.834199541	0.1182	0.01051	1.0510E-03	0.000996	-5.19118	5.191178	
0.3247	298.15	0.853953522	0.1727	0.01041	1.0410E-03	0.001042	0.095692	0.095692	
0.5396	298.15	0.905859787	0.3372	0.01158	1.1580E-03	0.00117	1.020256	1.020256	
0.7932	298.15	0.975881901	0.6248	0.01308	1.3080E-03	0.001308	7.57E-08	7.57E-08	
0.9063	298.15	1.010705778	0.8076	0.01362	1.3620E-03	0.001314	-3.539	3.538996	
1	298.15	1.041518022	1	0.01445	1.4450E-03	0.001254	-13.1889	13.18887	4.279034
BENZALDEHYDE (1) - ETHANOL (2)									
LD - AL Second specimen									
00014 Dunstan, A. E.; J. Chem. Soc., 85, 817-827(1904)									
P= 1 atm									
Wt. Frac.			Benzaldehyd	(Poise)					
0	298.15	0.785894999	0	0.01113	1.1130E-03	0.000898	-19.3188	19.31884	
0.1766	298.15	0.821511522	0.0852	0.01052	1.0520E-03	0.000969	-7.91828	7.918279	
0.3042	298.15	0.849299575	0.1595	0.01031	1.0310E-03	0.001031	0.002581	0.002581	
1	298.15	1.041518022	1	0.01321	1.3210E-03	0.001254	-5.04006	5.040058	
Average Error for Temp.									3.96043
Total Error for All T_{oi}									
							k_{ij}	l_{ij}	
							0.990153	0.992362	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
BENZALDEHYDE (1) - m-CRESOL (2)									
LD - RL The value for the viscosity of benzaldehyde is 5% lower than those of DIPPR 801 and other accepted sources.									
02509 Sabesan, R.; Natarajan, M.; Sargurumoorthy, M.; J. Acoust. Soc. India, 8(1), 20-23(1980)									
P= 0.101 MPa									
%AAD= 3.487397									
			<i>Benzaldehyd</i>	(mPa s)					
308.15	1.022446927		0	7.635	7.6350E-03	0.004718	-38.2007	38.20073	
308.15	1.023483162		0.103	5.863	5.8630E-03	0.0048	-18.1296	18.12964	
308.15	1.025563797		0.308	3.972	3.9720E-03	0.003992	0.49944	0.49944	
308.15	1.026486		0.398	3.45	3.4500E-03	0.00345	-0.00069	0.000687	
308.15	1.027999933		0.545	2.597	2.5970E-03	0.002591	-0.24594	0.245942	
308.15	1.028590824		0.602	2.3	2.3000E-03	0.0023	0.000376	0.000376	
308.15	1.029653089		0.704	1.844	1.8440E-03	0.001861	0.929789	0.929789	
308.15	1.031743757		0.903	1.37	1.3700E-03	0.001307	-4.60591	4.605908	
308.15	1.032771657		1	1.13	1.1300E-03	0.001166	3.219345	3.219345	
Average Error for Temp.									
3.487397									
Total Error for All Tei									
kij 0.954468 1.223321									

BENZALDEHYDE (1) - PHENOL (2)									
LD - RL The value for the viscosity of benzaldehyde is 5% lower than those of DIPPR 801 and other accepted sources.									
02509 Sabesan, R.; Natarajan, M.; Sargurumoorthy, M.; J. Acoust. Soc. India, 8(1), 20-23(1980)									
P= 0.101 MPa									
%AAD= 4.588449									
			<i>Benzaldehyd</i>	(mPa s)					
308.15	1.063241896		0	5.969	5.9690E-03	0.004059	-32.0037	32.00375	
308.15	1.059521074		0.107	4.318	4.3180E-03	0.003905	-9.56236	9.562358	
308.15	1.053022188		0.303	2.944	2.9440E-03	0.003144	6.782676	6.782676	
308.15	1.050261072		0.39	2.642	2.6420E-03	0.002734	3.493442	3.493442	
308.15	1.046902725		0.499	2.401	2.4010E-03	0.00225	-6.30135	6.301348	
308.15	1.044033949		0.595	1.989	1.9890E-03	0.001883	-5.30712	5.307117	
308.15	1.040816131		0.706	1.55	1.5500E-03	0.00155	1.4E-06	1.4E-06	
308.15	1.035325369		0.904	1.2	1.2000E-03	0.001208	0.672199	0.672199	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%AD	%AAD
	308.15	1.032771657	1	1.13	1.1300E-03	0.001166	3.219345	4.588449
Average Error for Temp.								
Total Error for All Tei								
$k_{ij} \quad l_{ij}$								
0.899726 1.263832								

WATER (1) - ACETALDEHYDE (2)

07-10

(From Irving, NEL Report, 1977 - Kumakov, 1938)

P= 0.101 MPa

Water	μ	(cP)	2.7300E-04	0.000276	1.026526	1.026526
273,15	0	0.806874523	0.273			
273,15	0.1	0.813782475	0.8	0.000672	-15.9483	15.94834
273,15	0.2	0.821761041	1.547	0.001486	-3.94461	3.944607
273,15	0.3	0.831080018	2.853	0.002862	0.33286	0.33286
273,15	0.4	0.842108169	4.613	0.004676	1.371654	1.371654
273,15	0.5	0.855363182	6.107	0.006291	3.00766	3.00766
273,15	0.6	0.871595292	7.307	0.006832	-6.49766	6.497663
273,15	0.7	0.891934378	7.947	0.005999	-24.5087	24.5087
273,15	0.8	0.918164875	7.147	0.004302	-39.8011	39.8011
273,15	0.9	0.953280056	5.2	0.002478	-52.3525	52.35253
273,15	1	1.00271436	1.801	0.001072	-40.4834	40.48338
Average Error for Temp.						
16.41835						
Total Error for All Temp.						
1.459325						
1.5						

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
o-CRESOL (1) - BENZENE (2)									
RL - AR Viscosity of o-cresol is 32 % higher than DIPPR 801 values.									
01434 Dhillon, M. S.; Kaur, J.; Z. Phys. Chem. (Leipzig), 264(3), 525-533(1983)									
P= 1 atm									
o-Cresol (cP)									
308.15	0.862910365	0	0.5292	5.2920E-04	0.000526	-0.65474	0.654735	%AAD= 2.779378	
308.15	0.885540313	0.1176	0.641	6.4100E-04	0.000628	-2.05303	2.053033		
308.15	0.904641313	0.2203	0.7752	7.7520E-04	0.000751	-3.1721	3.172105		
308.15	0.925405154	0.3357	0.9753	9.7530E-04	0.000939	-3.76954	3.769538		
308.15	0.94274186	0.4352	1.1637	1.1637E-03	0.001157	-0.59274	0.59274		
308.15	0.965319421	0.5693	1.5351	1.5351E-03	0.001564	1.854704	1.854704		
308.15	0.982156264	0.6728	2.109	2.1090E-03	0.001997	-5.31796	5.317957		
308.15	0.998411261	0.7757	2.7747	2.7747E-03	0.002567	-7.49872	7.498721		
308.15	1.01683028	0.896	3.7742	3.7742E-03	0.003468	-8.12002	8.120021		
308.15	1.032268291	1	6.637	6.6370E-03	0.00452	-31.8905	31.89045	4.047352	

o-CRESOL (1) - BENZENE (2)

RL - AR

00769 Lutskil, A. E.; Obukhova, E. M.; Sidorov, I. A.; J. Gen. Chem. USSR, 28, 2423-2432(1958)

P= 1 atm									
o-Cresol (10-5 P)									
298.15	0.873007427	0	602	6.0200E-04	0.000602	-0.01747	0.017467		
298.15	0.892129132	0.1	704	7.0400E-04	0.000707	0.380472	0.380472		
298.15	0.910651438	0.2	849	8.4900E-04	0.000848	-0.15011	0.150114		
298.15	0.94600716	0.4	1319	1.3190E-03	0.001287	-2.42857	2.42857		
298.15	0.962891141	0.5	1661	1.6610E-03	0.00162	-2.47671	2.476706		
298.15	0.97927709	0.6	2148	2.1480E-03	0.002061	-4.05633	4.056335		
298.15	1.010640514	0.8	3874	3.8740E-03	0.003414	-11.879	11.87901		
298.15	1.040256743	1	7493	7.4930E-03	0.005766	-23.0421	23.04205	3.561867	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	308.15	0.862910365	0	527	5.2700E-04	0.000526	-0.24001	0.240011	
	308.15	0.882205952	0.1	609	6.0900E-04	0.00061	0.198436	0.198436	
	308.15	0.900913181	0.2	727	7.2700E-04	0.000723	-0.49385	0.49385	
	308.15	0.936667019	0.4	1073	1.0730E-03	0.001073	-0.03378	0.03378	
	308.15	0.953762049	0.5	1334	1.3340E-03	0.001335	0.058322	0.058322	
	308.15	0.970365781	0.6	1668	1.6680E-03	0.001668	0.696646	0.696646	
	308.15	1.002181702	0.8	2766	2.7660E-03	0.002726	-1.44936	1.449364	
	308.15	1.032268291	1	4853	4.8530E-03	0.00452	-6.85286	6.85286	0.4884
	318.15	0.852646212	0	464	4.6400E-04	0.000462	-0.32627	0.32627	
	318.15	0.872120671	0.1	531	5.3100E-04	0.000531	0.000149	0.000149	
	318.15	0.891018747	0.2	623	6.2300E-04	0.000622	-0.08868	0.088678	
	318.15	0.92718516	0.4	894	8.9400E-04	0.000902	0.904364	0.904364	
	318.15	0.944499683	0.5	1084	1.0840E-03	0.0011	2.404788	2.404788	
	318.15	0.961330388	0.6	1331	1.3310E-03	0.001382	3.818164	3.818164	
	318.15	0.993619258	0.8	2067	2.0670E-03	0.002198	6.317027	6.317027	
	318.15	1.02419915	1	3359	3.3590E-03	0.003578	6.52085	6.52085	2.255528
	323.15	0.847448009	0	436	4.3600E-04	0.000435	-0.25689	0.256895	
	323.15	0.867013891	0.1	497	4.9700E-04	0.000497	-0.05538	0.055377	
	323.15	0.886009755	0.2	578	5.7800E-04	0.000579	0.193001	0.193001	
	323.15	0.922388252	0.4	815	8.1500E-04	0.00083	1.840703	1.840703	
	323.15	0.939815914	0.5	981	9.8100E-04	0.001016	3.544616	3.544616	
	323.15	0.956763808	0.6	1186	1.1860E-03	0.001258	6.045891	6.045891	
	323.15	0.989297409	0.8	1807	1.8070E-03	0.00198	9.582859	9.582859	
	323.15	1.020133239	1	2830	2.8300E-03	0.003195	12.88817	12.88817	3.543741
Average Error for Temp.									
Total Error for All Temp									
k_{ij} <i>ij</i>									
0.96513 0.96513 1.069939									

o-CRESOL (1) - TOLUENE (2)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
RL - AR Viscosity of o-cresol is 32 % higher than DIPPR 801 values.									
01434 Dhillon, M. S.; Kaur, J.; Z. Phys. Chem. (Leipzig), 264(3), 525-533(1983)									
P= 1 atm									
			o-Cresol	(cP)				%AAD=	1.548947
	308.15	0.854727572	0	0.4956	4.9560E-04	0.000488	-1.52585	1.525851	
	308.15	0.880560514	0.1491	0.6	6.0000E-04	0.000609	1.522744	1.522744	
	308.15	0.893620187	0.224	0.7051	7.0510E-04	0.000696	-1.32436	1.324361	
	308.15	0.908157242	0.307	0.8217	8.2170E-04	0.000818	-0.42957	0.42957	
	308.15	0.92399815	0.397	0.9904	9.9040E-04	0.00099	-1.3E-05	1.35E-05	
	308.15	0.948001612	0.5325	1.3319	1.3319E-03	0.001353	1.612049	1.612049	
	308.15	0.961725192	0.6095	1.6038	1.6038E-03	0.001633	1.821943	1.821943	
	308.15	0.977358119	0.6968	2.0345	2.0345E-03	0.002034	-0.00161	0.001612	
	308.15	0.991518533	0.7755	2.5436	2.5436E-03	0.002492	-2.02176	2.02176	
	308.15	1.008607032	0.87	3.3693	3.3693E-03	0.003194	-5.20647	5.206474	
	308.15	1.032268291	1	6.637	6.6370E-03	0.00452	-31.8905	31.89045	
Average Error for Temp.								1.548947	
Total Error for All T_{oi}									
k_{ij} l_{ij}									
								0.950628	1.086538

o-CRESOL (1) - CYCLOHEXANE (2)

RL - CA Viscosity of o-cresol is 32 % higher and of cyclohexane is 5% higher than DIPPR 801 values.

01434 Dhillon, M. S.; Kaur, J.; Z. Phys. Chem. (Leipzig), 264(3), 525-533(1983)

P=	1 atm								
	o-Cresol			(cP)					%AAD= 2.021445
308.15	0.764072224	0	0.7878	7.8780E-04	0.000756	-4.0482	4.048199		
308.15	0.785098168	0.0821	0.8505	8.5050E-04	0.000836	-1.64648	1.646479		
308.15	0.805672357	0.1618	0.9431	9.4310E-04	0.000939	-0.38316	0.383164		
308.15	0.837114096	0.2824	1.146	1.1460E-03	0.001148	0.196303	0.196303		
308.15	0.859580899	0.3677	1.3406	1.3406E-03	0.001341	7.62E-05	7.62E-05		
308.15	0.879253371	0.4418	1.5681	1.5681E-03	0.001543	-1.62823	1.62823		
308.15	0.895691796	0.5033	1.7076	1.7076E-03	0.001738	1.766591	1.766591		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	308.15	0.918254783	0.5871	2.0486	2.0486E-03	0.002048	-0.00118	0.001184	
	308.15	0.974620979	0.7934	3.1987	3.1987E-03	0.003068	-4.07994	4.079937	
	308.15	1.004101537	0.8996	4.1037	4.1037E-03	0.003755	-8.49104	8.49104	
	308.15	1.032268291	1	6.637	6.6370E-03	0.00452	-31.8905	31.89045	
Average Error for Temp.									2.021445
Total Error for All Tei									kij ljj 0.940067 1.135408

p-CRESOL (1) - BENZENE (2)

RL - AR Viscosity of p-cresol is 21% higher than DIPPR 801 values.

01434 Dhillon, M. S.; Kaur, J.; Z. Phys. Chem. (Leipzig), 264(3), 525-533(1983)

P= 0.101 MPa

		p-Cresol	(g/m s)		%AAD=
308.15	0.862910365	0	0.5292	5.2920E-04	0.000526
308.15	0.87667742	0.0751	0.6025	6.0250E-04	0.000585
308.15	0.894954042	0.1778	0.749	7.4900E-04	0.000727
308.15	0.914566316	0.292	0.9762	9.7620E-04	0.000976
308.15	0.934232577	0.4109	1.3267	1.3267E-03	0.001363
308.15	0.953516339	0.532	1.8701	1.8701E-03	0.001917
308.15	0.973921391	0.6653	2.7055	2.7055E-03	0.002705
308.15	0.991566517	0.7851	4.1752	4.1752E-03	0.003485
308.15	0.999073174	0.8374	4.9631	4.9631E-03	0.003805
308.15	1.014280935	0.9459	7.4676	7.4676E-03	0.004358
308.15	1.021686324	1	9.4022	9.4022E-03	0.004576
Average Error for Temp.					10.2893
Total Error for All Tei					kij ljj 0.789228 1.453371

p-CRESOL (1) - TOLUENE (2)

RL - AR Viscosity of p-cresol is 21% higher than DIPPR 801 values.

Press, (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
01434 Dhillon, M. S.; Kaur, J.; Z. Phys. Chem. (Leipzig), 264(3), 525-533(1983)									
P= 0.101 MPa									
			<i>p</i> -Cresol	(g/m s)					%AAD= 10.28675
	308.15	0.854727572	0	0.4956	4.9560E-04	0.000488	-1.52585	1.525851	
	308.15	0.860041914	0.0324	0.5202	5.2020E-04	0.0005	-3.81337	3.813366	
	308.15	0.870870349	0.0983	0.5823	5.8230E-04	0.000549	-5.68253	5.682535	
	308.15	0.888937003	0.2079	0.7295	7.2950E-04	0.000697	-4.40715	4.407155	
	308.15	0.90500354	0.305	0.9088	9.0880E-04	0.000909	-1.7E-05	1.68E-05	
	308.15	0.92360638	0.417	1.2005	1.2005E-03	0.001276	6.3241	6.3241	
	308.15	0.950816775	0.58	1.8665	1.8665E-03	0.002122	13.69742	13.69742	
	308.15	0.967809449	0.6813	2.6359	2.6359E-03	0.002831	7.399502	7.399502	
	308.15	0.976984393	0.7299	3.2003	3.2003E-03	0.003195	-0.15897	0.15897	
	308.15	0.994304804	0.8385	4.6459	4.6459E-03	0.003947	-15.0347	15.03467	
	308.15	0.996790278	0.8532	5.0797	5.0797E-03	0.004033	-20.6138	20.61379	
	308.15	1.010628696	0.9349	6.8733	6.8733E-03	0.004397	-36.0227	36.02269	
	308.15	1.021686324	1	9.4022	9.4022E-03	0.004576	-51.3295	51.32947	10.28675
Average Error for Temp.									
Total Error for All Tei									
kij 0.721823 1.572112									

p-CRESOL (1) - CYCLOHEXANE (2)

RL - CA Viscosity of p-cresol is 21% higher and of cyclohexane is 5% higher than DIPPR 801 values.

01434 Dhillon, M. S.; Kaur, J.; Z. Phys. Chem. (Leipzig), 264(3), 525-533(1983)

P= 0.101 MPa

			<i>p</i> -Cresol	(g/m s)					%AAD= 12.00248
	308.15	0.764072224	0	0.7878	7.8780E-04	0.000756	-4.0482	4.048199	
	308.15	0.78207027	0.0725	0.8571	8.5710E-04	0.000816	-4.74447	4.74447	
	308.15	0.814147374	0.2007	1.0855	1.0855E-03	0.001054	-2.93277	2.932766	
	308.15	0.843452361	0.3167	1.3927	1.3927E-03	0.001393	0.005151	0.005151	
	308.15	0.864075353	0.3977	1.6729	1.6729E-03	0.001701	1.659331	1.659331	
	308.15	0.895930343	0.5218	2.2523	2.2523E-03	0.002287	1.541267	1.541267	

[illegible]

PHENOL (1) - TOLUENE (2)

RL - AR

00113 Baldauf, W.; Knapp, H.; Ber. Bunsenges. Phys. Chem., 87(4), 304-309(1983)

P= 0.101 MPa

P=	0.101 MPa	Phenol	(g/m s)	%AAD=	0.553219		
283,15	0.877512925	0	0.6885	6.8850E-04	0.000658	-4.43244	4.43244
283,15	0.886295878	0.0509	0.7328	7.3280E-04	0.000724	-1.16983	1.169826
283,15	0.892691039	0.0874	0.7855	7.8550E-04	0.000776	-1.20671	1.206706
293,15	0.868489849	0	0.5822	5.8220E-04	0.000581	-0.17073	0.170733
293,15	0.885213783	0.0961	0.6924	6.9240E-04	0.000692	-0.1254	0.125398
293,15	0.90376948	0.199	0.8352	8.3520E-04	0.000835	1.06E-06	1.06E-06
303,15	0.859346482	0	0.5184	5.1840E-04	0.000517	-0.35638	0.35638
303,15	0.876081441	0.0961	0.6104	6.1040E-04	0.00061	-0.03972	0.039723
303,15	0.894657739	0.199	0.725	7.2500E-04	0.000731	0.777662	0.777662
				Average Error for Temp.			
				0.408692			

HEXANE (1) - PHENOL (2)

Total Error for All Test *k* 3.319315 *k* 1.064575 *k* 0.867322

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%D	%AD	%AAD
AA - RL									
00802 Zhuravlev, E. F.; J. Gen. Chem. USSR, 31, 327-330(1961)									
P=		0.101 MPa		%AAD= 2.255898					
Hexane									
			Hexane	(g/m s)					
328.1	1.045965401	0	2.6991	2.6991E-03	0.002663	-1.33624	1.336242		
328.1	0.990056858	0.092	1.8585	1.8585E-03	0.00196	5.449561	5.449561		
328.1	0.938012365	0.186	1.4523	1.4523E-03	0.001452	-0.00187	0.001872		
328.1	0.869476586	0.262	1.0685	1.0685E-03	0.001085	1.498086	1.498086		
328.1	0.844577866	0.379	0.8254	8.2540E-04	0.00082	-0.62458	0.624577		
328.1	0.800489611	0.483	0.628	6.2800E-04	0.00062	-1.22086	1.220863		
328.1	0.763068463	0.579	0.4869	4.8690E-04	0.00049	0.545381	0.545381		
328.1	0.726351853	0.661	0.3697	3.6970E-04	0.00039	5.576958	5.576958		
328.1	0.691781375	0.765	0.319	3.1900E-04	0.000319	-3.4E-05	3.39E-05		
328.1	0.659191779	0.891	0.2836	2.8360E-04	0.000268	-5.38575	5.385751		
328.1	0.628159407	1	0.238	2.3800E-04	0.000233	-2.1421	2.142103		
Average Error for Temp.								2.255898	
Total Error for All T _o 20.30308 0.964106 1.128474									

PHENOL (1) - WATER (2)		RL - OI		00113 Baldauf, W.; Knapp, H.; Ber. Bunsenges. Phys. Chem., 87(4), 304-309(1983)		%AAD=	32.19474
P=		0.101 MPa					
		<i>Phenol</i>	(g/m s)				
283.1	0.99979132	0	1.288	1.2880E-03	0.000911	-29.2961	29.29605
283.1	1.002957862	0.008	1.4671	1.4671E-03	0.00094	-35.9352	35.93523
283.1	1.005687931	0.0153	1.6084	1.6084E-03	0.000967	-39.9003	39.90034
293.1	0.996506511	0	1.0098	1.0098E-03	0.00078	-22.7766	22.77659
293.1	0.999493858	0.008	1.1147	1.1147E-03	0.000804	-27.8393	27.83931
293.1	1.002068622	0.0153	1.2115	1.2115E-03	0.000827	-31.7469	31.74689
							37.91778

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	303.1	0.992866803	0	0.8122	8.1220E-04	0.000673	-17.1156	17.11556	29.7931
	303.1	0.995683238	0.008	0.8803	8.8030E-04	0.000694	-21.1629	21.16287	
	303.1	0.998109969	0.0153	0.9451	9.4510E-04	0.000713	-24.5487	24.54866	22.85576

PHENOL (1) - WATER (2)

RL - OI Not clear if values were relative to water at the observed temp. or 25 C.
00970 Campbell, A. N.; Campbell, A. J. R.; J. Am. Chem. Soc., 59, 2481(1937)
P= 0.101 MPa

		Phenol (g/m s)							
292.35	0.999765597	0.008	1.035	1.0350E-03	0.000814	-21.3924	21.39236		
292.35	1.009879365	0.039	1.065	1.0650E-03	0.000911	-14.4721	14.47212		
292.35	1.018811007	0.073	1.168	1.1680E-03	0.001019	-12.7659	12.76588		
325.15	1.005112796	0.092	0.597	5.9700E-04	0.000676	13.20278	13.20278		
343.15	1.002727683	0.16	0.469	4.6900E-04	0.00065	38.69115	38.69115		
343.15	1.010714431	0.25	0.453	4.5300E-04	0.000816	80.12893	80.12893		
343.15	1.015748754	0.33	0.506	5.0600E-04	0.000983	94.36167	94.36167		
343.15	1.016018027	0.335	0.558	5.5800E-04	0.000994	78.2174	78.2174		
343.15	1.021524922	0.46	0.587	5.8700E-04	0.001271	116.4962	116.4962		
343.15	1.023842187	0.53	0.611	6.1100E-04	0.001407	130.2845	130.2845		
343.15	1.025259348	0.58	0.635	6.3500E-04	0.001486	134.0323	134.0323		
343.15	1.026843146	0.644	0.692	6.9200E-04	0.001561	125.6212	125.6212		
324.15	1.044035413	0.695	0.923	9.2300E-04	0.002148	132.7667	132.7667		
324.15	1.044777966	0.728	1.594	1.5940E-03	0.002191	37.46333	37.46333		
293.15	1.072723685	0.827	4.529	4.5290E-03	0.004242	-6.33312	6.333124		
293.15	1.07415661	0.896	6.075	6.0750E-03	0.00464	-23.6282	23.62825		
324.15	1.049412746	1	6.366	6.3860E-03	0.002887	-54.7968	54.7968		66.24112

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
PHENOL (1) - WATER (2)									
RL - OI units not stated; assumed vis units to be P.									
01513 Swearingen, L. E.; J. Phys. Chem., 32, 785-793(1928)									
P= 0.101 MPa									
			<i>Phenol</i>	(g/m s)					
	298.1	0.998111779	0.00937	0.989	9.8900E-04	0.00075	-24.1353	24.13533	
	298.1	0.997438428	0.00745	0.959	9.5900E-04	0.000745	-22.3291	22.32906	
	298.1	0.996762499	0.00555	0.935	9.3500E-04	0.000739	-20.9102	20.9102	
	298.1	0.996084093	0.00367	0.92	9.2000E-04	0.000734	-20.1981	20.1981	
	298.1	0.995406995	0.00182	0.908	9.0800E-04	0.000729	-19.7185	19.71849	21.45824

PHENOL (1) - WATER (2)

RL - OI Units for fluidities were inferred from pure phenol values. Results from two separate trials.

01717 Bingham, E. C.; White, G. F.; J. Am. Chem. Soc., 33(8), 1257-1275(1911)

P= 0.101 MPa

			<i>Phenol</i>	(g/m s)					
	307.11	1.084133533	1	6.0096	6.0096E-03	0.004153	-30.896	30.89604	
	309.75	1.081868453	1	5.4466	5.4466E-03	0.003919	-28.0523	28.05226	
	318.15	1.054623644	1	3.9968	3.9968E-03	0.003271	-18.1486	18.14862	
	323.15	1.050283355	1	3.4211	3.4211E-03	0.002947	-13.8623	13.86231	
	328.15	1.045921677	1	2.9403	2.9403E-03	0.00266	-9.52148	9.521478	
	333.15	1.041538127	1	2.5628	2.5628E-03	0.002407	-6.08053	6.080526	
	338.15	1.037132207	1	2.2502	2.2502E-03	0.002183	-3.00798	3.007979	
	343.15	1.032703399	1	1.9944	1.9944E-03	0.001983	-0.55466	0.554663	
	348.15	1.028251169	1	1.7778	1.7778E-03	0.001806	1.602869	1.602869	
	353.12	1.023801888	1	1.5995	1.5995E-03	0.00165	3.129925	3.129925	
	358.18	1.019247109	1	1.4407	1.4407E-03	0.001507	4.623448	4.623448	10.86183
	332.15	1.014497587	0.2	1.3104	1.3104E-03	0.000826	-36.9458	36.94584	
	337.15	1.010973994	0.2	1.2057	1.2057E-03	0.000776	-35.6506	35.6506	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	338.15	1.01026223	0.2	1.1721	1.1721E-03	0.000766	-34.6207	34.62069	
	339.15	1.009548105	0.2	1.1448	1.1448E-03	0.000757	-33.8811	33.8811	
	340.15	1.008831615	0.2	1.1169	1.1169E-03	0.000748	-33.0547	33.05468	
	341.15	1.008112754	0.2	1.0948	1.0948E-03	0.000739	-32.5305	32.53045	
	343.15	1.006667898	0.2	1.0482	1.0482E-03	0.000721	-31.2139	31.21389	
	346.35	1.00433625	0.2	0.9775	9.7750E-04	0.000694	-28.9983	28.9983	
	348.15	1.003013888	0.2	0.9551	9.5510E-04	0.00068	-28.8542	28.85425	
	353.05	0.999374386	0.2	0.8688	8.6880E-04	0.000642	-26.0864	26.08645	
	358.15	0.995524005	0.2	0.7899	7.8990E-04	0.000606	-23.2261	23.22606	
	363.15	0.991686622	0.2	0.731	7.3100E-04	0.000574	-21.4449	21.44492	
	368.15	0.98778654	0.2	0.6789	6.7890E-04	0.000545	-19.7869	19.78685	29.71493
	299.15	1.021167008	0.1	3.1211	3.1211E-03	0.000997	-68.0597	68.05973	
	343.15	0.995149881	0.1	1.011	1.0110E-03	0.000552	-45.3969	45.39688	
	346.15	0.993171731	0.1	0.9625	9.6250E-04	0.000533	-44.6498	44.64978	
	346.35	0.993038896	0.1	0.9381	9.3810E-04	0.000531	-43.3435	43.3435	
	348.15	0.991837977	0.1	0.8475	8.4750E-04	0.00052	-38.5932	38.59316	
	353.15	0.98845074	0.1	0.7326	7.3260E-04	0.000491	-32.9272	32.92715	
	363.15	0.981446681	0.1	0.6068	6.0680E-04	0.00044	-27.4846	27.48462	
	368.15	0.977827958	0.1	0.5577	5.5770E-04	0.000417	-25.1745	25.17453	40.70367
	344.65	0.985644101	0.05	0.6083	6.0830E-04	0.000467	-23.285	23.28498	
	345.65	0.985033622	0.05	0.6039	6.0390E-04	0.000461	-23.6262	23.62621	
	346.15	0.984727099	0.05	0.597	5.9700E-04	0.000459	-23.193	23.19304	
	348.15	0.983492435	0.05	0.5731	5.7310E-04	0.000448	-21.8241	21.8241	
	353.15	0.980345402	0.05	0.526	5.2600E-04	0.000423	-19.537	19.53703	
	358.15	0.977111292	0.05	0.489	4.8900E-04	0.0004	-18.1173	18.11728	
	363.15	0.973789033	0.05	0.4513	4.5130E-04	0.000379	-15.9418	15.94179	
	368.15	0.970377504	0.05	0.4189	4.1890E-04	0.00036	-14.0811	14.08107	19.95069
	309.13	1.062400907	1	5.5772	5.5772E-03	0.003972	-28.7768	28.77677	
	313.15	1.058943008	1	4.8031	4.8031E-03	0.00364	-24.2195	24.21948	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	323.15	1.050283355	1	3.42	3.4200E-03	0.002947	-13.8346	13.83461	
	328.15	1.045921677	1	2.9369	2.9369E-03	0.00266	-9.41673	9.416733	
	333.15	1.041538127	1	2.5634	2.5634E-03	0.002407	-6.10251	6.102509	
	338.15	1.037132207	1	2.2497	2.2497E-03	0.002183	-2.98642	2.986423	
	343.15	1.032703399	1	1.9984	1.9984E-03	0.001983	-0.75371	0.753713	
	348.15	1.028251169	1	1.7806	1.7806E-03	0.001806	1.443098	1.443098	
	353.12	1.023801888	1	1.5962	1.5962E-03	0.00165	3.343137	3.343137	
	358.18	1.019247109	1	1.436	1.4360E-03	0.001507	4.965879	4.965879	
	363.3	1.014612089	1	1.3038	1.3038E-03	0.001379	5.768057	5.768057	9.23731
	337.15	1.010973994	0.2	1.2228	1.2228E-03	0.000776	-36.5505	36.55048	
	338.15	1.01026223	0.2	1.1844	1.1844E-03	0.000766	-35.2997	35.29966	
	339.15	1.009548105	0.2	1.1579	1.1579E-03	0.000757	-34.6291	34.62914	
	340.15	1.008831615	0.2	1.1247	1.1247E-03	0.000748	-33.519	33.51896	
	341.15	1.008112754	0.2	1.1112	1.1112E-03	0.000739	-33.5262	33.52622	
	343.15	1.006667898	0.2	1.046	1.0460E-03	0.000721	-31.0692	31.06922	
	346.35	1.00433625	0.2	0.9823	9.8230E-04	0.000694	-29.3453	29.34525	
	348.15	1.003013888	0.2	0.9551	9.5510E-04	0.00068	-28.8542	28.85425	
	353.05	0.999374386	0.2	0.8673	8.6730E-04	0.000642	-25.9586	25.95862	
	358.15	0.995524005	0.2	0.793	7.9300E-04	0.000606	-23.5262	23.52618	
	363.15	0.991686622	0.2	0.7342	7.3420E-04	0.000574	-21.7873	21.7873	
	368.15	0.98778654	0.2	0.6812	6.8120E-04	0.000545	-20.0577	20.05768	29.51025
	343.15	0.995149881	0.1	1.0114	1.0114E-03	0.000552	-45.4185	45.41848	
	346.15	0.993171731	0.1	0.969	9.6900E-04	0.000533	-45.0211	45.02106	
	346.35	0.993038896	0.1	0.939	9.3900E-04	0.000531	-43.3978	43.3978	
	348.15	0.991837977	0.1	0.8453	8.4530E-04	0.00052	-38.4333	38.43334	
	353.15	0.98845074	0.1	0.7375	7.3750E-04	0.000491	-33.3728	33.37279	
	358.15	0.984987285	0.1	0.6636	6.6360E-04	0.000465	-29.9805	29.98054	
	363.15	0.981446681	0.1	0.6061	6.0610E-04	0.00044	-27.4009	27.40087	
	368.15	0.977827958	0.1	0.5577	5.5770E-04	0.000417	-25.1745	25.17453	36.02493

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	344.65	0.985644101	0.05	0.6231	6.2310E-04	0.000467	-25.1071	25.10714	
	345.65	0.985033622	0.05	0.6057	6.0570E-04	0.000461	-23.8532	23.85318	
	346.15	0.984727099	0.05	0.5967	5.9670E-04	0.000459	-23.1544	23.15442	
	348.15	0.983492435	0.05	0.5727	5.7270E-04	0.000448	-21.7695	21.76949	
	353.15	0.980345402	0.05	0.5216	5.2160E-04	0.000423	-18.8583	18.85828	
	358.15	0.977111292	0.05	0.4845	4.8450E-04	0.0004	-17.3568	17.35676	
	363.15	0.973789033	0.05	0.449	4.4900E-04	0.000379	-15.5112	15.5112	
	368.15	0.970377504	0.05	0.4193	4.1930E-04	0.00036	-14.163	14.16303	
Average Error for Temp.								19.97169	
Total Error for All Tei									
							kij	lij	
							1.389112	0.607268	

PHENOL (1) - BENZENE (2)

RL - AR Pure value of benzene was taken from Fischler; Z. Elektrochemie, 128, 19(1913).

Pure value of phenol was extrapolated from the data.

01469 Swearingen, L. E.; J. Phys. Chem., 32, 1346-1353(1928)

P= 0.1013 MPa

%AAD= 7.274225

	Phenol	(g/m s)							
298.15	0.873007427	0	0.5578	5.5780E-04	0.000602	7.905136	7.905136		
298.15	0.889223332	0.083	0.6592	6.5920E-04	0.00067	1.633927	1.633927		
298.15	0.908434587	0.181	0.8516	8.5160E-04	0.000811	-4.80661	4.806607		
298.15	0.919837697	0.239	0.9218	9.2180E-04	0.000925	0.301058	0.301058		
298.15	0.92771634	0.279	1.037	1.0370E-03	0.001018	-1.85811	1.858114		
298.15	0.94568429	0.37	1.1573	1.1573E-03	0.00128	10.63932	10.63932		
298.15	0.967088639	0.478	1.6957	1.6957E-03	0.0017	0.282551	0.282551		
298.15	0.975833859	0.522	1.8494	1.8494E-03	0.00191	3.275055	3.275055		
298.15	0.995164316	0.619	2.5404	2.5404E-03	0.002453	-3.45615	3.456145		
298.15	1.002956287	0.658	2.7828	2.7828E-03	0.002699	-2.99878	2.998782		
298.15	1.009758644	0.692	3.172	3.1720E-03	0.002925	-7.78587	7.785873		
298.15	1.023791014	0.762	3.936	3.9360E-03	0.003409	-13.3853	13.38527		
298.15	1.028610661	0.786	4.4239	4.4239E-03	0.003577	-19.1351	19.1351		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	298.15	1.071779865	1	7.25	7.2500E-03	0.005081	-29.9204	29.92036	7.728645
PHENOL (1) - BENZENE (2)									
RL - AR									
(From Irving, NEL Report, 1977 - Bramley, 1916)									
P= 0.1013 MPa									
Wt Frac			Phenol	(cP)					
0	293.15	0.87799851	0	0.629	6.2900E-04	0.000646	2.672832	2.672832	
0.1	293.15	0.894457503	0.0844353	0.724	7.2400E-04	0.000727	0.409209	0.409209	
0.2	293.15	0.911547522	0.1718425	0.862	8.6200E-04	0.000868	0.645988	0.645988	
0.3	293.15	0.929303326	0.2623812	1.069	1.0690E-03	0.001076	0.56162	0.56162	
0.4	293.15	0.947764592	0.3562229	1.368	1.3680E-03	0.001368	0.000441	0.000441	
0.5	293.15	0.966974218	0.4535516	1.767	1.7670E-03	0.001776	0.4349	0.4349	
0.6	293.15	0.986978648	0.5545654	2.353	2.3530E-03	0.002327	-1.12509	1.125085	
0.7	293.15	1.007828252	0.6594776	3.328	3.3280E-03	0.003041	-8.63719	8.637191	
0.8	293.15	1.029577748	0.7685183	4.75	4.7500E-03	0.003885	-18.2088	18.20878	
0.9	293.15	1.052286682	0.8819361	6.94	6.9400E-03	0.004764	-31.355	31.35502	
1	293.15	1.076019971	1	11.04	1.1040E-02	0.005704	-48.3327	48.33267	
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Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
0.2	283.15	0.847352254	0.1336612	0.55	5.5000E-04	0.000555	0.865662	0.865662	
0.3	283.15	0.871159933	0.2091641	0.7	7.0000E-04	0.000721	3.047333	3.047333	
0.4	283.15	0.896344114	0.2914941	0.95	9.5000E-04	0.000966	1.687399	1.687399	
0.5	283.15	0.923027731	0.381621	1.3	1.3000E-03	0.001331	2.34901	2.34901	
0.6	283.15	0.951348804	0.4807074	1.85	1.8500E-03	0.001877	1.466183	1.466183	
0.7	283.15	0.981462829	0.5901593	3	3.0000E-03	0.002692	-10.2821	10.28214	
0.8	283.15	1.013545634	0.711693	5.225	5.2250E-03	0.003869	-25.9432	25.94322	
0.9	283.15	1.047796816	0.8474256	10.225	1.0225E-02	0.005451	-46.6851	46.68507	
1	283.15	1.084443892	1	20.1	2.0100E-02	0.00724	-63.981	63.98102	10.52154
0	293.15	0.792251985	0	0.323	3.2300E-04	0.000321	-0.57133	0.571332	
0.1	293.15	0.813711176	0.06417	0.38	3.8000E-04	0.00039	2.699271	2.699271	
0.2	293.15	0.836365233	0.1336612	0.48	4.8000E-04	0.000487	1.502055	1.502055	
0.3	293.15	0.86031681	0.2091641	0.61	6.1000E-04	0.000626	2.592895	2.592895	
0.4	293.15	0.885680667	0.2914941	0.8	8.0000E-04	0.000827	3.42424	3.42424	
0.5	293.15	0.91258551	0.381621	1.08	1.0800E-03	0.001124	4.116099	4.116099	
0.6	293.15	0.941176173	0.4807074	1.51	1.5100E-03	0.001565	3.628557	3.628557	
0.7	293.15	0.971616227	0.5901593	2.3	2.3000E-03	0.002213	-3.79559	3.795593	
0.8	293.15	1.00409111	0.711693	3.8	3.8000E-03	0.003137	-17.4551	17.45509	
0.9	293.15	1.038811915	0.8474256	6.4	6.4000E-03	0.004357	-31.923	31.92296	
1	293.15	1.076019971	1	11.04	1.1040E-02	0.005704	-48.3327	48.33267	7.904084
0	302.95	0.781084387	0	0.295	2.9500E-04	0.00029	-1.64463	1.644628	
0.1	302.95	0.802629883	0.06417	0.36	3.6000E-04	0.000349	-3.0004	3.000396	
0.2	302.95	0.825397721	0.1336612	0.44	4.4000E-04	0.000431	-1.96464	1.964643	
0.3	302.95	0.849494959	0.2091641	0.56	5.6000E-04	0.000548	-2.18572	2.185719	
0.4	302.95	0.875041534	0.2914941	0.73	7.3000E-04	0.000715	-1.99533	1.995327	
0.5	302.95	0.902172255	0.381621	0.96	9.6000E-04	0.00096	0.002011	0.002011	
0.6	302.95	0.931039188	0.4807074	1.31	1.3100E-03	0.001319	0.657941	0.657941	
0.7	302.95	0.961814501	0.5901593	1.84	1.8400E-03	0.00184	0.000198	0.000198	
0.8	302.95	0.994693909	0.711693	2.82	2.8200E-03	0.002574	-8.73453	8.734529	
0.9	302.95	1.029900832	0.8474256	4.3	4.3000E-03	0.003527	-17.9725	17.97253	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
1	302.95	1.067691485	1	7.1	7.1000E-03	0.004556	-35.8258	35.8258	4.057033
0	313.25	0.76911071	0	0.27	2.7000E-04	0.000262	-3.00453	3.004535	
0.1	313.25	0.7907488	0.06417	0.335	3.3500E-04	0.000312	-6.80626	6.80626	
0.2	313.25	0.813639663	0.1336612	0.405	4.0500E-04	0.000382	-5.77717	5.777167	
0.3	313.25	0.837895341	0.2091641	0.5	5.0000E-04	0.000479	-4.19176	4.191755	
0.4	313.25	0.863641643	0.2914941	0.63	6.3000E-04	0.000618	-1.8996	1.899605	
0.5	313.25	0.891020336	0.381621	0.825	8.2500E-04	0.000819	-0.76633	0.766332	
0.6	313.25	0.92019175	0.4807074	1.1	1.1000E-03	0.00111	0.871785	0.871785	
0.7	313.25	0.951337921	0.5901593	1.5	1.5000E-03	0.001527	1.830745	1.830745	
0.8	313.25	0.984666396	0.711693	2.18	2.1800E-03	0.002108	-3.32318	3.323182	
0.9	313.25	1.020414862	0.8474256	3.22	3.2200E-03	0.002849	-11.5116	11.51158	
1	313.25	1.058856823	1	4.74	4.7400E-03	0.003632	-23.376	23.37604	4.108713
0	322.95	0.757594503	0	0.248	2.4800E-04	0.000239	-3.77143	3.771427	
0.1	322.95	0.779321646	0.06417	0.305	3.0500E-04	0.000282	-7.50435	7.504346	
0.2	322.95	0.802331816	0.1336612	0.37	3.7000E-04	0.000342	-7.6741	7.674097	
0.3	322.95	0.826742117	0.2091641	0.45	4.5000E-04	0.000424	-5.68057	5.680568	
0.4	322.95	0.852684354	0.2914941	0.56	5.6000E-04	0.000542	-3.29584	3.295837	
0.5	322.95	0.88030741	0.381621	0.72	7.2000E-04	0.000709	-1.52833	1.528333	
0.6	322.95	0.909780106	0.4807074	0.94	9.4000E-04	0.000949	0.992106	0.992106	
0.7	322.95	0.941294655	0.5901593	1.255	1.2550E-03	0.001291	2.84912	2.84912	
0.8	322.95	0.975070858	0.711693	1.73	1.7300E-03	0.001759	1.673256	1.673256	
0.9	322.95	1.011361241	0.8474256	2.4	2.4000E-03	0.002349	-2.12609	2.126089	
1	322.95	1.050457375	1	3.28	3.2800E-03	0.002959	-9.78434	9.784344	3.702639
Average Error for Temp.									

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Total Error for All T_{ei} 272.6461 0.986935 1.258396

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
ETHYL ACETATE (1) - 1,4-DIOXANE (2)									
ES - CT Measurements were carried out at saturation pressure.									
00482 Rathnam, M. V.; J. Chem. Eng. Data, 33(1), 14-15(1988)									
P=			MPa	%AAD= 2.384126					
				Ethyl Acetate	(mPa s)				
313.15	1.011715371		0	0.939	9.3900E-04	0.000826	-12.0841	12.08407	
313.15	0.984502653		0.1779	0.768	7.6800E-04	0.000712	-7.30816	7.308165	
313.15	0.979895024		0.209	0.717	7.1700E-04	0.000693	-3.32429	3.324286	
313.15	0.951820562		0.405	0.584	5.8400E-04	0.000584	-2.1E-06	2.1E-06	
313.15	0.936838966		0.5144	0.527	5.2700E-04	0.00053	0.549692	0.549692	
313.15	0.925178516		0.602	0.49	4.9000E-04	0.00049	0.031454	0.031454	
313.15	0.89993756		0.7994	0.423	4.2300E-04	0.000412	-2.59757	2.597571	
313.15	0.882651648		0.9411	0.376	3.7600E-04	0.000365	-2.87771	2.877709	
313.15	0.875660299		1	0.369	3.6900E-04	0.000348	-5.73376	5.73376	
Average Error for Temp.									2.384126
				k _{ij}			k _{ij}	i/j	
Total Error for All T _{oi}				0.983947	16.68888		0.983947	1.066767	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
ETHYL ACETATE (1) - METHYL ACETATE (2)									
ES - ES									
01058 Chadwell, H. M.; J. Am. Chem. Soc., 48, 1912-1925(1926)									
P=									
MPa									
Ethyl Acetate									
(mP)									
Wt Frac.								%AAD=	0.561885
0	298.15	0.92804315	0	3.594	3.5940E-04	0.000356	-1.08024	1.08024	
0.09159	298.15	0.924781127	0.07815	3.638	3.6380E-04	0.000362	-0.58805	0.588047	
0.21698	298.15	0.920352836	0.18896	3.713	3.7130E-04	0.00037	-0.31093	0.310934	
0.36562	298.15	0.915157312	0.32641	3.801	3.8010E-04	0.00038	-3.5E-05	3.52E-05	
0.4884	298.15	0.91090977	0.44527	3.876	3.8760E-04	0.000388	0.101476	0.101476	
0.5956	298.15	0.907233503	0.55324	3.943	3.9430E-04	0.000394	0.032088	0.032068	
0.81855	298.15	0.899682082	0.79136	4.098	4.0980E-04	0.000405	-1.05754	1.057545	
0.89295	298.15	0.89718994	0.87621	4.158	4.1580E-04	0.000408	-1.84309	1.843087	
1	298.15	0.893628329	1	4.244	4.2440E-04	0.000411	-3.21028	3.210283	
Average Error for Temp.								0.561885	
Total Error for All T _{o1}									
kij									
lij									
0.997982									
1.037004									

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
METHOXYBENZENE [anisole] (1) - BENZENE (2)									
OT - AR									
00769 Luts'kii, A. E.; Obukhova, E. M.; Sidorov, I. A.; J. Gen. Chem. USSR, 28, 2423-2432(1958)									
P= 0.101 MPa									
%AAD= 1.058835									
Methoxybenzene (g/m s)									
298.15	0.873007427	0	0.602	6.0200E-04	0.000602	-0.01747	0.017467		
298.15	0.887043102	0.1	0.635	6.3500E-04	0.000637	0.268522	0.268522		
298.15	0.900487057	0.2	0.671	6.7100E-04	0.000674	0.476518	0.476518		
298.15	0.925743426	0.4	0.742	7.4200E-04	0.000753	1.457625	1.457625		
298.15	0.937620533	0.5	0.782	7.8200E-04	0.000792	1.318193	1.318193		
298.15	0.949035857	0.6	0.821	8.2100E-04	0.000831	1.235747	1.235747		
298.15	0.97058485	0.8	0.907	9.0700E-04	0.000906	-0.11502	0.115025		
298.15	0.990579089	1	0.986	9.8600E-04	0.00098	-0.6063	0.606297		0.811938
308.15	0.862910365	0	0.527	5.2700E-04	0.000526	-0.24001	0.240011		
308.15	0.877032301	0.1	0.556	5.5600E-04	0.000554	-0.27328	0.273277		
308.15	0.890566391	0.2	0.587	5.8700E-04	0.000586	-0.19333	0.193327		
308.15	0.916011986	0.4	0.649	6.4900E-04	0.000653	0.592676	0.592676		
308.15	0.927987063	0.5	0.68	6.8000E-04	0.000687	1.047153	1.047153		
308.15	0.939501971	0.6	0.715	7.1500E-04	0.000721	0.883308	0.883308		
308.15	0.961253451	0.8	0.785	7.8500E-04	0.000789	0.498439	0.498439		
308.15	0.981452538	1	0.851	8.5100E-04	0.000858	0.875701	0.875701		0.581363
318.15	0.852646212	0	0.464	4.6400E-04	0.000462	-0.32627	0.32627		
318.15	0.866859161	0.1	0.489	4.8900E-04	0.000486	-0.55149	0.551492		
318.15	0.880488449	0.2	0.517	5.1700E-04	0.000513	-0.83091	0.83091		
318.15	0.906134182	0.4	0.57	5.7000E-04	0.00057	0.018558	0.018558		
318.15	0.918213016	0.5	0.597	5.9700E-04	0.0006	0.506436	0.506436		
318.15	0.929833474	0.6	0.626	6.2600E-04	0.00063	0.684705	0.684705		
318.15	0.951799818	0.8	0.684	6.8400E-04	0.000692	1.104463	1.104463		
318.15	0.972216586	1	0.739	7.3900E-04	0.000757	2.401842	2.401842		0.616094

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
323.15	0.847448009	0	0.436	4.3600E-04	0.000435	-0.25689	0.256895		
323.15	0.86170838	0.1	0.46	4.6000E-04	0.000457	-0.74285	0.742847		
323.15	0.875387313	0.2	0.485	4.8500E-04	0.000481	-0.85807	0.858068		
323.15	0.901137534	0.4	0.533	5.3300E-04	0.000534	0.203922	0.203922		
323.15	0.913270592	0.5	0.559	5.5900E-04	0.000562	0.553894	0.553894		
323.15	0.924946248	0.6	0.585	5.8500E-04	0.000591	0.960484	0.960484		
323.15	0.947025057	0.8	0.64	6.4000E-04	0.000649	1.409151	1.409151		
323.15	0.967555889	1	0.69	6.9000E-04	0.000712	3.207502	3.207502		0.788061

ANISOLE (1) - BENZENE (2)

OT - AR The value for the viscosity of anisole at T = 313.15 K is 3.4% lower than those of DIPPR 801 and Friend, J. N.; Hargreaves, W. D.; Philos. Mag., 1944, 35, 37.

04644 Joshi, S. S.; Aminabhavi, T. M.; Shukla, S. S.; J. Chem. Eng. Data, 35(2), 187-189(1990)

P= 1 atm

		Anisole		(cP)					
298.15	0.873007427	0	0.5997	5.9970E-04	0.000602	0.365991	0.365991		
298.15	0.887386254	0.1025	0.6396	6.3960E-04	0.000638	-0.31031	0.310312		
298.15	0.900539695	0.2004	0.6806	6.8060E-04	0.000674	-0.91814	0.918142		
298.15	0.913413804	0.3003	0.7121	7.1210E-04	0.000713	0.171791	0.171791		
298.15	0.925985675	0.402	0.7553	7.5530E-04	0.000754	-0.22393	0.223926		
298.15	0.937445856	0.4985	0.7849	7.8490E-04	0.000792	0.868853	0.868853		
298.15	0.948935098	0.5991	0.8308	8.3080E-04	0.000831	-9.3E-07	9.29E-07		
298.15	0.959908089	0.699	0.8709	8.7090E-04	0.000869	-0.2589	0.258903		
298.15	0.971102928	0.805	0.9112	9.1120E-04	0.000908	-0.37467	0.374667		
298.15	0.980895492	0.9013	0.9506	9.5060E-04	0.000943	-0.80115	0.80115		
298.15	0.990579089	1	1.0023	1.0023E-03	0.00098	-2.2227	2.222697		0.436416
303.15	0.867979124	0	0.562	5.6200E-04	0.000562	0.002643	0.002643		
303.15	0.882401603	0.1025	0.6033	6.0330E-04	0.000594	-1.4648	1.464805		
303.15	0.895598598	0.2004	0.6433	6.4330E-04	0.000628	-2.36984	2.369845		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
303,15	303,15	0.908518688	0.3003	0.6712	6.7120E-04	0.000664	-1.08827	1.088271	0.910966
	303,15	0.921138663	0.402	0.7045	7.0450E-04	0.000701	-0.47388	0.473875	
	303,15	0.932845452	0.4985	0.738	7.3800E-04	0.000737	-0.18436	0.184364	
	303,15	0.944184061	0.5991	0.7765	7.7650E-04	0.000773	-0.41439	0.414391	
	303,15	0.95520667	0.699	0.8121	8.1210E-04	0.000809	-0.37323	0.37323	
	303,15	0.966454618	0.805	0.8545	8.5450E-04	0.000846	-0.94213	0.942133	
	303,15	0.976295698	0.9013	0.8883	8.8830E-04	0.00088	-0.88778	0.88778	
	303,15	0.986029163	1	0.9315	9.3150E-04	0.000916	-1.61254	1.612544	
308,15	308,15	0.862910365	0	0.5413	5.4130E-04	0.000526	-2.87546	2.875459	3.437899
	308,15	0.877377662	0.1025	0.5736	5.7360E-04	0.000555	-3.20123	3.201231	
	308,15	0.890619397	0.2004	0.6196	6.1960E-04	0.000586	-5.42373	5.423726	
	308,15	0.903686742	0.3003	0.6447	6.4470E-04	0.000619	-3.9857	3.985696	
	308,15	0.916256176	0.402	0.675	6.7500E-04	0.000654	-3.18069	3.180689	
	308,15	0.927810904	0.4985	0.7086	7.0860E-04	0.000687	-3.10382	3.103824	
	308,15	0.939400311	0.5991	0.7422	7.4220E-04	0.000721	-2.85515	2.855153	
	308,15	0.950473995	0.699	0.7763	7.7630E-04	0.000755	-2.75887	2.758875	
308,15	308,15	0.961776631	0.805	0.8167	8.1670E-04	0.000791	-3.19594	3.195943	3.437899
	308,15	0.971667688	0.9013	0.8509	8.5090E-04	0.000823	-3.23595	3.235954	
	308,15	0.981452538	1	0.8896	8.8960E-04	0.000858	-3.50132	3.501324	
	313,15	0.86779985	0	0.4863	4.8630E-04	0.000493	1.310231	1.310231	
	313,15	0.872313183	0.1025	0.5191	5.1910E-04	0.00052	0.080693	0.080693	
	313,15	0.885600897	0.2004	0.5555	5.5550E-04	0.000548	-1.40153	1.401528	
	313,15	0.89861683	0.3003	0.5884	5.8840E-04	0.000578	-1.74035	1.740349	
	313,15	0.911337139	0.402	0.6099	6.0990E-04	0.00061	0.04837	0.04837	
313,15	313,15	0.922941202	0.4985	0.6337	6.3370E-04	0.000641	1.163995	1.163995	3.437899
	313,15	0.934582905	0.5991	0.669	6.6900E-04	0.000673	0.660301	0.660301	
	313,15	0.945709192	0.699	0.7007	7.0070E-04	0.000706	0.686774	0.686774	
	313,15	0.957068173	0.805	0.7318	7.3180E-04	0.00074	1.073415	1.073415	
	313,15	0.96701074	0.9013	0.7626	7.6260E-04	0.000771	1.136037	1.136037	
	313,15	0.97684857	1	0.7977	7.9770E-04	0.000805	0.962216	0.962216	

[illegible]

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
1,4-DIOXANE (1) - METHANOL (2)									
CT - AL									
(From Irving, NEL Report, 1977 - Amlis, 1942)									
P= 0.101 MPa									
%AAD= 1.459961									
Wt Frac	1,4-Dioxane			(cP)					
0	283.15	0.803760807	0	0.678	6.7800E-04	0.000669	-1.36394	1.36394	
0.1	283.15	0.822753246	0.038839	0.676	6.7600E-04	0.000679	0.410218	0.410218	
0.2	283.15	0.842664971	0.0833415	0.684	6.8400E-04	0.000693	1.355344	1.355344	
0.3	283.15	0.863564379	0.134844	0.704	7.0400E-04	0.000714	1.36304	1.36304	
0.4	283.15	0.885528628	0.1951388	0.724	7.2400E-04	0.000742	2.437248	2.437248	
0.5	283.15	0.908635541	0.2666877	0.76	7.6000E-04	0.00078	2.649584	2.649584	
0.6	283.15	0.932982662	0.3529657	0.816	8.1600E-04	0.000833	2.086883	2.086883	
0.7	283.15	0.958670483	0.4590431	0.896	8.9600E-04	0.000906	1.133033	1.133033	
0.8	283.15	0.985812678	0.5926186	1.008	1.0080E-03	0.001008	-2.9E-05	2.91E-05	
0.9	283.15	1.014536996	0.7659767	1.17	1.1700E-03	0.00115	-1.69943	1.699432	
1	283.15	1.044985248	1	1.594	1.5940E-03	0.001344	-15.6617	15.66165	1.459424
0	293.15	0.794382616	0	0.586	5.8600E-04	0.000577	-1.54172	1.541716	
0.1	293.15	0.81323079	0.038839	0.58	5.8000E-04	0.000585	0.849674	0.849674	
0.2	293.15	0.832995115	0.0833415	0.597	5.9700E-04	0.000597	-0.0719	0.071897	
0.3	293.15	0.853744052	0.134844	0.608	6.0800E-04	0.000613	0.823196	0.823196	
0.4	293.15	0.875553059	0.1951388	0.629	6.2900E-04	0.000636	1.079558	1.079558	
0.5	293.15	0.898505503	0.2666877	0.661	6.6100E-04	0.000667	0.931829	0.931829	
0.6	293.15	0.92269373	0.3529657	0.7	7.0000E-04	0.00071	1.480839	1.480839	
0.7	293.15	0.948220304	0.4590431	0.764	7.6400E-04	0.00077	0.81235	0.81235	
0.8	293.15	0.975199465	0.5926186	0.8	8.0000E-04	0.000854	6.712034	6.712034	
0.9	293.15	1.00375883	0.7659767	1.013	1.0130E-03	0.00097	-4.19704	4.197041	
1	293.15	1.034041422	1	1.313	1.3130E-03	0.001131	-13.8635	13.86352	1.884269
0	303.15	0.784792003	0	0.508	5.0800E-04	0.000502	-1.13564	1.135644	
0.1	303.15	0.80349891	0.038839	0.512	5.1200E-04	0.000509	-0.65787	0.657869	
0.2	303.15	0.823119418	0.0833415	0.517	5.1700E-04	0.000518	0.209671	0.209671	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
0.3	303.15	0.843722131	0.134844	0.528	5.2800E-04	0.000532	0.665019	0.665019	
0.4	303.15	0.865382696	0.1951388	0.549	5.4900E-04	0.00055	0.220163	0.220163	
0.5	303.15	0.886184733	0.2666877	0.576	5.7600E-04	0.000576	0.005127	0.005127	
0.6	303.15	0.912220913	0.3529657	0.613	6.1300E-04	0.000612	-0.21597	0.21597	
0.7	303.15	0.93759422	0.4590431	0.66	6.6000E-04	0.000661	0.172468	0.172468	
0.8	303.15	0.964419422	0.5926186	0.74	7.4000E-04	0.00073	-1.3136	1.313605	
0.9	303.15	0.992824808	0.7659767	0.866	8.6600E-04	0.000827	-4.47201	4.47201	
1	303.15	1.02295424	1	1.104	1.1040E-03	0.000961	-12.9163	12.91626	0.881322
0	313.15	0.774972235	0	0.444	4.4400E-04	0.000441	-0.70441	0.704405	
0.1	313.15	0.793541236	0.038839	0.448	4.4800E-04	0.000446	-0.4278	0.427798	
0.2	313.15	0.813021941	0.0833415	0.453	4.5300E-04	0.000454	0.186769	0.186769	
0.3	313.15	0.833483184	0.134844	0.464	4.6400E-04	0.000465	0.201486	0.201486	
0.4	313.15	0.855000908	0.1951388	0.48	4.8000E-04	0.00048	0.090821	0.090821	
0.5	313.15	0.877659105	0.2666877	0.502	5.0200E-04	0.000502	-0.01926	0.019256	
0.6	313.15	0.901550913	0.3529657	0.533	5.3300E-04	0.000532	-0.26179	0.261789	
0.7	313.15	0.926779897	0.4590431	0.581	5.8100E-04	0.000573	-1.39496	1.394961	
0.8	313.15	0.953461548	0.5926186	0.644	6.4400E-04	0.000631	-2.05999	2.059994	
0.9	313.15	0.981725049	0.7659767	0.746	7.4600E-04	0.000712	-4.5392	4.539203	
1	313.15	1.011715371	1	0.942	9.4200E-04	0.000826	-12.3641	12.36406	1.020231
0	323.15	0.764904336	0	0.391	3.9100E-04	0.00039	-0.23618	0.23618	
0.1	323.15	0.78333921	0.038839	0.397	3.9700E-04	0.000394	-0.66004	0.660045	
0.2	323.15	0.802684623	0.0833415	0.403	4.0300E-04	0.000401	-0.53756	0.537557	
0.3	323.15	0.823009742	0.134844	0.413	4.1300E-04	0.00041	-0.70352	0.703523	
0.4	323.15	0.844390924	0.1951388	0.427	4.2700E-04	0.000423	-0.91771	0.917709	
0.5	323.15	0.866912672	0.2666877	0.448	4.4800E-04	0.000441	-1.53783	1.53783	
0.6	323.15	0.890668751	0.3529657	0.475	4.7500E-04	0.000466	-1.87279	1.872795	
0.7	323.15	0.915763492	0.4590431	0.512	5.1200E-04	0.000501	-2.16507	2.165073	
0.8	323.15	0.942313329	0.5926186	0.571	5.7100E-04	0.00055	-3.71541	3.715409	
0.9	323.15	0.970448596	0.7659767	0.661	6.6100E-04	0.000619	-6.38108	6.381082	
1	323.15	1.000315679	1	0.819	8.1900E-04	0.000716	-12.604	12.60401	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%D	%AD	%AAD
1,4-DIOXANE (1) - ETHANOL (2)									
CT - AL									
(From Irving, NEL Report, 1977 - Herz, 1929)									
P= 0.101 MPa									
Wt Frac	1,4-Dioxane			(cP)					
0	293.15	0.790327145	0	1.192	1.1920E-03	0.001008	-15.4533	15.45335	
0.1	293.15	0.809404072	0.0549077	0.98	9.8000E-04	0.000967	-1.31899	1.318988	
0.2	293.15	0.829424737	0.1156077	0.907	9.0700E-04	0.000938	3.464272	3.464272	
0.3	293.15	0.850460947	0.1830675	0.874	8.7400E-04	0.000922	5.475348	5.475348	
0.4	293.15	0.872591983	0.2584829	0.867	8.6700E-04	0.000917	5.760655	5.760655	
0.5	293.15	0.895905597	0.3433493	0.88	8.8000E-04	0.000923	4.851728	4.851728	
0.6	293.15	0.920499179	0.4395623	0.907	9.0700E-04	0.000938	3.382925	3.382925	
0.7	293.15	0.946481114	0.5495603	0.947	9.4700E-04	0.000961	1.469232	1.469232	
0.8	293.15	0.973972379	0.6765344	0.994	9.9400E-04	0.000994	8.05E-07	8.05E-07	
0.9	293.15	1.003108428	0.8247434	1.067	1.0670E-03	0.001045	-2.07245	2.07245	
1	293.15	1.034041422	1	1.255	1.2550E-03	0.001131	-9.88271	9.882711	3.0884
0	313.15	0.772265639	0	0.828	8.2800E-04	0.000649	-21.5643	21.56426	
0.1	313.15	0.790986468	0.0549077	0.772	7.7200E-04	0.000637	-17.5027	17.50269	
0.2	313.15	0.810637485	0.1156077	0.72	7.2000E-04	0.000632	-12.2245	12.22447	
0.3	313.15	0.831289784	0.1830675	0.68	6.8000E-04	0.000635	-6.65467	6.654668	
0.4	313.15	0.853021895	0.2584829	0.66	6.6000E-04	0.000645	-2.31737	2.317368	
0.5	313.15	0.875920779	0.3433493	0.664	6.6400E-04	0.000661	-0.48391	0.483907	
0.6	313.15	0.90008299	0.4395623	0.684	6.8400E-04	0.000681	-0.382	0.381999	
0.7	313.15	0.925616041	0.5495603	0.714	7.1400E-04	0.000705	-1.25694	1.256937	
0.8	313.15	0.952640001	0.6765344	0.756	7.5600E-04	0.000732	-3.15742	3.157422	
0.9	313.15	0.981289379	0.8247434	0.82	8.2000E-04	0.000768	-6.33217	6.332175	
Average Error for Temp.								2.054558	
Total Error for All T _{ei}							65.69823	0.989102	1.089485
								k _{ij}	l _{ij}
									4.621826

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
1	313.15	1.011715371	1	0.917	9.1700E-04	0.000826	-9.97486	9.974858	5.590182
0	333.15	0.753227966	0	0.592	5.9200E-04	0.000444	-25.0224	25.02236	
0.1	333.15	0.771607506	0.0549077	0.553	5.5300E-04	0.000445	-19.4833	19.48333	
0.2	333.15	0.790906439	0.1156077	0.522	5.2200E-04	0.000452	-13.4307	13.43073	
0.3	333.15	0.811195521	0.1830675	0.5	5.0000E-04	0.000464	-7.2608	7.260802	
0.4	333.15	0.832552959	0.2584829	0.492	4.9200E-04	0.00048	-2.40846	2.408463	
0.5	333.15	0.85506542	0.3433493	0.5	5.0000E-04	0.0005	0.025533	0.025533	
0.6	333.15	0.878829202	0.4395623	0.518	5.1800E-04	0.000522	0.753089	0.753089	
0.7	333.15	0.903951619	0.5495603	0.538	5.3800E-04	0.000544	1.051084	1.051084	
0.8	333.15	0.930552613	0.6765344	0.564	5.6400E-04	0.000565	0.170777	0.170777	
0.9	333.15	0.958766675	0.8247434	0.602	6.0200E-04	0.000589	-2.09826	2.098255	
1	333.15	0.988745115	1	0.685	6.8500E-04	0.000626	-8.55376	8.553762	5.186896
Average Error for Temp.									
Total Error for All T_{oi}									
%AAD= 24.43792									

WATER (1) - 1,4-DIOXANE (2)

Ol - CT The value for the viscosity of 1,4-dioxane is 3.5% lower than those of DIPPR 801 and other accepted sources.
00123 Bavadekar, V. K.; Bamane, B. D.; Nadkarni, A. A.; Datar, D. S.; Blovigyanam, 10, 189-198(1984)

P= 0.101 MPa

Vol Frac	Water (mPa s)	%AAD=
1	303.15 0.992847701 1 0.801 8.0100E-04 0.000673 -16.0167 16.01674	
0.9	303.15 0.995778374 0.9777859 0.94 9.4000E-04 0.000721 -23.3406 23.34063	
0.8	303.15 0.998726399 0.9513687 1.111 1.1110E-03 0.000777 -30.0306 30.03065	
0.7	303.15 1.001691932 0.9194307 1.306 1.3060E-03 0.000845 -35.2701 35.27012	
0.6	303.15 1.004675128 0.8800395 1.467 1.4670E-03 0.000928 -36.7208 36.72081	
0.5	303.15 1.007676146 0.8302414 1.635 1.6350E-03 0.001032 -36.8668 36.86677	
0.4	303.15 1.010695146 0.7652846 1.672 1.6720E-03 0.001167 -30.1998 30.19982	
0.3	303.15 1.013732291 0.6770049 1.615 1.6150E-03 0.001344 -16.7872 16.78725	
0.2	303.15 1.016787744 0.5500926 1.45 1.4500E-03 0.001538 6.069469 6.069469	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
0.1	303,15	1.019861671	0.3520854	1.227	1.2270E-03	0.001519	23.76438	23.76438	23.76438
0	303,15	1.022956424	0	1.054	1.0540E-03	0.000961	-8.78515	8.785153	26.5611

WATER (1) - 1,4-DIOXANE (2)

Ol - CT

01466 Rizk, H. A.; Z. Phys. Chem. Neue Folg., 66, 257-268(1969)

P= 0.101 MPa

		Water		Water					
				(mPa s)					
293,15	1.034041422	0	1.302	1.3020E-03	0.001131	-13.1358	13.13579		
293,15	1.031827051	0.228	1.388	1.3880E-03	0.001541	11.04166	11.04166		
293,15	1.031256008	0.2741	1.427	1.4270E-03	0.001633	14.46963	14.46963		
293,15	1.029063278	0.4187	1.557	1.5570E-03	0.001829	17.45041	17.45041		
293,15	1.02522985	0.591	1.987	1.9870E-03	0.001726	-13.12	13.12004		
293,15	1.021454999	0.7038	2.202	2.2020E-03	0.001498	-31.9718	31.97183		
293,15	1.016212578	0.8099	2.255	2.2550E-03	0.001247	-44.7001	44.70011		
293,15	1.014624935	0.8346	2.158	2.1580E-03	0.001188	-44.961	44.96104		
293,15	1.011257364	0.8791	1.993	1.9930E-03	0.00108	-45.789	45.78901		
293,15	1.007488547	0.9194	1.733	1.7330E-03	0.000982	-43.3381	43.33814		
293,15	1.003851834	0.9508	1.485	1.4850E-03	0.000904	-39.1326	39.13258		
293,15	0.999997932	0.9786	1.227	1.2270E-03	0.000834	-32.0526	32.05264		
293,15	0.996489202	1	1.008	1.0080E-03	0.000779	-22.6971	22.69707		
									30.72974
303,15	1.022956424	0	1.087	1.0870E-03	0.000961	-11.5543	11.55433		
303,15	1.021190781	0.228	1.147	1.1470E-03	0.001325	15.54257	15.54257		
303,15	1.02073578	0.2741	1.174	1.1740E-03	0.001406	19.7206	19.7206		
303,15	1.018987722	0.4187	1.261	1.2610E-03	0.001575	24.89168	24.89168		
303,15	1.015928205	0.591	1.57	1.5700E-03	0.001488	-5.20385	5.203852		
303,15	1.012911099	0.7038	1.709	1.7090E-03	0.001292	-24.4061	24.40606		
303,15	1.008713854	0.8099	1.733	1.7330E-03	0.001075	-37.995	37.99501		
303,15	1.007441092	0.8346	1.661	1.6610E-03	0.001023	-38.4013	38.40134		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	303.15	1.00473888	0.8791	1.543	1.5430E-03	0.00093	-39.7101	39.71008	
	303.15	1.001694521	0.9194	1.35	1.3500E-03	0.000845	-37.375	37.37501	
	303.15	0.998784442	0.9508	1.162	1.1620E-03	0.000779	-32.9968	32.99682	
	303.15	0.995678944	0.9786	0.968	9.6800E-04	0.000719	-25.7393	25.73928	
	303.15	0.992847701	1	0.801	8.0100E-04	0.000673	-16.0167	16.01674	27.45294
	313.15	1.011715371	0	0.929	9.2900E-04	0.000826	-11.1377	11.13772	
	313.15	1.010384508	0.228	0.97	9.7000E-04	0.00115	18.53736	18.53736	
	313.15	1.010040947	0.2741	0.989	9.8900E-04	0.00122	23.35951	23.35951	
	313.15	1.008720354	0.4187	1.047	1.0470E-03	0.001367	30.60205	30.60205	
	313.15	1.00640642	0.591	1.279	1.2790E-03	0.001293	1.06523	1.06523	
	313.15	1.004121338	0.7038	1.368	1.3680E-03	0.001122	-17.9786	17.97864	
	313.15	1.000937112	0.8099	1.376	1.3760E-03	0.000932	-32.2336	32.23358	
	313.15	0.999970306	0.8346	1.32	1.3200E-03	0.000888	-32.7552	32.75522	
	313.15	0.997915772	0.8791	1.229	1.2290E-03	0.000807	-34.3556	34.35557	
	313.15	0.995597998	0.9194	1.083	1.0830E-03	0.000733	-32.294	32.29404	
	313.15	0.993379379	0.9508	0.937	9.3700E-04	0.000676	-27.892	27.89199	
	313.15	0.99100845	0.9786	0.786	7.8600E-04	0.000624	-20.5482	20.54823	
	313.15	0.988843907	1	0.655	6.5500E-04	0.000585	-10.6578	10.65776	24.69286
	323.15	1.000315679	0	0.809	8.0900E-04	0.000716	-11.5237	11.52372	
	323.15	0.999399612	0.228	0.836	8.3600E-04	0.001006	20.35877	20.35877	
	323.15	0.999163011	0.2741	0.85	8.5000E-04	0.001068	25.64285	25.64285	
	323.15	0.9982531	0.4187	0.888	8.8800E-04	0.001197	34.75316	34.75316	
	323.15	0.996657016	0.591	1.063	1.0630E-03	0.001131	6.370638	6.370638	
	323.15	0.99507865	0.7038	1.123	1.1230E-03	0.000981	-12.628	12.62797	
	323.15	0.992875593	0.8099	1.122	1.1220E-03	0.000815	-27.3934	27.39341	
	323.15	0.992205856	0.8346	1.078	1.0780E-03	0.000775	-28.0807	28.08073	
	323.15	0.990781316	0.8791	1.006	1.0060E-03	0.000704	-29.9728	29.97285	
	323.15	0.989172133	0.9194	0.889	8.8900E-04	0.00064	-27.9644	27.96445	
	323.15	0.98762968	0.9508	0.774	7.7400E-04	0.00059	-23.7113	23.71128	
	323.15	0.985979047	0.9786	0.652	6.5200E-04	0.000546	-16.1972	16.19722	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	323.15	0.984470031	1	0.549	5.4900E-04	0.000513	-6.60825	6.608246	23.00666

1,4-DIOXANE (1) - WATER (2)

CT - OI

02910 Shkodin, A. M.; Levitskaya, N. K.; Lozhnikov, V. A.; J. Gen. Chem. of USSR, 38, 967-968(1968)

P= 0.101 MPa

1,4-Dioxane (mPa s)									
293.15	1.000119111	0.0222	1.221	1.2210E-03	0.000836	-31.5524	31.55241		
293.15	1.003775871	0.0486	1.464	1.4640E-03	0.000902	-38.3622	38.36225		
293.15	1.007468547	0.0806	1.728	1.7280E-03	0.000982	-43.1742	43.17419		
293.15	1.011181313	0.12	1.984	1.9840E-03	0.001078	-45.6531	45.65309		
293.15	1.013043294	0.1433	2.092	2.0920E-03	0.001135	-45.7665	45.76646		
293.15	1.014920829	0.1698	2.183	2.1830E-03	0.001198	-45.1072	45.10724		
293.15	1.016796177	0.1999	2.246	2.2460E-03	0.00127	-43.433	43.43295		
293.15	1.018685167	0.2347	2.268	2.2680E-03	0.001354	-40.3145	40.31453		
293.15	1.019445066	0.2502	2.266	2.2660E-03	0.001391	-38.6362	38.6362		
293.15	1.020579549	0.2752	2.252	2.2520E-03	0.001449	-35.6406	35.64063		
293.15	1.022482079	0.323	2.185	2.1850E-03	0.001558	-28.6846	28.68456		
293.15	1.022863112	0.3336	2.151	2.1510E-03	0.001581	-26.4837	26.48366		
293.15	1.024390703	0.3802	2.072	2.0720E-03	0.001676	-19.125	19.125		
293.15	1.026306066	0.4499	1.927	1.9270E-03	0.001784	-7.39682	7.396819		
293.15	1.027459748	0.4996	1.817	1.8170E-03	0.001829	0.64251	0.64251		
293.15	1.028230179	0.5368	1.758	1.7580E-03	0.00184	4.674628	4.674628		
293.15	1.030159092	0.6479	1.569	1.5690E-03	0.001764	12.42072	12.42072		
293.15	1.031127729	0.7161	1.478	1.4780E-03	0.001652	11.77852	11.77852		
293.15	1.032096855	0.7953	1.396	1.3960E-03	0.001493	6.960188	6.960188		
293.15	1.032640857	0.8456	1.349	1.3490E-03	0.00139	3.072985	3.072985		
293.15	1.033340223	0.9177	1.312	1.3120E-03	0.001256	-4.29284	4.292841		25.38916
298.15	0.997991329	0.0222	1.076	1.0760E-03	0.000775	-27.9489	27.94894		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	298.15	1.001291346	0.0486	1.283	1.2830E-03	0.000837	-34.7856	34.78558	
	298.15	1.004621442	0.0806	1.508	1.5080E-03	0.00091	-39.6364	39.63636	
	298.15	1.007967295	0.12	1.728	1.7280E-03	0.001	-42.1532	42.15324	
	298.15	1.008644375	0.1433	1.822	1.8220E-03	0.001052	-42.2652	42.26516	
	298.15	1.011334864	0.1698	1.901	1.9010E-03	0.00111	-41.5457	41.54574	
	298.15	1.01302278	0.1999	1.957	1.9570E-03	0.001178	-39.7861	39.78609	
	298.15	1.014722366	0.2347	1.98	1.9800E-03	0.001256	-36.5774	36.57741	
	298.15	1.0154059	0.2502	1.983	1.9830E-03	0.00129	-34.9458	34.9458	
	298.15	1.01642619	0.2752	1.96	1.9600E-03	0.001345	-31.3908	31.39079	
	298.15	1.018136724	0.323	1.917	1.9170E-03	0.001446	-24.5801	24.58009	
	298.15	1.018479231	0.3336	1.894	1.8940E-03	0.001467	-22.5337	22.53366	
	298.15	1.019852115	0.3802	1.831	1.8310E-03	0.001555	-15.094	15.09399	
	298.15	1.021572938	0.4499	1.715	1.7150E-03	0.001655	-3.49479	3.494793	
	298.15	1.02260914	0.4996	1.623	1.6230E-03	0.001696	4.481103	4.481103	
	298.15	1.023300991	0.5368	1.572	1.5720E-03	0.001706	8.534895	8.534895	
	298.15	1.02503272	0.6479	1.414	1.4140E-03	0.001635	15.62213	15.62213	
	298.15	1.025902098	0.7161	1.336	1.3360E-03	0.001531	14.58494	14.58494	
	298.15	1.026771756	0.7953	1.274	1.2740E-03	0.001383	8.529231	8.529231	
	298.15	1.027259852	0.8456	1.23	1.2300E-03	0.001287	4.59846	4.59846	
	298.15	1.027887272	0.9177	1.2	1.2000E-03	0.00116	-3.34834	3.348344	23.63984
	303.15	0.995776657	0.0222	0.959	9.5900E-04	0.000721	-24.8626	24.8626	
	303.15	0.998723195	0.0486	1.137	1.1370E-03	0.000777	-31.6365	31.63655	
	303.15	1.001694521	0.0806	1.332	1.3320E-03	0.000845	-36.5287	36.52873	
	303.15	1.004677815	0.12	1.521	1.5210E-03	0.000928	-38.962	38.96197	
	303.15	1.006172378	0.1433	1.608	1.6080E-03	0.000977	-39.2356	39.23558	
	303.15	1.007678358	0.1698	1.674	1.6740E-03	0.001032	-38.3325	38.33247	
	303.15	1.009181514	0.1999	1.726	1.7260E-03	0.001095	-36.5635	36.56352	
	303.15	1.010694524	0.2347	1.75	1.7500E-03	0.001167	-33.3127	33.31273	
	303.15	1.01130287	0.2502	1.749	1.7490E-03	0.001199	-31.4499	31.44988	
	303.15	1.012210766	0.2752	1.74	1.7400E-03	0.00125	-28.1672	28.16715	
	303.15	1.013732435	0.323	1.704	1.7040E-03	0.001344	-21.1329	21.13291	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	303.15	1.014037059	0.3336	1.685	1.6850E-03	0.001364	-19.0627	19.06269	
	303.15	1.015257876	0.3802	1.634	1.6340E-03	0.001445	-11.5698	11.56984	
	303.15	1.016787597	0.4499	1.538	1.5380E-03	0.001538	-1.5E-05	1.49E-05	
	303.15	1.01770846	0.4996	1.46	1.4600E-03	0.001576	7.91517	7.91517	
	303.15	1.01832319	0.5368	1.417	1.4170E-03	0.001585	11.86445	11.86445	
	303.15	1.019881493	0.6479	1.282	1.2820E-03	0.001519	18.45601	18.45601	
	303.15	1.020633555	0.7161	1.215	1.2150E-03	0.001422	17.01033	17.01033	
	303.15	1.021405724	0.7953	1.153	1.1530E-03	0.001283	11.30038	11.30038	
	303.15	1.021839043	0.8456	1.125	1.1250E-03	0.001193	6.066088	6.066088	
	303.15	1.022395986	0.9177	1.098	1.0980E-03	0.001074	-2.19457	2.19457	22.17255
	308.15	0.993474218	0.0222	0.859	8.5900E-04	0.000671	-21.8873	21.88732	
	308.15	0.996070586	0.0486	1.014	1.0140E-03	0.000723	-28.6542	28.65421	
	308.15	0.998686985	0.0806	1.184	1.1840E-03	0.000787	-33.56	33.56002	
	308.15	1.001312095	0.12	1.349	1.3490E-03	0.000864	-35.9667	35.96674	
	308.15	1.002626527	0.1433	1.419	1.4190E-03	0.000909	-35.9269	35.92692	
	308.15	1.003950536	0.1698	1.479	1.4790E-03	0.000961	-35.0432	35.04321	
	308.15	1.005271598	0.1999	1.525	1.5250E-03	0.001019	-33.1711	33.17114	
	308.15	1.006600862	0.2347	1.549	1.5490E-03	0.001086	-29.8608	29.86078	
	308.15	1.007135181	0.2502	1.563	1.5630E-03	0.001116	-28.1236	28.12358	
	308.15	1.007932474	0.2752	1.546	1.5460E-03	0.001164	-24.7236	24.72364	
	308.15	1.009268388	0.323	1.518	1.5180E-03	0.001251	-17.563	17.56297	
	308.15	1.009535769	0.3336	1.503	1.5030E-03	0.00127	-15.5072	15.50719	
	308.15	1.010607139	0.3802	1.46	1.4600E-03	0.001345	-7.84567	7.845668	
	308.15	1.011949166	0.4499	1.38	1.3800E-03	0.001432	3.762343	3.762343	
	308.15	1.012756809	0.4996	1.317	1.3170E-03	0.001467	11.37153	11.37153	
	308.15	1.013295863	0.5368	1.282	1.2820E-03	0.001476	15.10071	15.10071	
	308.15	1.014644452	0.6479	1.17	1.1700E-03	0.001414	20.81795	20.81795	
	308.15	1.015321115	0.7161	1.112	1.1120E-03	0.001323	18.99	18.99	
	308.15	1.015997751	0.7953	1.06	1.0600E-03	0.001194	12.61953	12.61953	
	308.15	1.016377407	0.8456	1.036	1.0360E-03	0.001109	7.07189	7.07189	
	308.15	1.016865319	0.9177	1.017	1.0170E-03	0.000997	-1.99148	1.991485	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	313.15	0.991083103	0.0222	0.776	7.7600E-04	0.000626	-19.3347	19.33466	20.93137
	313.15	0.993332652	0.0486	0.914	9.1400E-04	0.000675	-26.1982	26.19816	
	313.15	0.995597998	0.0806	1.061	1.0610E-03	0.000733	-30.8901	30.89015	
	313.15	0.997669314	0.12	1.199	1.1990E-03	0.000805	-32.8497	32.84968	
	313.15	0.999060005	0.1433	1.265	1.2650E-03	0.000847	-33.0045	33.00446	
	313.15	1.00015058	0.1698	1.322	1.3220E-03	0.000896	-32.2527	32.25266	
	313.15	1.001292209	0.1999	1.365	1.3650E-03	0.00095	-30.3852	30.38519	
	313.15	1.002440516	0.2347	1.386	1.3860E-03	0.001013	-26.8986	26.89861	
	313.15	1.002901995	0.2502	1.383	1.3830E-03	0.001041	-24.7266	24.72663	
	313.15	1.003590465	0.2752	1.384	1.3840E-03	0.001085	-21.5711	21.57107	
	313.15	1.004743715	0.323	1.366	1.3660E-03	0.001167	-14.5463	14.54635	
	313.15	1.004974487	0.3336	1.352	1.3520E-03	0.001185	-12.3819	12.38194	
	313.15	1.005899006	0.3802	1.316	1.3160E-03	0.001255	-4.63118	4.631179	
	313.15	1.007056717	0.4499	1.249	1.2490E-03	0.001336	6.936619	6.936619	
	313.15	1.007753239	0.4996	1.197	1.1970E-03	0.001368	14.29344	14.29344	
	313.15	1.008218043	0.5368	1.166	1.1660E-03	0.001376	18.03756	18.03756	
	313.15	1.00938059	0.6479	1.069	1.0690E-03	0.001319	23.34225	23.34225	
	313.15	1.009963749	0.7161	1.023	1.0230E-03	0.001234	20.63806	20.63806	
	313.15	1.010546781	0.7953	0.978	9.7800E-04	0.001113	13.79922	13.79922	
	313.15	1.010873871	0.8456	0.956	9.5600E-04	0.001034	8.111524	8.111524	
	313.15	1.01129418	0.9177	0.937	9.3700E-04	0.000927	-1.03302	1.033017	19.80297
Average Error for Temp.									
							k_{ij}	l_{ij}	
Total Error for All T_{ei}							1.399872	0.693638	

DIETHYL ETHER (1) - METHANOL (2)

CT - AL
 (From Irving, NEL Report, 1977 - Baker, 1912)
 P= 0.101 MPa
 Wt Frac Diethyl Ether (cP)

%AAD= 2.819026

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
1	298.15	0.708004791	1	0.226	2.2600E-04	0.000218	-3.4541	3.454102	
0.9	298.15	0.715398743	0.7955243	0.248	2.4800E-04	0.000252	1.814373	1.814373	
0.8	298.15	0.72294876	0.6335837	0.275	2.7500E-04	0.000283	3.05573	3.05573	
0.7	298.15	0.730659836	0.5021563	0.306	3.0600E-04	0.000312	2.014618	2.014618	
0.6	298.15	0.73863718	0.3933607	0.34	3.4000E-04	0.00034	-1.5E-06	1.51E-06	
0.5	298.15	0.746586229	0.3018144	0.376	3.7600E-04	0.000368	-2.13839	2.138386	
0.4	298.15	0.754812659	0.2237166	0.412	4.1200E-04	0.000397	-3.65684	3.656836	
0.3	298.15	0.763222398	0.1563065	0.448	4.4800E-04	0.000428	-4.53213	4.532135	
0.2	298.15	0.771821642	0.0975308	0.482	4.8200E-04	0.000461	-4.36654	4.366536	
0.1	298.15	0.78081687	0.0458303	0.517	5.1700E-04	0.000497	-3.79262	3.792616	
0	298.15	0.78961486	0	0.551	5.5100E-04	0.000538	-2.4102	2.410202	
<i>Average Error for Temp.</i>									2.819026
<i>Total Error for All Tei</i>									1.024538
<i>kij</i>									1.073006
<i>lij</i>									

DIETHYL ETHER (1) - ETHANOL (2)

AT - AL The value for the viscosity of ethanol at T = 298.15 K is 3.2% higher than those of DIPPR 801 and TRC TABLE DATABASE.

00564 Baker, F.; J. Chem. Soc. (London), 101, 1409-1416(1912)

P= 0.101 MPa

%AAD= 2.294002

		<i>Diethyl Ether</i>		<i>(mPa s)</i>	
298.15	0.785894999	0	1.112	1.1120E-03	0.000898
298.15	0.766376762	0.1577	0.7414	7.4140E-04	0.000659
298.15	0.746919682	0.3593	0.4782	4.7820E-04	0.000467
298.15	0.739129825	0.4569	0.4005	4.0050E-04	0.000401
298.15	0.733841063	0.5301	0.359	3.5900E-04	0.000359
298.15	0.727479446	0.6268	0.3152	3.1520E-04	0.000315
298.15	0.723514477	0.6925	0.2897	2.8970E-04	0.00029
298.15	0.717684592	0.7978	0.2635	2.6350E-04	0.000257
298.15	0.708004791	1	0.226	2.2600E-04	0.000218
<i>Average Error for Temp.</i>					2.294002

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
Total Error for All T_{ei}									
								<i>klj</i>	<i>llj</i>
								0.959716	1.140529

DIETHYL ETHER (1) - PROPANOL (2)

AT - AL

00564 Baker, F.; J. Chem. Soc. (London), 101, 1409-1416(1912)

P= 0.101 MPa

%AAD= 2.044394

		<i>Dieethyl Ethe_i</i>		<i>(mPa s)</i>					
			0	1.971	1.9710E-03	0.00179	-9.16251	9.162515	
298.15	0.800354322			1.404	1.4040E-03	0.001312	-6.53482	6.534821	
298.15	0.788085781	0.099		1.024	1.0240E-03	0.000999	-2.49011	2.490111	
298.15	0.777049512	0.1949		0.7528	7.5280E-04	0.000753	-2.5E-05	2.48E-05	
298.15	0.765482553	0.3032		0.5619	5.6190E-04	0.000571	1.566124	1.566124	
298.15	0.753976602	0.4198		0.4274	4.2740E-04	0.000435	1.676258	1.676258	
298.15	0.742364916	0.5476		0.3356	3.3560E-04	0.000336	-0.00445	0.004451	
298.15	0.730797085	0.6864		0.2717	2.7170E-04	0.000266	-2.03897	2.038966	
298.15	0.719446446	0.8353		0.226	2.2600E-04	0.000218	-3.4541	3.454102	
298.15	0.708004791	1							
Average Error for Temp.									
								2.044394	

Total Error for All T_{ei} *klj* *llj*
14.31075 0.961066 1.079198

DIETHYL ETHER (1) - BENZENE (2)

AT - AR The value for the viscosity of diethyl ether is about 5% higher than those of DIPPR 801 and Thorpe, T. E.; Rodger, J. W.; Phil. Trans. Roy. Soc. (London), 1894, A185, 397.

00769 Lutskil, A. E.; Obukhova, E. M.; Sidorov, I. A.; J. Gen. Chem. USSR, 28, 2423-2432(1958)

P= 0.101 MPa

%AAD= 1.352988

		<i>Dieethyl Ethe_i</i>		<i>(g/m s)</i>					
293.15	0.840907703	0.2		0.504	5.0400E-04	0.000506	0.301783	0.301783	
293.15	0.806143709	0.4		0.407	4.0700E-04	0.000404	-0.80141	0.80141	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mols Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
293.15	0.789566261	0.5	0.371	3.7100E-04	0.000363	-2.03424	2.03424		
293.15	0.773492582	0.6	0.339	3.3900E-04	0.000329	-3.02869	3.02869		
293.15	0.742767382	0.8	0.289	2.8900E-04	0.000273	-5.66972	5.669717		
293.15	0.71380259	1	0.25	2.5000E-04	0.00023	-7.99807	7.998074		2.367168

BENZENE (1) - DIETHYL ETHER (2)

AR - AT

00655 Linebarger, C. E.; Am. J. Sci., [4]2(11), 331-340(1896)

P= 0.101 MPa

		Benzene		(g/m s)	
298.15	0.708004791	0	0.23	2.3000E-04	0.000218
298.15	0.74840319	0.27502	0.282	2.8200E-04	0.000276
298.15	0.793350671	0.55627	0.362	3.6200E-04	0.000362
298.15	0.826193431	0.74709	0.438	4.3800E-04	0.000445
298.15	0.873007427	1	0.599	5.9900E-04	0.000602
					0.48328
					1.299969

DIETHYL ETHER (1) - BENZENE (2)

AT - AR

01797 Lutskil, A. E.; Obukhova, E. M.; Zh. Fiz. Khim., 31(8), 1693-1703(1957)

P= 0.101 MPa

		Diethyl Ether		(g/m s)	
293.15	0.840907703	0.2	0.504	5.0400E-04	0.000506
293.15	0.789566261	0.5	0.371	3.7100E-04	0.000363
					0.301783
					-2.03424
					2.03424
					1.168012

BENZENE (1) - DIETHYL ETHER (2)

AR - AT

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%D	%AD	%AAD
01885 Bingham, E. C.; Brown, D. F.; Rheol., 3(1), 95-112(1932)									
P= 0.101 MPa									
Benzene									
			1	0.7581	7.5810E-04	0.000748	-1.35563	1.35563	
283.15	0.887861661			0.5659	5.6590E-04	0.000572	1.042817	1.042817	
283.15	0.84885812	0.7865		0.4249	4.2490E-04	0.000433	1.819276	1.819276	
283.15	0.807403613	0.5428		0.3481	3.4810E-04	0.00035	0.645117	0.645117	
283.15	0.775096133	0.3396		0.259	2.5900E-04	0.000257	-0.9134	0.9134	1.16907
283.15	0.725183077	0							
Benzene									
			1	0.6464	6.4640E-04	0.000646	-0.09095	0.090947	
283.15	0.87799651			0.4914	4.9140E-04	0.000498	1.260988	1.260988	
283.15	0.838490489	0.7865		0.3783	3.7830E-04	0.00038	0.437817	0.437817	
283.15	0.796598376	0.5428		0.3127	3.1270E-04	0.00031	-0.83784	0.837841	
283.15	0.764018541	0.3396		0.2344	2.3440E-04	0.00023	-1.87508	1.875079	0.845548
283.15	0.71380259	0							
Benzene									
			1	0.5596	5.5960E-04	0.000562	0.431532	0.431532	
303.15	0.867979124			0.4334	4.3340E-04	0.000436	0.646686	0.646686	
303.15	0.827922938	0.7865		0.3384	3.3840E-04	0.000336	-0.71522	0.715221	
303.15	0.78555297	0.5428		0.2831	2.8310E-04	0.000276	-2.44258	2.442577	
303.15	0.752676337	0.3396		0.213	2.1300E-04	0.000207	-2.69881	2.698809	1.268161
303.15	0.70213067	0							
Average Error for Temp.									
1.268161									
Total Error for All Temp.									
1.999531									
1.16907									

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
CHLOROFORM (1) - CARBON TETRACHLORIDE (2)									
AH - AH									
00045 Mathews, J. H.; Cooke, R. D.; J. Phys. Chem., 18, 559-573(1914)									
P= 0.101 MPa									
Wt. Frac.									
Chloroform (g/m s)									
0.5	273.15	1.576654845	0.563	0.8562	8.5620E-04	0.000903	5.421257	5.421257	%AAD= 2.69418
0.5	298.15	1.531548859	0.563	0.6502	6.5020E-04	0.000671	3.16225	3.16225	
0.5	313.15	1.503556794	0.563	0.545	5.4500E-04	0.000572	5.0305	5.0305	
0.5	328.15	1.474777242	0.563	0.484	4.8400E-04	0.000495	2.201403	2.201403	
									3.953852

CARBON TETRACHLORIDE (1) - CHLOROFORM (2)

AH - AH									
00655 Linebarger, C. E.; Am. J. Sci., [4]2(11), 331-340(1896)									
P= 0.101 MPa									
Carbon Tetrachli (g/m s)									
298.15	1.482867763	0	0.54	5.4000E-04	0.00054	-0.02836	0.028356	3.543132	
298.15	1.501295236	0.15663	0.569	5.6900E-04	0.000588	3.402493	3.402493		
298.15	1.538894736	0.50989	0.659	6.5900E-04	0.000692	5.000694	5.000694		
298.15	1.563539005	0.76985	0.761	7.6100E-04	0.000778	2.226211	2.226211		
298.15	1.583526088	1	0.883	8.8300E-04	0.000902	2.17289	2.17289		

CHLOROFORM (1) - CARBON TETRACHLORIDE (2)

AH - AH Trichloromethane was used as the calibrant. The viscosity of carbon tetrachloride was taken from Timmermans, J. Physico-Chemical Constants of Pure Organic Compounds, Amsterdam 1950.									
00998 Bak, T. A.; Anderson, K.; Acta Chem. Scand., 12, 1367-1372(1958)									
P= 0.101 MPa									
Chloroform (g/m s)									
298.16	1.583507806	0	0.9066	9.0660E-04	0.000902	-0.50127	0.501268		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
298,16	1,570576824	0.151	0.8157	8.1570E-04	0.000812	-0.4122	0.4122		
298,16	1,554517277	0.328	0.7315	7.3150E-04	0.000742	1.458384	1.458384		
298,16	1,526685167	0.61	0.6329	6.3290E-04	0.000657	3.82584	3.82584		
298,16	1,505840516	0.803	0.5828	5.8280E-04	0.0006	3.032366	3.032366		
298,16	1,482649265	1	0.542	5.4200E-04	0.00054	-0.40745	0.407449		2.182198

CARBON TETRACHLORIDE [Tetrachloromethane] (1) - CHLOROFORM (2)

AH - AH

01796 Dovzhenko, F. P.; Zh. Fiz. Khim., 31(11), 2517-2521(1957)

P= 0.101 MPa

	Carbon Tetrachl	(g/m s)							
278,15	1,54347174	0.2087	0.7563	7.5830E-04	0.000754	-0.5938	0.593801		
283,15	1,534508652	0.2087	0.7263	7.2630E-04	0.000712	-2.02783	2.02783		
288,15	1,525471943	0.2087	0.6882	6.8820E-04	0.000673	-2.24364	2.243639		
293,15	1,51635923	0.2087	0.6645	6.6450E-04	0.000637	-4.13595	4.135949		
298,15	1,507168	0.2087	0.6296	6.2960E-04	0.000604	-4.05971	4.059709		
303,15	1,497895607	0.2087	0.5964	5.9640E-04	0.000574	-3.82968	3.829684		
308,15	1,488539254	0.2087	0.5644	5.6440E-04	0.000545	-3.37782	3.377824		
313,15	1,479095988	0.2087	0.5501	5.5010E-04	0.000519	-5.62565	5.625646		
318,15	1,469562683	0.2087	0.523	5.2300E-04	0.000495	-5.38781	5.387807		
323,15	1,459936025	0.2087	0.5032	5.0320E-04	0.000472	-6.16659	6.166585		3.744847
278,15	1,575799429	0.517	0.8675	8.6750E-04	0.000883	1.729719	1.729719		
283,15	1,566858517	0.517	0.8281	8.2810E-04	0.000829	0.082903	0.082903		
288,15	1,557846591	0.517	0.7798	7.7980E-04	0.00078	-0.00033	0.000333		
293,15	1,548761401	0.517	0.7319	7.3190E-04	0.000735	0.427921	0.427921		
298,15	1,539800582	0.517	0.6888	6.8880E-04	0.000694	0.761409	0.761409		
303,15	1,530361641	0.517	0.6543	6.5430E-04	0.000656	0.327393	0.327393		
308,15	1,521041952	0.517	0.6241	6.2410E-04	0.000622	-0.35619	0.356193		
313,15	1,511638739	0.517	0.5928	5.9280E-04	0.00059	-0.46537	0.465369		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
2-PROPANOL [Iso-Propanol] (1) - DICHLOROMETHANE (2)									
OL - AH									
00465 Zurita, J. L.; DeSoria, M. L. G.; Posligo, M. A.; Katz, M.; J. Solution Chem., 16(2), 163-170(1987)									
P= 0.101 MPa									
%AAD= 4.269228									
			2-Propanol	(mPa s)					
298.15	1.318256586		0	0.418	4.1800E-04	0.00042	0.554913	0.554913	
298.15	1.256039246		0.0992	0.435	4.3500E-04	0.000427	-1.93323	1.933227	
298.15	1.193917147		0.2021	0.457	4.5700E-04	0.000451	-1.31827	1.318271	
298.15	1.13754406		0.299	0.491	4.9100E-04	0.000491	0.007816	0.007816	
298.15	1.082296809		0.3974	0.548	5.4800E-04	0.000551	0.513731	0.513731	
298.15	0.999315733		0.552	0.68	6.8000E-04	0.000693	1.901536	1.901536	
298.15	0.976662866		0.5957	0.74	7.4000E-04	0.000746	0.861817	0.861817	
298.15	0.948280276		0.6514	0.825	8.2500E-04	0.000825	2.8E-05	2.8E-05	
298.15	0.874995041		0.8003	1.16	1.1600E-03	0.001111	-4.25416	4.254162	
298.15	0.850629232		0.8515	1.321	1.3210E-03	0.001244	-5.84431	5.844308	
298.15	0.829319624		0.897	1.515	1.5150E-03	0.001384	-8.67904	8.679041	
298.15	0.816824141		0.924	1.619	1.6190E-03	0.001478	-8.69549	8.695494	
298.15	0.8057178		0.9482	1.742	1.7420E-03	0.001572	-9.75471	9.75471	
298.15	0.793519851		0.975	1.912	1.9120E-03	0.001688	-11.7358	11.73582	
298.15	0.782236282		1	2.061	2.0610E-03	0.001808	-12.2589	12.25891	4.269228

2-PROPANOL (1) - DICHLOROMETHANE (2)

OL - AH

01584 Nath, J.; Narain, B.; J. Chem. Eng. Data, 28, 296-297(1983)

P= 0.101 MPa

			2-Propanol	(mPa s)					
298.15	1.318256586		0	0.418	4.1800E-04	0.00042	0.554913	0.554913	
298.15	1.256039246		0.0992	0.435	4.3500E-04	0.000427	-1.93323	1.933227	
298.15	1.193917147		0.2021	0.457	4.5700E-04	0.000451	-1.31827	1.318271	
298.15	1.13754406		0.299	0.491	4.9100E-04	0.000491	0.007816	0.007816	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	298.15	1.082298809	0.3974	0.548	5.4800E-04	0.000551	0.513731	0.513731	
	298.15	0.999315733	0.552	0.68	6.8000E-04	0.000693	1.901536	1.901536	
	298.15	0.976662866	0.5957	0.74	7.4000E-04	0.000746	0.861817	0.861817	
	298.15	0.948280276	0.6514	0.825	8.2500E-04	0.000825	2.8E-05	2.8E-05	
	298.15	0.874995041	0.8003	1.16	1.1600E-03	0.001111	-4.25416	4.254162	
	298.15	0.850629232	0.8515	1.321	1.3210E-03	0.001244	-5.84431	5.844308	
	298.15	0.829319624	0.897	1.515	1.5150E-03	0.001384	-8.67904	8.679041	
	298.15	0.816824141	0.924	1.619	1.6190E-03	0.001478	-8.69549	8.695494	
	298.15	0.8057178	0.9482	1.742	1.7420E-03	0.001572	-9.75471	9.75471	
	298.15	0.793519851	0.975	1.912	1.9120E-03	0.001688	-11.7358	11.73582	
	298.15	0.782236282	1	2.061	2.0610E-03	0.001808	-12.2589	12.25891	
Average Error for Temp.									4.269228
Total Error for All Tei									0.910585
									1.070559

ANILINE (1) - CARBON TETRACHLORIDE (2)

RM - AH

00466 Kalz, M.; Lobo, P. W.; Solimo, H.; An. Asoc. Quim. Argent., 61, 83-90(1973)

P= 1 atm

		Aniline (mPa s)								
298.15	1.014093197	1	3.773	3.7730E-03	0.002517	-33.3012	33.30123		%AAD= 8.529744	
298.15	1.058177289	0.9265	3.3	3.3000E-03	0.002358	-28.5323	28.5323			
298.15	1.128731149	0.80756	2.672	2.6720E-03	0.00218	-18.4275	18.42747			
298.15	1.188744881	0.7051	2.263	2.2630E-03	0.002019	-10.7921	10.79213			
298.15	1.250987277	0.59756	1.914	1.9140E-03	0.001835	-4.14631	4.146312			
298.15	1.309431148	0.49538	1.655	1.6550E-03	0.001655	-8.6E-05	8.59E-05			
298.15	1.368956581	0.39009	1.418	1.4180E-03	0.001472	3.797124	3.797124			
298.15	1.405395264	0.32502	1.297	1.2970E-03	0.001361	4.90236	4.90236			
298.15	1.472067044	0.20473	1.111	1.1110E-03	0.001161	4.511125	4.511125			
298.15	1.528444691	0.10175	0.991	9.9100E-04	0.001007	1.658792	1.658792			
298.15	1.583526088	0	0.902	9.0200E-04	0.000902	0.02069	0.02069			

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
						Average Error for Temp.			
						8.529744			
						Total Error for All Tei			
						kij			
						ljj			
						0.747648 1.516877			

CARBON TETRACHLORIDE (1) - ETHANOL (2)

AH - AL Viscosities were also determined at 25 C.
00322 Konobeav, B. I.; Lyapin, V. V.; J. Appl. Chem. USSR, 43(4), 806-813(1970)
P= 0.101 MPa

%AAD= 7.003391

		Carbon Tetrachl		Carbon Tetrachl									
		0		1.203		1.2030E-03		0.001008		-16.2264		16.22642	
293.15	0.790327145	0.07		1.205		1.2050E-03		0.001047		-13.0878		13.08784	
293.15	0.879291389	0.162		1.202		1.2020E-03		0.001098		-8.61124		8.611236	
293.15	0.984969287	0.166		1.2		1.2000E-03		0.0011		-8.29347		8.29347	
293.15	0.989302704	0.31		1.149		1.1490E-03		0.001149		-7.3E-09		7.35E-09	
293.15	1.132704453	0.389		1.121		1.1210E-03		0.001154		2.953677		2.953677	
293.15	1.202196918	0.533		1.062		1.0620E-03		0.001128		6.224292		6.224292	
293.15	1.315122591	0.545		1.056		1.0560E-03		0.001124		6.467877		6.467877	
293.15	1.323822919	0.729		0.976		9.7600E-04		0.00105		7.593704		7.593704	
293.15	1.445613234	0.771		0.96		9.6000E-04		0.001032		7.514255		7.514255	
293.15	1.470673485	0.859		0.949		9.4900E-04		0.000998		5.215926		5.215926	
293.15	1.520314119	1		0.97		9.7000E-04		0.000971		0.132704		0.132704	
293.15	1.592630502											6.596228	
313.15	0.772265639	0		0.833		8.3300E-04		0.000649		-22.0351		22.03507	
313.15	0.859167907	0.07		0.833		8.3300E-04		0.000674		-19.0728		19.0728	
313.15	0.962388862	0.162		0.828		8.2800E-04		0.000709		-14.3969		14.39693	
313.15	0.966621354	0.166		0.827		8.2700E-04		0.00071		-14.1216		14.12155	
313.15	1.106675475	0.31		0.802		8.0200E-04		0.00075		-6.46033		6.460326	
313.15	1.174540225	0.389		0.78		7.8000E-04		0.000761		-2.45254		2.452545	
313.15	1.284813259	0.533		0.753		7.5300E-04		0.000761		1.059942		1.059942	
313.15	1.293308825	0.545		0.75		7.5000E-04		0.00076		1.344765		1.344765	
313.15	1.412226951	0.729		0.725		7.2500E-04		0.000738		1.791351		1.791351	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	313.15	1.436694848	0.771	0.722	7.2200E-04	0.000733	1.482505	1.482505	
	313.15	1.485160751	0.859	0.718	7.1800E-04	0.000725	0.956457	0.956457	
	313.15	1.555762637	1	0.739	7.3900E-04	0.000733	-0.86604	0.866041	6.313917
	333.15	0.753227966	0	0.592	5.9200E-04	0.000444	-25.0224	25.02236	
	333.15	0.837999358	0.07	0.593	5.9300E-04	0.000458	-22.6863	22.68627	
	333.15	0.938692297	0.162	0.591	5.9100E-04	0.000481	-18.5491	18.54915	
	333.15	0.9428212	0.166	0.59	5.9000E-04	0.000482	-18.2429	18.24285	
	333.15	1.079450604	0.31	0.578	5.7800E-04	0.000513	-11.1792	11.17921	
	333.15	1.145658029	0.389	0.569	5.6900E-04	0.000525	-7.74806	7.74806	
	333.15	1.253241087	0.533	0.563	5.6300E-04	0.000536	-4.82389	4.823889	
	333.15	1.261529568	0.545	0.562	5.6200E-04	0.000536	-4.57584	4.57584	
	333.15	1.37755131	0.729	0.569	5.6900E-04	0.00054	-5.17204	5.172044	
	333.15	1.4014238	0.771	0.571	5.7100E-04	0.000541	-5.30762	5.307624	
	333.15	1.448710865	0.859	0.577	5.7700E-04	0.000546	-5.37925	5.379249	
	333.15	1.517596687	1	0.592	5.9200E-04	0.000571	-3.53363	3.533633	10.36642

ETHANOL (1) - CARBON TETRACHLORIDE (2)

AL - AH

00563 Bamalls, P.; Huyskens, P.; Meeussen, E.; J. Chim. Phys. Phys. Chim. Biol., 62, 158-170(1965)

P= 0.101 MPa

		Ethanol (mPa s)			
298.15	0.785894999	1	1.093	1.0930E-03	0.000898
298.15	0.82643245	0.9687	1.1	1.1000E-03	0.000913
298.15	0.913870069	0.8966	1.108	1.1080E-03	0.000951
298.15	1.051979629	0.768	1.068	1.0680E-03	0.001008
298.15	1.166366744	0.645	1.023	1.0230E-03	0.001034
298.15	1.273085514	0.5136	0.974	9.7400E-04	0.001027
298.15	1.36729798	0.3813	0.931	9.3100E-04	0.000995
298.15	1.453616653	0.2438	0.886	8.8600E-04	0.000949

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	298.15	1.518139424	0.1289	0.874	8.7400E-04	0.000915	4.746064	4.746064	
	298.15	1.545346952	0.0769	0.883	8.8300E-04	0.000906	2.587288	2.587288	
	298.15	1.560223609	0.0475	0.884	8.8400E-04	0.000903	2.116261	2.116261	
	298.15	1.571518436	0.0247	0.89	8.9000E-04	0.000902	1.312899	1.312899	
	298.15	1.583526088	0	0.9	9.0000E-04	0.000902	0.242958	0.242958	6.182439
	308.15	0.776866423	1	0.908	9.0800E-04	0.000721	-20.6106	20.61056	
	308.15	0.816931813	0.9687	0.914	9.1400E-04	0.000733	-19.8366	19.8366	
	308.15	0.903349094	0.8966	0.923	9.2300E-04	0.000763	-17.3368	17.33679	
	308.15	1.039841101	0.768	0.891	8.9100E-04	0.000812	-8.91707	8.917069	
	308.15	1.152883025	0.645	0.857	8.5700E-04	0.000838	-2.25329	2.253287	
	308.15	1.258342309	0.5136	0.825	8.2500E-04	0.00084	1.874214	1.874214	
	308.15	1.351439298	0.3813	0.783	7.8300E-04	0.000824	5.192105	5.192105	
	308.15	1.436733002	0.2438	0.768	7.6800E-04	0.000798	3.8924	3.8924	
	308.15	1.500487768	0.1289	0.759	7.5900E-04	0.000781	2.938266	2.938266	
	308.15	1.527370976	0.0769	0.762	7.6200E-04	0.000778	2.164947	2.164947	
	308.15	1.54207018	0.0475	0.768	7.6800E-04	0.000779	1.42204	1.42204	
	308.15	1.553231213	0.0247	0.773	7.7300E-04	0.00078	0.967664	0.967664	
	308.15	1.565094534	0	0.785	7.8500E-04	0.000784	-0.18155	0.181551	6.072307
	318.15	0.76760405	1	0.761	7.6100E-04	0.000587	-22.8283	22.82831	
	318.15	0.807189503	0.9687	0.769	7.6900E-04	0.000596	-22.4463	22.44634	
	318.15	0.892570855	0.8966	0.773	7.7300E-04	0.000621	-19.7259	19.72587	
	318.15	1.027424571	0.768	0.744	7.4400E-04	0.000661	-11.097	11.09699	
	318.15	1.139107733	0.645	0.72	7.2000E-04	0.000687	-4.64143	4.641433	
	318.15	1.243297818	0.5136	0.698	6.9800E-04	0.000695	-0.41068	0.410676	
	318.15	1.335273117	0.3813	0.672	6.7200E-04	0.000689	2.58392	2.58392	
	318.15	1.419538106	0.2438	0.672	6.7200E-04	0.000678	0.861538	0.861538	
	318.15	1.482523282	0.1289	0.664	6.6400E-04	0.000673	1.362718	1.362718	
	318.15	1.509081813	0.0769	0.671	6.7100E-04	0.000675	0.61345	0.61345	
	318.15	1.523603448	0.0475	0.676	6.7600E-04	0.000678	0.305966	0.305966	
	318.15	1.534629634	0.0247	0.678	6.7800E-04	0.000681	0.508493	0.508493	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	318.15	1.546349604	0	0.692	6.9200E-04	0.000686	-0.81574	0.81574	5.868854
	328.15	0.758088047	1	0.637	6.3700E-04	0.000486	-23.7791	23.77912	
	328.15	0.797185152	0.9687	0.648	6.4800E-04	0.000492	-24.0116	24.0116	
	328.15	0.881513992	0.8966	0.654	6.5400E-04	0.000511	-21.7966	21.79655	
	328.15	1.014707585	0.768	0.63	6.3000E-04	0.000546	-13.378	13.37803	
	328.15	1.125017894	0.645	0.617	6.1700E-04	0.000569	-7.74573	7.745732	
	328.15	1.318776494	0.3813	0.583	5.8300E-04	0.000583	-0.01598	0.015982	
	328.15	1.402009392	0.2438	0.58	5.8000E-04	0.000581	0.226275	0.226275	
	328.15	1.464223812	0.1289	0.586	5.8600E-04	0.000585	-0.17146	0.171456	
	328.15	1.490457521	0.0769	0.593	5.9300E-04	0.000591	-0.4199	0.419902	
	328.15	1.515692982	0.0247	0.605	6.0500E-04	0.0006	-0.84665	0.846654	
	328.15	1.527269691	0	0.617	6.1700E-04	0.000606	-1.77841	1.778407	7.623575
Average Error for Temp.									
Total Error for All Temp.									
		kJ		500.7374		0.892125		1.26576	

ACETIC ACID (1) - CARBON TETRACHLORIDE (2)

AC - AH

00927 Anderson, D. K.; Babb, A. L.; J. Phys. Chem., 66, 899-901(1962)

P= 0.101 MPa

	Acetic Acid	(mPa.s)			
298,15	1,583526088	0	0,887	8,8700E-04	0,000902
298,15	1,508219523	0,214	0,82	8,2000E-04	0,000825
298,15	1,421727729	0,418	0,804	8,0400E-04	0,000804
298,15	1,324022051	0,608	0,816	8,1600E-04	0,000828
298,15	1,199009421	0,805	0,92	9,2000E-04	0,000913
298,15	1,042012521	1	1,126	1,1260E-03	0,001108

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
ACETIC ACID (1) - CARBON TETRACHLORIDE (2)									
AC - AH									
(From Irving, NEL Report, 1977 - Jones, 1948)									
P= 0.101 MPa									
Wt Frac	Acetic Acid			(mPa s)					
0	298.15	1.583526088	0	0.902	9.0200E-04	0.000902	0.02069	0.02069	
0.1	298.15	1.505298655	0.2215524	0.823	8.2300E-04	0.000823	0.026192	0.026192	
0.2	298.15	1.434436372	0.3903806	0.81	8.1000E-04	0.000804	-0.73931	0.739311	
0.3	298.15	1.369945853	0.5233041	0.815	8.1500E-04	0.000811	-0.43098	0.430977	
0.4	298.15	1.311004673	0.6306757	0.834	8.3400E-04	0.000834	-4.2E-06	4.2E-06	
0.5	298.15	1.256926107	0.7192172	0.865	8.6500E-04	0.000866	0.144112	0.144112	
0.6	298.15	1.207132248	0.7934826	0.903	9.0300E-04	0.000905	0.271409	0.271409	
0.7	298.15	1.161133279	0.8566671	0.95	9.5000E-04	0.00095	0.003681	0.003681	
0.8	298.15	1.118511298	0.9110786	1.005	1.0050E-03	0.000999	-0.59155	0.591547	
0.9	298.15	1.078907594	0.9584256	1.065	1.0650E-03	0.001052	-1.22762	1.227619	
1	298.15	1.042012521	1	1.126	1.1260E-03	0.001108	-1.57409	1.574087	0.38165
Average Error for Temp.									
Total Error for All T _{el}							k _{ij}	l _{ij}	
							6.28285	0.935132	1.064786

n-BUTYRIC ACID (1) - CARBON TETRACHLORIDE (2)									
AC - AH									
(From Irving, NEL Report, 1977 - Jones, 1948)									
P= 0.101 MPa									
Wt Frac	n-Butyric Aci			(cP)			%AAD=		
0	298.15	1.583526088	0	0.902	9.0200E-04	0.000902	0.02069	0.02069	
0.1	298.15	1.48491721	0.1624697	0.925	9.2500E-04	0.000936	1.215847	1.215847	
0.2	298.15	1.397869486	0.303849	0.965	9.6500E-04	0.000979	1.442947	1.442947	
0.3	298.15	1.320462316	0.4279942	1.02	1.0200E-03	0.001026	0.634812	0.634812	
0.4	298.15	1.251178192	0.5378757	1.077	1.0770E-03	0.001077	-3.1E-05	3.07E-05	
0.5	298.15	1.18880222	0.635818	1.137	1.1370E-03	0.001129	-0.67192	0.671917	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
0.6	298.15	1.132350269	0.7236668	1.2	1.2000E-03	0.001183	-1.43382	1.433822	
0.7	298.15	1.081016668	0.8029059	1.267	1.2670E-03	0.001237	-2.3875	2.387503	
0.8	298.15	1.034135503	0.8747419	1.33	1.3300E-03	0.001291	-2.94643	2.946425	
0.9	298.15	0.991151578	0.940166	1.4	1.4000E-03	0.001345	-3.953	3.953001	
1	298.15	0.951598316	1	1.466	1.4660E-03	0.001398	-4.63618	4.636181	
<i>Average Error for Temp.</i>								1.631812	
<i>Total Error for All Tei</i>								14.6863	1.011591
<i>kij</i>									0.948431

CAPROIC ACID [n-Hexanoic Acid] (1) - CARBON TETRACHLORIDE (2)

AC - AH

(From Irving, NEL Report, 1977 - Jones, 1948)

P= 0.101 MPa

%AAD= 2.976528

Wt Frac	Caproic Acid	(cP)							
0	298.15	1.583526088	0	0.902	9.0200E-04	0.000902	0.02069	0.02069	
0.1	298.15	1.476766932	0.1282646	1.034	1.0340E-03	0.001028	-0.62719	0.627189	
0.2	298.15	1.383493665	0.2487182	1.19	1.1900E-03	0.00119	-9.9E-05	9.9E-05	
0.3	298.15	1.301302628	0.3620532	1.36	1.3600E-03	0.001371	0.83731	0.83731	
0.4	298.15	1.228329967	0.4688825	1.545	1.5450E-03	0.001558	0.868734	0.868734	
0.5	298.15	1.163106699	0.5697507	1.74	1.7400E-03	0.00174	0.003103	0.003103	
0.6	298.15	1.104460778	0.6651431	1.935	1.9350E-03	0.001907	-1.42824	1.428243	
0.7	298.15	1.051445039	0.755494	2.14	2.1400E-03	0.002054	-3.99661	3.996613	
0.8	298.15	1.003285844	0.8411926	2.36	2.3600E-03	0.00218	-7.64137	7.641365	
0.9	298.15	0.959345091	0.9225893	2.58	2.5800E-03	0.002286	-11.3861	11.3861	
1	298.15	0.919091773	1	2.814	2.8140E-03	0.002383	-15.3191	15.3191	
<i>Average Error for Temp.</i>								2.976528	
<i>Total Error for All Tei</i>								26.78875	0.897731
<i>kij</i>									1.268471

CAPRYLIC ACID [n-Octanoic Acid] (1) - CARBON TETRACHLORIDE (2)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
AC - AH									
(From Irving, NEL Report, 1977 - Jones, 1948)									
P= 0.101 MPa									
%AAD= 2.564196									
Wt Frac									
Caprylic Acid (cP)									
0	298.15	1.583526088	0	0.902	9.0200E-04	0.000902	0.02069	0.02069	
0.1	298.15	1.472821921	0.105957	1.124	1.1240E-03	0.001111	-1.12941	1.129406	
0.2	298.15	1.376584987	0.2105206	1.38	1.3800E-03	0.001373	-0.52957	0.529566	
0.3	298.15	1.292153279	0.3137181	1.668	1.6680E-03	0.001686	1.086719	1.086719	
0.4	298.15	1.217480137	0.4155761	2.021	2.0210E-03	0.002047	1.29745	1.29745	
0.5	298.15	1.150966155	0.5161205	2.406	2.4060E-03	0.002446	1.668811	1.668811	
0.6	298.15	1.091343342	0.6153765	2.867	2.8670E-03	0.002867	-4.1E-05	4.05E-05	
0.7	298.15	1.037593504	0.7133688	3.327	3.3270E-03	0.003288	-1.1746	1.174605	
0.8	298.15	0.988889623	0.8101213	3.905	3.9050E-03	0.003682	-5.70301	5.703005	
0.9	298.15	0.944552995	0.9056575	4.492	4.4920E-03	0.004021	-10.4882	10.48817	
1	298.15	0.904021413	1	5.16	5.1600E-03	0.004275	-17.1566	17.15655	
Average Error for Temp. 2.564196									
Total Error for All Tei 23.07777 0.994938 1.166993									
AL - AH									
(From Irving, NEL Report, 1977 - Jones, 1948)									
P= 0.101 MPa									
%AAD= 1.692691									
Wt Frac									
n-Hexanol (cP)									
0	298.15	1.583526088	0	0.902	9.0200E-04	0.000902	0.02069	0.02069	
0.1	298.15	1.447421047	0.1433023	1.06	1.0600E-03	0.001065	0.485478	0.485478	
0.2	298.15	1.332860838	0.273448	1.29	1.2900E-03	0.00129	-1.3E-05	1.31E-05	
0.3	298.15	1.235104982	0.3921695	1.59	1.5900E-03	0.001574	-1.01175	1.011746	
0.4	298.15	1.150708689	0.5009077	1.92	1.9200E-03	0.001914	-0.33214	0.33214	
0.5	298.15	1.077108496	0.6008711	2.33	2.3300E-03	0.002304	-1.09707	1.097065	
0.6	298.15	1.012357359	0.6930806	2.74	2.7400E-03	0.00274	0.015271	0.015271	

n-HEXANOL (1) - CARBON TETRACHLORIDE (2)

AL - AH									
(From Irving, NEL Report, 1977 - Jones, 1948)									
P= 0.101 MPa									
%AAD= 1.692691									
Wt Frac									
n-Hexanol (cP)									
0	298.15	1.583526088	0	0.902	9.0200E-04	0.000902	0.02069	0.02069	
0.1	298.15	1.447421047	0.1433023	1.06	1.0600E-03	0.001065	0.485478	0.485478	
0.2	298.15	1.332860838	0.273448	1.29	1.2900E-03	0.00129	-1.3E-05	1.31E-05	
0.3	298.15	1.235104982	0.3921695	1.59	1.5900E-03	0.001574	-1.01175	1.011746	
0.4	298.15	1.150708689	0.5009077	1.92	1.9200E-03	0.001914	-0.33214	0.33214	
0.5	298.15	1.077108496	0.6008711	2.33	2.3300E-03	0.002304	-1.09707	1.097065	
0.6	298.15	1.012357359	0.6930806	2.74	2.7400E-03	0.00274	0.015271	0.015271	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
0.7	298.15	0.954949874	0.7784047	3.18	3.1800E-03	0.003215	1.102726	1.102726	
0.8	298.15	0.903703778	0.8575869	3.58	3.5800E-03	0.003722	3.971336	3.971336	
0.9	298.15	0.857677665	0.9312673	3.97	3.9700E-03	0.004257	7.218448	7.218448	
1	298.15	0.816112616	1	4.329	4.3290E-03	0.004815	11.21925	11.21925	
<i>Average Error for Temp.</i>									1.692691
<i>Total Error for All Tei</i>									
							<i>kij</i>	<i>lij</i>	
									1.09393

n-HEPTANOL (1) - CARBON TETRACHLORIDE (2)

AL - AH
(From Irving, NEL Report, 1977 - Jones, 1948)
P= 0.101 MPa

Wt Frac	<i>n-Heptanol</i> (cP)									
0	298.15	1.583526088	0	0.902	9.0200E-04	0.000902	0.02069	0.02069		
0.1	298.15	1.448475783	0.1282232	1.102	1.1020E-03	0.001119	1.504286	1.504286		
0.2	298.15	1.334650703	0.248649	1.402	1.4020E-03	0.001398	-0.3	0.300005		
0.3	298.15	1.237411606	0.3619677	1.68	1.6800E-03	0.001748	4.034803	4.034803		
0.4	298.15	1.153379451	0.4687903	2.175	2.1750E-03	0.002175	-0.00013	0.000132		
0.5	298.15	1.080034702	0.56866	2.716	2.7160E-03	0.002663	-1.19899	1.198986		
0.6	298.15	1.015460387	0.6650607	3.302	3.3020E-03	0.003274	-0.84959	0.849587		
0.7	298.15	0.958172128	0.7554256	3.91	3.9100E-03	0.003944	0.863524	0.863524		
0.8	298.15	0.907002626	0.8411431	4.527	4.5270E-03	0.004686	3.519766	3.519766		
0.9	298.15	0.861021295	0.9225628	5.12	5.1200E-03	0.005491	7.255357	7.255357		
1	298.15	0.819477147	1	5.71	5.7100E-03	0.006346	11.13331	11.13331		
<i>Average Error for Temp.</i>										2.169605
<i>Total Error for All Tei</i>										
							<i>kij</i>	<i>lij</i>		
										1.001571
										1.060997

n-DECANOL (1) - CARBON TETRACHLORIDE (2)

AL - AH

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
(From Irving, NEL Report, 1977 - Jones, 1948)									
P= 0.101 MPa									
n-Decanol									
Wt Frac				(cP)					%AAD= 1.904188
0	298.15	1.583526088	0	0.902	9.0200E-04	0.000902	0.02069	0.02069	
0.1	298.15	1.4501976	0.0974569	1.22	1.2200E-03	0.001236	1.283309	1.283309	
0.2	298.15	1.337577314	0.1954661	1.78	1.7800E-03	0.001689	-5.08785	5.08785	
0.3	298.15	1.241188387	0.2940323	2.357	2.3570E-03	0.002296	-2.60791	2.607914	
0.4	298.15	1.15775768	0.3931603	3.109	3.1090E-03	0.003081	-0.88556	0.885561	
0.5	298.15	1.084836685	0.492855	4.01	4.0100E-03	0.00406	1.24682	1.24682	
0.6	298.15	1.020557218	0.5931211	5.08	5.0800E-03	0.005218	2.715573	2.715573	
0.7	298.15	0.963469103	0.6939637	6.48	6.4800E-03	0.00651	0.456469	0.456469	
0.8	298.15	0.912429459	0.7953876	7.86	7.8600E-03	0.00786	-3E-05	3.03E-05	
0.9	298.15	0.866525394	0.8973981	9.45	9.4500E-03	0.00918	-2.85416	2.854163	
1	298.15	0.825018928	1	11.35	1.1350E-02	0.010389	-8.46837	8.468366	1.904188
Average Error for Temp.									
Total Error for All Temp									
kij									
ljj									
%AAD= 3.024655									

METHANOL (1) - CARBON TETRACHLORIDE (2)

AL - AH

00563 Bamellis, P.; Huyskens, P.; Meeussen, E.; J. Chim. Phys. Phys. Chim. Biol., 62, 158-170(1965)

P= 0.101 MPa									
Methanol									
				(mPa s)					
298.15	0.78961486	1	0.545	5.4500E-04	0.000538	-1.33582	1.335819		
298.15	0.85888559	0.9616	0.577	5.7700E-04	0.000564	-2.16927	2.169268		
298.15	0.952153224	0.9029	0.626	6.2600E-04	0.000602	-3.76673	3.766729		
298.15	1.10366648	0.7853	0.719	7.1900E-04	0.000672	-6.52399	6.523995		
298.15	1.197845907	0.6934	0.77	7.7000E-04	0.000721	-6.29901	6.29901		
298.15	1.269226927	0.6107	0.807	8.0700E-04	0.000761	-5.714	5.714001		
298.15	1.306627755	0.5618	0.815	8.1500E-04	0.000781	-4.13324	4.133236		
298.15	1.363413522	0.4787	0.839	8.3900E-04	0.00081	-3.40264	3.402643		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	298,15	1,397627882	0,4226	0,842	8,4200E-04	0,00826	-1,89254	1,89254	
	298,15	1,484346059	0,2547	0,857	8,5700E-04	0,00857	-1,5E-05	1,5E-05	
	298,15	1,545945563	0,1063	0,865	8,6500E-04	0,00878	1,522527	1,522527	
	298,15	1,552543464	0,0886	0,869	8,6900E-04	0,00881	1,420086	1,420086	
	298,15	1,559035594	0,0708	0,871	8,7100E-04	0,00885	1,585224	1,585224	
	298,15	1,571088718	0,0367	0,877	8,7700E-04	0,00892	1,753753	1,753753	
	298,15	1,583526088	0	0,9	9,0000E-04	0,00902	0,242958	0,242958	3,091002
	308,15	0,779911892	1	0,476	4,7600E-04	0,00047	-1,24521	1,245212	
	308,15	0,848379989	0,9616	0,502	5,0200E-04	0,00495	-1,42144	1,421443	
	308,15	0,940579329	0,9029	0,543	5,4300E-04	0,0053	-2,37075	2,370747	
	308,15	1,090387457	0,7853	0,619	6,1900E-04	0,00595	-3,90944	3,909435	
	308,15	1,18352591	0,6934	0,656	6,5600E-04	0,0064	-2,39967	2,399667	
	308,15	1,254127614	0,6107	0,691	6,9100E-04	0,00676	-2,16373	2,163728	
	308,15	1,29112344	0,5618	0,7	7,0000E-04	0,00694	-0,80682	0,806823	
	308,15	1,347298666	0,4787	0,72	7,2000E-04	0,0072	-0,01079	0,010791	
	308,15	1,381147713	0,4226	0,724	7,2400E-04	0,00733	1,263006	1,263006	
	308,15	1,466948565	0,2547	0,738	7,3800E-04	0,00756	2,506226	2,506226	
	308,15	1,527903932	0,1063	0,749	7,4900E-04	0,00769	2,64176	2,64176	
	308,15	1,534433208	0,0886	0,755	7,5500E-04	0,00771	2,07039	2,07039	
	308,15	1,540857883	0,0708	0,756	7,5600E-04	0,00773	2,207428	2,207428	
	308,15	1,552785954	0,0367	0,764	7,6400E-04	0,00777	1,743861	1,743861	
	308,15	1,565094534	0	0,785	7,8500E-04	0,00784	-0,18155	0,181551	1,962716
	318,15	0,769970587	1	0,417	4,1700E-04	0,000414	-0,64681	0,646806	
	318,15	0,837622853	0,9616	0,44	4,4000E-04	0,000437	-0,59865	0,598654	
	318,15	0,928738119	0,9029	0,476	4,7600E-04	0,00047	-1,2027	1,202699	
	318,15	1,076820378	0,7853	0,537	5,3700E-04	0,00531	-1,19657	1,196565	
	318,15	1,168908031	0,6934	0,57	5,7000E-04	0,00573	0,461608	0,461608	
	318,15	1,238724545	0,6107	0,598	5,9800E-04	0,00605	1,232598	1,232598	
	318,15	1,275312834	0,5618	0,607	6,0700E-04	0,00622	2,454856	2,454856	
	318,15	1,330874386	0,4787	0,623	6,2300E-04	0,00645	3,456987	3,456987	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	318.15	1.364356649	0.4226	0.63	6.3000E-04	0.000656	4.099666	4.099666	
	318.15	1.449237859	0.2547	0.643	6.4300E-04	0.000673	4.700046	4.700046	
	318.15	1.509548675	0.1063	0.657	6.5700E-04	0.000679	3.298658	3.298658	
	318.15	1.516009342	0.0886	0.67	6.7000E-04	0.000679	1.417418	1.417418	
	318.15	1.522366589	0.0708	0.664	6.6400E-04	0.00068	2.480176	2.480176	
	318.15	1.534169889	0.0367	0.672	6.7200E-04	0.000683	1.613301	1.613301	
	318.15	1.546349604	0	0.692	6.9200E-04	0.000686	-0.81574	0.81574	2.170249
	328.15	0.759770686	1	0.366	3.6600E-04	0.000368	0.530195	0.530195	
	328.15	0.826593005	0.9616	0.385	3.8500E-04	0.000389	1.162529	1.162529	
	328.15	0.916607414	0.9029	0.415	4.1500E-04	0.00042	1.275955	1.275955	
	328.15	1.062942013	0.7853	0.466	4.6600E-04	0.000477	2.301379	2.301379	
	328.15	1.153968757	0.6934	0.496	4.9600E-04	0.000516	3.995193	3.995193	
	328.15	1.222994185	0.6107	0.518	5.1800E-04	0.000546	5.393952	5.393952	
	328.15	1.259172456	0.5618	0.528	5.2800E-04	0.000561	6.244917	6.244917	
	328.15	1.314117375	0.4787	0.541	5.4100E-04	0.000581	7.426167	7.426167	
	328.15	1.347231541	0.4226	0.553	5.5300E-04	0.000591	6.853212	6.853212	
	328.15	1.431191364	0.2547	0.565	5.6500E-04	0.000604	6.833634	6.833634	
	328.15	1.490857776	0.1063	0.574	5.7400E-04	0.000604	5.193392	5.193392	
	328.15	1.497249919	0.0886	0.584	5.8400E-04	0.000604	3.399226	3.399226	
	328.15	1.503539834	0.0708	0.586	5.8600E-04	0.000604	3.069903	3.069903	
	328.15	1.515218175	0.0367	0.595	5.9500E-04	0.000605	1.6173	1.6173	
	328.15	1.527269691	0	0.617	6.1700E-04	0.000606	-1.77841	1.778407	4.212828

METHANOL (1) - CARBON TETRACHLORIDE (2)

AL - AH

00173 Katti, P. K.; Prakash, O.; J. Chem. Eng. Data, 11(1), 46-47(1966)

P= 0.101 MPa

		Methanol (mPa s)	
313.15	1.555762537	0	0.739
		7.3900E-04	0.000733
		-0.86604	0.866041

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	313.15	1.519248705	0.105	0.7595	7.5950E-04	0.000722	-4.97869	4.978689	
	313.15	1.484775563	0.193	0.7624	7.6240E-04	0.000717	-6.00961	6.009608	
	313.15	1.435657474	0.303	0.75	7.5000E-04	0.000709	-5.44777	5.447772	
	313.15	1.412263358	0.35	0.7427	7.4270E-04	0.000704	-5.19951	5.199507	
	313.15	1.318985172	0.51	0.6955	6.9550E-04	0.000672	-3.33068	3.330684	
	313.15	1.188390788	0.68	0.6248	6.2480E-04	0.000611	-2.23335	2.233353	
	313.15	1.151201569	0.72	0.605	6.0500E-04	0.000593	-2.01224	2.012242	
	313.15	1.078412113	0.79	0.57	5.7000E-04	0.000559	-1.95194	1.95194	
	313.15	0.924314261	0.91	0.505	5.0500E-04	0.000495	-2.01454	2.014537	
	313.15	0.774972235	1	0.456	4.5600E-04	0.000441	-3.31745	3.317447	
Average Error for Temp.								3.686481	
Total Error for All Temp									1.138009
									181.8567
									0.796169

ACETONE (1) - CARBON TETRACHLORIDE (2)

KK - AH Viscosities were also determined at 55 C.

00322 Konobeev, B. I.; Lyapin, V. V.; J. Appl. Chem. USSR, 43(4), 806-813(1970)

P= 0.101 MPa

%AAD= 5.184358

		Acetone		(mPa s)	
293.15	1.592630502	0	0.97	9.7000E-04	0.000971
293.15	1.466317036	0.198	0.779	7.7900E-04	0.000765
293.15	1.329645114	0.392	0.639	6.3900E-04	0.000637
293.15	1.325935657	0.397	0.636	6.3600E-04	0.000634
293.15	1.322961327	0.401	0.634	6.3400E-04	0.000631
293.15	1.319980444	0.405	0.63	6.3000E-04	0.000629
293.15	1.318487612	0.407	0.629	6.2900E-04	0.000628
293.15	1.316993185	0.409	0.629	6.2900E-04	0.000627
293.15	1.168175504	0.598	0.514	5.1400E-04	0.000524
293.15	1.142241039	0.629	0.497	4.9700E-04	0.000508
293.15	1.141396838	0.63	0.497	4.9700E-04	0.000507
293.15	1.133777384	0.639	0.49	4.9000E-04	0.000503

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	293.15	1.131228878	0.642	0.49	4.9000E-04	0.000501	2.289919	2.289919	
	293.15	1.001704655	0.788	0.417	4.1700E-04	0.000426	2.256681	2.256681	
	293.15	0.991488635	0.799	0.412	4.1200E-04	0.000421	2.15053	2.15053	
	293.15	0.988690825	0.802	0.411	4.1100E-04	0.000419	2.031272	2.031272	
	293.15	0.987757107	0.803	0.41	4.1000E-04	0.000419	2.157277	2.157277	
	293.15	0.884518663	0.91	0.362	3.6200E-04	0.000365	0.957281	0.957281	
	293.15	0.883521847	0.911	0.36	3.6000E-04	0.000365	1.380769	1.380769	
	293.15	0.792251985	1	0.325	3.2500E-04	0.000321	-1.1832	1.1832	1.431254
	313.15	1.555762537	0	0.739	7.3900E-04	0.000733	-0.86604	0.866041	
	313.15	1.430997985	0.198	0.615	6.1500E-04	0.000601	-2.34601	2.34601	
	313.15	1.296271547	0.392	0.511	5.1100E-04	0.000512	0.246888	0.246888	
	313.15	1.292618987	0.397	0.51	5.1000E-04	0.00051	0.031892	0.031892	
	313.15	1.289690073	0.401	0.51	5.1000E-04	0.000508	-0.29682	0.296823	
	313.15	1.286755035	0.405	0.506	5.0600E-04	0.000507	0.160478	0.160478	
	313.15	1.285285213	0.407	0.505	5.0500E-04	0.000506	0.193216	0.193216	
	313.15	1.283813853	0.409	0.504	5.0400E-04	0.000505	0.226186	0.226186	
	313.15	1.137460276	0.598	0.421	4.2100E-04	0.000427	1.431464	1.431464	
	313.15	1.111989023	0.629	0.408	4.0800E-04	0.000414	1.523213	1.523213	
	313.15	1.111160088	0.63	0.408	4.0800E-04	0.000414	1.421871	1.421871	
	313.15	1.103678704	0.639	0.405	4.0500E-04	0.00041	1.254198	1.254198	
	313.15	1.101176577	0.642	0.404	4.0400E-04	0.000409	1.197715	1.197715	
	313.15	0.974136659	0.788	0.348	3.4800E-04	0.000349	0.150794	0.150794	
	313.15	0.964127299	0.799	0.344	3.4400E-04	0.000344	-3.5E-05	3.49E-05	
	313.15	0.961386329	0.802	0.344	3.4400E-04	0.000343	-0.35855	0.35855	
	313.15	0.960471605	0.803	0.344	3.4400E-04	0.000342	-0.47803	0.478033	
	313.15	0.859413285	0.91	0.306	3.0600E-04	0.000299	-2.41389	2.413891	
	313.15	0.858438091	0.911	0.306	3.0600E-04	0.000298	-2.54676	2.54676	
	313.15	0.769228187	1	0.273	2.7300E-04	0.000262	-3.9768	3.976799	0.904334
	333.15	1.517596687	0	0.592	5.9200E-04	0.000571	-3.53363	3.533633	
	333.15	1.39436533	0.198	0.507	5.0700E-04	0.000485	-4.31098	4.310985	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
333.15	333.15	1.261597014	0.392	0.432	4.3200E-04	0.000422	-2.34241	2.342415	
333.15	333.15	1.258001905	0.397	0.431	4.3100E-04	0.00042	-2.48475	2.48475	
333.15	333.15	1.255119225	0.401	0.429	4.2900E-04	0.000419	-2.32663	2.326625	
333.15	333.15	1.252230666	0.405	0.427	4.2700E-04	0.000418	-2.1676	2.167601	
333.15	333.15	1.250784176	0.407	0.427	4.2700E-04	0.000417	-2.3168	2.316804	
333.15	333.15	1.249336209	0.409	0.426	4.2600E-04	0.000416	-2.23711	2.237106	
333.15	333.15	1.105495811	0.598	0.357	3.5700E-04	0.000355	-0.66611	0.666107	
333.15	333.15	1.080499572	0.629	0.347	3.4700E-04	0.000344	-0.82208	0.82208	
333.15	333.15	1.079686263	0.63	0.346	3.4600E-04	0.000344	-0.63346	0.633458	
333.15	333.15	1.072346641	0.639	0.343	3.4300E-04	0.000341	-0.65521	0.655207	
333.15	333.15	1.069892135	0.642	0.342	3.4200E-04	0.00034	-0.66291	0.662909	
									1.802187

CARBON TETRACHLORIDE (1) - ACETONE (2)

AH - KK

(From Irving, NEL Report, 1977 - Swensen, 1961)

P= 0.101 MPa

		Carbon Tetrachli		(cP)	
318.15	0.763323592	0	0.256	2.5600E-04	0.00025
318.15	0.862640766	0.1	0.278	2.7800E-04	0.000289
318.15	0.956206255	0.2	0.3	3.0000E-04	0.000328
318.15	1.044505639	0.3	0.326	3.2600E-04	0.000367
318.15	1.127971334	0.4	0.354	3.5400E-04	0.000406
318.15	1.206989674	0.5	0.386	3.8600E-04	0.000445
318.15	1.281906893	0.6	0.42	4.2000E-04	0.000484
318.15	1.353034192	0.7	0.462	4.6200E-04	0.000524
318.15	1.420652063	0.8	0.512	5.1200E-04	0.000567
318.15	1.485013986	0.9	0.578	5.7800E-04	0.000619
318.15	1.546349604	1	0.696	6.9600E-04	0.000686
					11.32886

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
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ACETONE (1) - CARBON TETRACHLORIDE (2)

KK - AH It was assumed that the value at B = 0.4050 vol% should be 0.4374 cSt instead of 0.4574 cSt
Instead of 0.4574 cSt and was converted to mPa s.

00111 Wei, I. C.; Rowley, R. L.; J. Chem. Eng. Data, 29(3), 332-335(1984)

P= 0.101 MPa

Vol Frac		Acetone	(mPa s)						
0	298.15	1.583526088	0	0.8989	8.9890E-04	0.000902	0.365627	0.365627	0.365627
0.2164	298.15	1.298768964	0.4224341	0.682	6.8200E-04	0.000585	-14.1557	14.15565	
0.3132	298.15	1.202075066	0.5470554	0.6045	6.0450E-04	0.000522	-13.6111	13.6111	
0.405	298.15	1.122799953	0.6432061	0.5764	5.7640E-04	0.000475	-17.6253	17.62527	
0.5148	298.15	1.040847797	0.7373805	0.4836	4.8360E-04	0.000429	-11.2796	11.27961	
0.5823	298.15	0.99594519	0.7868772	0.4514	4.5140E-04	0.000405	-10.22	10.22004	
0.6717	298.15	0.942265913	0.8442064	0.4154	4.1540E-04	0.000378	-9.01463	9.014632	
0.8005	298.15	0.87436983	0.9139937	0.3651	3.6510E-04	0.000345	-5.49889	5.49889	
0.9073	298.15	0.825072998	0.9628554	0.3295	3.2950E-04	0.000322	-2.23602	2.236018	
1	298.15	0.78658055	1	0.3025	3.0250E-04	0.000305	0.755274	0.755274	10.45515

Average Error for Temp.

Total Error for All Temp. 249.2678 1.079224 0.777466

ISO-PROPANOL [2-Propanol] (1) - CARBON TETRACHLORIDE (2)

AL - AH

(From Irving, NEL Report, 1977 - unknown source)

P= 0.101 MPa

		Iso-Propano	(cP)						
298.15	1.583526088	0	0.739	7.3900E-04	0.000902	22.08209	22.08209		
298.15	1.518800098	0.1	0.73	7.3000E-04	0.000805	10.34023	10.34023		
298.15	1.45124885	0.2	0.732	7.3200E-04	0.000759	3.692209	3.692209		
298.15	1.380683236	0.3	0.747	7.4700E-04	0.000747	-5.2E-05	5.22E-05		
298.15	1.306896884	0.4	0.776	7.7600E-04	0.000763	-1.71547	1.715474		

%AAD= 4.944443

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	298.15	1.229664145	0.5	0.817	8.1700E-04	0.000804	-1.57723	1.577232	
	298.15	1.148737785	0.6	0.874	8.7400E-04	0.000873	-0.13547	0.135473	
	298.15	1.063846345	0.7	0.948	9.4800E-04	0.000975	2.833372	2.833372	
	298.15	0.974691097	0.8	1.045	1.0450E-03	0.001126	7.71974	7.71974	
	298.15	0.880942629	0.9	1.172	1.1720E-03	0.001365	16.48621	16.48621	
	298.15	0.782236282	1	1.33	1.3300E-03	0.001808	35.96571	35.96571	4.944443
<i>Average Error for Temp.</i>									
<i>Total Error for All Temp</i>									
							<i>kJ</i>	<i>kJ</i>	<i>kJ</i>
							0.834616	44.49999	1.088471

n-PROPANOL (1) - CARBON TETRACHLORIDE (2)
AL - AH
(From Irving, NEL Report, 1977 - Jones, 1948)
P= 0.101 MPa

Wt Frac	Wt Frac	n-Propanol	(cP)	%AAD=	%AAD=
0	298.15	1.583526088	0	0.902	0.02069
0.1	298.15	1.44238427	0.2214281	0.945	4.750338
0.2	298.15	1.324343727	0.3902091	1.08	5.220631
0.3	298.15	1.224161871	0.5231243	1.245	2.615733
0.4	298.15	1.138070887	0.6305078	1.395	0.02273
0.5	298.15	1.063293228	0.7190716	1.54	-3.38655
0.6	298.15	0.997736338	0.7933644	1.66	-6.00142
0.7	298.15	0.939793755	0.8565786	1.765	-8.19899
0.8	298.15	0.88821171	0.9110202	1.855	-9.71586
0.9	298.15	0.841997372	0.9583968	1.935	-10.6003
1	298.15	0.800354322	1	2.004	-10.6583
					5.612452

1-PROPANOL (1) - CARBON TETRACHLORIDE (2)
AL - AH

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
00563 Bamelis, P.; Huyskens, P.; Meeussen, E.; J. Chim. Phys. Phys. Chim. Biol., 62, 158-170(1965)									
P= 0.101 MPa									
1-Propanol									
			1	1.955	1.9550E-03	0.00179	-8.41909	8.419088	
298.15	0.800354322			1.877	1.8770E-03	0.001721	-8.33	8.329998	
298.15	0.849197785		0.9511	1.808	1.8080E-03	0.001659	-8.2626	8.262605	
298.15	0.903079776		0.8955	1.769	1.7690E-03	0.001634	-7.6465	7.6465	
298.15	0.928754785		0.8705	1.724	1.7240E-03	0.001609	-6.67864	6.678643	
298.15	0.950931433		0.8446	1.317	1.3170E-03	0.001346	2.173683	2.173683	
298.15	1.175226657		0.5849	1.113	1.1130E-03	0.001143	2.660214	2.660214	
298.15	1.319824989		0.3964	1.02	1.0200E-03	0.00104	1.941168	1.941168	
298.15	1.398436341		0.2859	0.962	9.6200E-04	0.000981	1.971095	1.971095	
298.15	1.45103427		0.2085	0.909	9.0900E-04	0.000935	2.899882	2.899882	
298.15	1.502819847		0.1294	0.89	8.9000E-04	0.000912	2.517956	2.517956	
298.15	1.541402932		0.0685	0.9	9.0000E-04	0.000902	0.242958	0.242958	4.508174
298.15	1.583526088		0						
308.15	0.791616877		1	1.541	1.5410E-03	0.001406	-8.75408	8.754075	
308.15	0.839888822		0.9511	1.487	1.4870E-03	0.001353	-9.041	9.041004	
308.15	0.893135232		0.8955	1.435	1.4350E-03	0.001306	-8.98664	8.986638	
308.15	0.916529283		0.8705	1.402	1.4020E-03	0.001288	-8.15001	8.150006	
308.15	0.940417951		0.8446	1.383	1.3830E-03	0.00127	-8.19767	8.197672	
308.15	1.161990104		0.5849	1.071	1.0710E-03	0.001082	1.068701	1.068701	
308.15	1.304783764		0.3964	0.905	9.0500E-04	0.000939	3.714213	3.714213	
308.15	1.382397833		0.2859	0.849	8.4900E-04	0.000867	2.070894	2.070894	
308.15	1.434322135		0.2085	0.817	8.1700E-04	0.000826	1.156631	1.156631	
308.15	1.48543951		0.1294	0.785	7.8500E-04	0.000797	1.545484	1.545484	
308.15	1.523521538		0.0685	0.775	7.7500E-04	0.000785	1.235669	1.235669	
308.15	1.565094534		0	0.785	7.8500E-04	0.000784	-0.18155	0.181551	4.516691
318.15	0.782684686		1	1.237	1.2370E-03	0.001124	-9.12155	9.121551	
318.15	0.830375586		0.9511	1.196	1.1960E-03	0.001081	-9.59523	9.595229	
318.15	0.88297623		0.8955	1.152	1.1520E-03	0.001045	-9.30159	9.301588	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	318,15	0.906084953	0.8705	1.128	1.1280E-03	0.001031	-8.6126	8.6126	
	318,15	0.929681249	0.8446	1.109	1.1090E-03	0.001017	-8.27808	8.278076	
	318,15	1.148492866	0.5849	0.882	8.8200E-04	0.000882	3.13E-07	3.13E-07	
	318,15	1.289460882	0.3964	0.772	7.7200E-04	0.00078	1.051284	1.051284	
	318,15	1.366067325	0.2859	0.735	7.3500E-04	0.00073	-0.65352	0.653515	
	318,15	1.4173115	0.2085	0.702	7.0200E-04	0.000704	0.222689	0.222689	
	318,15	1.467754603	0.1294	0.686	6.8600E-04	0.000686	-0.00154	0.001541	
	318,15	1.505331264	0.0685	0.676	6.7600E-04	0.000681	0.721635	0.721635	
	318,15	1.546349604	0	0.692	6.9200E-04	0.000686	-0.81574	0.81574	3.843816
	328,15	0.773543043	1	1.004	1.0040E-03	0.000915	-8.85498	8.854984	
	328,15	0.820642735	0.9511	0.967	9.6700E-04	0.000879	-9.08188	9.081877	
	328,15	0.872586755	0.8955	0.937	9.3700E-04	0.000849	-9.34839	9.348386	
	328,15	0.895405498	0.8705	0.919	9.1900E-04	0.000838	-8.78846	8.788457	
	328,15	0.918704746	0.8446	0.908	9.0800E-04	0.000828	-8.86389	8.863889	
	328,15	1.134716059	0.5849	0.737	7.3700E-04	0.000728	-1.23317	1.233175	
	328,15	1.273836283	0.3964	0.664	6.6400E-04	0.000656	-1.22597	1.225967	
	328,15	1.349424216	0.2859	0.626	6.2600E-04	0.000622	-0.65953	0.659534	
	328,15	1.399981438	0.2085	0.609	6.0900E-04	0.000605	-0.65827	0.658271	
	328,15	1.449743909	0.1294	0.603	6.0300E-04	0.000596	-1.18147	1.181466	
	328,15	1.486810699	0.0685	0.596	5.9600E-04	0.000596	0.011128	0.011128	
	328,15	1.527269691	0	0.617	6.1700E-04	0.000606	-1.77841	1.778407	
<i>Average Error for Temp.</i>									4.105215
<i>Total Error for All Tei</i>									0.873255
									1.229897

1-BUTANOL (1) - CARBON TETRACHLORIDE (2)

AL - AH

00563 Bamellis, P.; Huyskens, P.; Meeussen, E.; J. Chim. Phys. Phys. Chim. Biol., 62, 158-170(1965)

P= 0.101 MPa

1-Butanol (mPa s)

%AAD= 3.370695

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	298.15	0.805704299	1	2.583	2.5830E-03	0.002438	-5.6005	5.600505	
	298.15	0.939173502	0.836	2.291	2.2910E-03	0.002142	-6.51558	6.515581	
	298.15	0.985076307	0.7789	2.078	2.0780E-03	0.00204	-1.83492	1.834918	
	298.15	1.049777522	0.6978	1.88	1.8800E-03	0.001883	0.166312	0.166312	
	298.15	1.10421532	0.629	1.778	1.7780E-03	0.001742	-2.02098	2.020985	
	298.15	1.211714305	0.4916	1.42	1.4200E-03	0.001461	2.889709	2.889709	
	298.15	1.263245172	0.425	1.293	1.2930E-03	0.001335	3.279015	3.279015	
	298.15	1.384172881	0.2668	1.058	1.0580E-03	0.001089	2.957752	2.957752	
	298.15	1.520925301	0.0846	0.92	9.2000E-04	0.000924	0.452837	0.452837	
	298.15	1.559469841	0.0326	0.903	9.0300E-04	0.000906	0.297714	0.297714	
	298.15	1.583526088	0	0.9	9.0000E-04	0.000902	0.242958	0.242958	2.268314
	308.15	0.797472789	1	2.015	2.0150E-03	0.00187	-7.19587	7.195871	
	308.15	0.929348796	0.836	1.76	1.7600E-03	0.001656	-5.90814	5.90814	
	308.15	0.974688614	0.7789	1.647	1.6470E-03	0.001584	-3.83085	3.830849	
	308.15	1.038583206	0.6978	1.487	1.4870E-03	0.001473	-0.96479	0.964791	
	308.15	1.092330485	0.629	1.372	1.3720E-03	0.001372	0.000242	0.000242	
	308.15	1.198434103	0.4916	1.159	1.1590E-03	0.00117	0.958562	0.958562	
	308.15	1.249281125	0.425	1.054	1.0540E-03	0.001079	2.41789	2.41789	
	308.15	1.368566003	0.2668	0.902	9.0200E-04	0.000903	0.074406	0.074406	
	308.15	1.503396351	0.0846	0.801	8.0100E-04	0.000791	-1.28422	1.284215	
	308.15	1.565094534	0	0.785	7.8500E-04	0.000784	-0.18155	0.181551	2.514996
	318.15	0.789081556	1	1.589	1.5890E-03	0.001459	-8.19038	8.190379	
	318.15	0.919337403	0.836	1.416	1.4160E-03	0.001299	-8.27238	8.272377	
	318.15	0.964104985	0.7789	1.313	1.3130E-03	0.001247	-5.0373	5.037304	
	318.15	1.027179948	0.6978	1.189	1.1890E-03	0.001167	-1.85906	1.85906	
	318.15	1.080225802	0.629	1.116	1.1160E-03	0.001094	-1.93223	1.932233	
	318.15	1.184912642	0.4916	0.95	9.5000E-04	0.000949	-0.15218	0.152177	
	318.15	1.235065627	0.425	0.883	8.8300E-04	0.000883	-0.00026	0.000259	
	318.15	1.352683975	0.2668	0.773	7.7300E-04	0.000756	-2.16493	2.16493	
	318.15	1.485565902	0.0846	0.692	6.9200E-04	0.000683	-1.30809	1.308093	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa.s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	318.15	1.522994991	0.0326	0.684	6.8400E-04	0.000681	-0.37301	0.373009	
	318.15	1.546349604	0	0.692	6.9200E-04	0.000686	-0.81574	0.81574	2.344383
	328.15	0.780519873	1	1.269	1.2690E-03	0.001158	-8.7178	8.717795	
	328.15	0.909126747	0.836	1.13	1.1300E-03	0.001034	-8.52136	8.521361	
	328.15	0.953312202	0.7789	1.068	1.0680E-03	0.000995	-6.8043	6.804296	
	328.15	1.015553628	0.6978	0.975	9.7500E-04	0.000937	-3.9005	3.900496	
	328.15	1.067886389	0.629	0.922	9.2200E-04	0.000884	-4.09148	4.091479	
	328.15	1.171133534	0.4916	0.831	8.3100E-04	0.000778	-6.34615	6.346152	
	328.15	1.220581567	0.425	0.753	7.5300E-04	0.000731	-2.95363	2.953631	
	328.15	1.33650799	0.2668	0.674	6.7400E-04	0.00064	-4.98466	4.984664	
	328.15	1.467413224	0.0846	0.615	6.1500E-04	0.000595	-3.21842	3.218419	
	328.15	1.504273055	0.0326	0.615	6.1500E-04	0.000599	-2.64422	2.644215	
	328.15	1.527269691	0	0.617	6.1700E-04	0.000606	-1.77841	1.778407	4.829413

n-BUTANOL (1) - CARBON TETRACHLORIDE (2)

AL - AH

(From Irving, NEL Report, 1977 - Jones, 1948)

P= 0.101 MPa

Wt Frac	n-Butanol (cP)
0	0
0.1	0.902
0.2	0.96
0.3	1.13
0.4	1.33
0.5	1.56
0.6	1.78
0.7	1.97
0.8	2.15
0.9	2.31
	2.46

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
1	298.15	0.805704299	1	2.587	2.5870E-03	0.002438	-5.74646	5.746465	3.969205

1-BUTANOL (1) - CARBON TETRACHLORIDE (2)

AL - AH

00466 Katz, M.; Lobo, P. W.; Solimo, H.; An. Assoc. Quim. Argent., 61, 83-90(1973)

P= 0.101 MPa

1-Butanol									
				(mPa s)					
298.15	0.805704299	1	2.592	2.5920E-03	0.002438	-5.92828	5.928281		
298.15	0.893604321	0.89233	2.329	2.3290E-03	0.002237	-3.93992	3.939916		
298.15	0.977114361	0.78883	2.065	2.0650E-03	0.002058	-0.33466	0.334665		
298.15	1.058374015	0.68697	1.806	1.8060E-03	0.001861	3.060589	3.060589		
298.15	1.13901963	0.58474	1.552	1.5520E-03	0.00165	6.317311	6.317311		
298.15	1.171360487	0.54342	1.464	1.4640E-03	0.001565	6.891748	6.891748		
298.15	1.301979766	0.37462	1.163	1.1630E-03	0.001248	7.322433	7.322433		
298.15	1.358159213	0.30106	1.074	1.0740E-03	0.001135	5.710455	5.710455		
298.15	1.437967795	0.19555	0.972	9.7200E-04	0.001008	3.699541	3.699541		
298.15	1.510087159	0.09917	0.919	9.1900E-04	0.000932	1.404086	1.404086		
298.15	1.583526088	0	0.902	9.0200E-04	0.000902	0.02069	0.02069		4.29786
Average Error for Temp.									

Total Error for All Tei 174.8217 0.846069 1.266889

2-BUTANONE [Methyl Ethyl Ketone] (1) - CARBON TETRACHLORIDE (2)

KK - AH

00927 Anderson, D. K.; Babb, A. L.; J. Phys. Chem., 66, 899-901(1962)

P= 0.101 MPa

2-Butanone									
				(mPa s)					
298.15	1.583526088	0	0.887	8.8700E-04	0.000902	1.712133	1.712133		
298.15	1.439260233	0.1954	0.736	7.3600E-04	0.000736	-2.2E-05	2.18E-05		

%AAD= 0.375841

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	298.15	1.279895276	0.405	0.62	6.2000E-04	0.000619	-0.08874	0.088741	
	298.15	1.286068153	0.397	0.623	6.2300E-04	0.000623	0.044544	0.044544	
	298.15	1.206815399	0.499	0.576	5.7600E-04	0.000577	0.131802	0.131802	
	298.15	1.198980946	0.509	0.576	5.7600E-04	0.000572	-0.62015	0.620151	
	298.15	1.010652567	0.745	0.483	4.8300E-04	0.000478	-1.0774	1.077395	
	298.15	1.00496398	0.752	0.472	4.7200E-04	0.000475	0.668229	0.668229	
	298.15	0.799467695	1	0.393	3.9300E-04	0.000385	-2.05131	2.051311	
Average Error for Temp.									0.375841
Total Error for All Tei									$\frac{k_{ij}}{l_{ij}}$ 1.049624 0.827801

ETHYL ACETATE (1) - CARBON TETRACHLORIDE (2)

ES - AH									
01729 Aminabhavi, T. M.; Patel, R. C.; Bridger, K.; Jayadevappa, E. S.; Prasad, B. R.; J. Chem. Eng. Data, 27, 125-128(1982)									
P=				0.101 MPa		%AAD=			
				Ethyl Acetate		(mPa s)			
293.15	1.592630502	0	0.9785	9.7850E-04	0.000971	-0.73713	0.737125		
293.15	1.522436992	0.1	0.883	8.8300E-04	0.00088	-0.3828	0.382796		
293.15	1.452441426	0.2	0.8095	8.0950E-04	0.00081	0.013026	0.013026		
293.15	1.382642968	0.3	0.7523	7.5230E-04	0.000752	-0.01925	0.019247		
293.15	1.313040788	0.4	0.6968	6.9680E-04	0.000701	0.626912	0.626912		
293.15	1.243634059	0.5	0.65	6.5000E-04	0.000653	0.465255	0.465255		
293.15	1.174421958	0.6	0.6061	6.0610E-04	0.000606	-5.9E-07	5.91E-07		
293.15	1.105403667	0.7	0.5667	5.6670E-04	0.00056	-1.14565	1.145649		
293.15	1.036578375	0.8	0.5276	5.2760E-04	0.000516	-2.20535	2.205354		
293.15	0.967945272	0.9	0.4881	4.8810E-04	0.000474	-2.84884	2.848843		
293.15	0.899503555	1	0.4508	4.5080E-04	0.000435	-3.40312	3.403124		
Average Error for Temp.									0.856342
Total Error for All Tei									$\frac{k_{ij}}{l_{ij}}$ 1.074429 0.784709

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
n-HEXADECANE (1) - CARBON TETRACHLORIDE (2)									
AA - AH									
00620 Heric, E. L.; Brewer, J. G.; J. Chem. Eng. Data, 12(4), 574-583(1967)									
P= 0.101 MPa									
Hexadecane (mPa s)									
298.15	0.769662334		1	3.062	3.0620E-03	0.002689	-12.1914	12.19139	%AAD= 3.544161
298.15	0.862963343		0.7183	2.5101	2.5101E-03	0.002627	4.6411	4.6411	
298.15	0.937411461		0.5598	2.1733	2.1733E-03	0.002294	5.539236	5.539236	
298.15	1.020532818		0.4256	1.874	1.8740E-03	0.001923	2.611282	2.611282	
298.15	1.086337013		0.3414	1.6809	1.6809E-03	0.001681	-6.7E-05	6.66E-05	
298.15	1.163839432		0.2601	1.4969	1.4969E-03	0.001457	-2.69325	2.693249	
298.15	1.223568488		0.2075	1.3808	1.3808E-03	0.001321	-4.31501	4.315005	
298.15	1.291003505		0.1563	1.2596	1.2596E-03	0.001199	-4.79194	4.791944	
298.15	1.352219866		0.1159	1.1671	1.1671E-03	0.001111	-4.81877	4.818766	
298.15	1.430546231		0.071	1.0619	1.0619E-03	0.001022	-3.78841	3.788409	
298.15	1.504692628		0.0342	0.9782	9.7820E-04	0.000956	-2.24255	2.242554	3.544161
298.15	1.583526088		0	0.9004	9.0040E-04	0.000902	0.198425	0.198425	
Average Error for Temp.									
Total Error for All Temp.								kij	lij
								1.105993	1.084783
CHLOROFORM (1) - ACETIC ACID (2)									
AH - AC									
02167 Vitagliano, V.; Zagari, A.; Sartorio, R.; J. Chem. Eng. Data, 18(4), 370-372(1973)									
P= 0.101 MPa									
Chloroform (mPa s)									
298.15	1.042012521		0	1.139	1.1390E-03	0.001108	-2.69747	2.697473	%AAD= 0.672181
298.15	1.070307673		0.0468	1.087	1.0870E-03	0.001056	-2.8397	2.839702	
298.15	1.101984644		0.1013	0.997	9.9700E-04	0.001001	0.388058	0.388058	
298.15	1.102439819		0.1021	1.022	1.0220E-03	0.001	-2.14316	2.143163	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	298.15	1.128482761	0.1487	0.954	9.5400E-04	0.000957	0.302928	0.302928	
	298.15	1.157704291	0.203	0.925	9.2500E-04	0.000911	-1.56298	1.56298	
	298.15	1.172424967	0.2312	0.882	8.8200E-04	0.000888	0.679737	0.679737	
	298.15	1.206956162	0.2997	0.837	8.3700E-04	0.000837	0.012237	0.012237	
	298.15	1.226642053	0.3403	0.805	8.0500E-04	0.000809	0.534951	0.534951	
	298.15	1.264021646	0.4207	0.759	7.5900E-04	0.000759	-0.00944	0.00944	
	298.15	1.289811828	0.4784	0.731	7.3100E-04	0.000726	-0.64601	0.64601	
	298.15	1.299668428	0.5017	0.717	7.1700E-04	0.000714	-0.43694	0.436937	
	298.15	1.325276784	0.5627	0.68	6.8000E-04	0.000683	0.496832	0.496832	
	298.15	1.349020088	0.6215	0.657	6.5700E-04	0.000657	-0.05941	0.059408	
	298.15	1.39102063	0.7312	0.613	6.1300E-04	0.000613	0.02263	0.02263	
	298.15	1.417044244	0.8031	0.589	5.8900E-04	0.000589	-4.8E-05	4.77E-05	
	298.15	1.44807363	0.8931	0.56	5.6000E-04	0.000563	0.619833	0.619833	
	298.15	1.482867763	1	0.533	5.3300E-04	0.00054	1.284592	1.284592	
Average Error for Temp.									0.672181
Total Error for All Tei									0.962128
									1.095263

CHLOROFORM (1) - METHANOL (2)

AH - AL

00111 Wei, I. C.; Rowley, R. L.; J. Chem. Eng. Data, 29(3), 332-335(1984)

P= 0.101 MPa

Vol Frac	Chloroform	(mPa s)	%AAD=
0	0	0.5526	7.404804
0.1962	0.0614876	0.6141	
0.334	0.1186379	0.6387	
0.4441	0.1765668	0.6449	
0.534	0.2352259	0.637	
0.6117	0.2971763	0.622	
0.6609	0.3434546	0.606	
0.7958	0.511249	0.5624	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
0.8844	298.15	1.34623493	0.6725033	0.5368	5.3680E-04	0.000597	11.26401	11.26401	
1	298.15	1.482867763	1	0.5332	5.3320E-04	0.00054	1.246601	1.246601	7.404804
Average Error for Temp.									
Total Error for All Tei									
							<i>kij</i>	<i>ljj</i>	
							1.008049	1.118508	

CHLOROFORM (1) - ACETONE (2)

AH - KK The value for the viscosity of chloroform at T = 298.15 K is 6.4% lower than those of DIPPR 801 and ESDU Engineering Data.

00213 Fort, R. J.; Moore, W. R.; Trans. Faraday Soc., 62, 1112-1119(1966)

P=	0.101 MPa	Chloroform	(mPa s)	%AAD=
298.15	0.78658055	0	0.302	0.922087
298.15	0.935717455	0.2	0.353	7.637151
298.15	1.079656377	0.4	0.424	6.368546
298.15	1.218664414	0.6	0.486	4.185921
298.15	1.352990674	0.8	0.512	4.817384
298.15	1.482867763	1	0.504	7.112475
				5.752251

CHLOROFORM (1) - ACETONE (2)

AH - KK

(From Irving, NEL Report, 1977 - Swensen, 1961)

P=	0.101 MPa	Chloroform	(cP)
308.15	0.775070912	0	0.282
308.15	0.849395593	0.1	0.314
308.15	0.922434427	0.2	0.344
308.15	0.994220497	0.3	0.374
308.15	1.064785759	0.4	0.402
			2.8200E-04
			3.1400E-04
			3.4400E-04
			3.7400E-04
			4.0200E-04
			0.000275
			0.000308
			0.000341
			0.000373
			0.000403
			-2.34853
			-1.9317
			-0.90806
			-0.25922
			0.290743

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
308.15	1.134161093	0.5	0.43	4.3000E-04	0.00043	0.01735	0.01735		
308.15	1.202376346	0.6	0.457	4.5700E-04	0.000453	-0.95424	0.954239		
308.15	1.269460374	0.7	0.482	4.8200E-04	0.00047	-2.49322	2.493217		
308.15	1.335441086	0.8	0.505	5.0500E-04	0.000482	-4.63381	4.633813		
308.15	1.400345477	0.9	0.518	5.1800E-04	0.000488	-5.88413	5.884132		
308.15	1.464199671	1	0.514	5.1400E-04	0.000488	-4.96148	4.961482		1.930274

CHLOROFORM (1) - ACETONE (2)

AH - KK

01528 Nigam, R. K.; Mahl, B. S.; Indian J. Chem., 9, 1255-1258(1971)

P= 0.101 MPa

		Chloroform		Chloroform					
				(mPa s)					
293.15	0.882386485	0.1193	0.357	3.5700E-04	0.000369	3.401136	3.401136		
293.15	0.98789839	0.2623	0.408	4.0800E-04	0.000427	4.564028	4.564028		
293.15	1.06724699	0.3723	0.453	4.5300E-04	0.000468	3.332462	3.332462		
293.15	1.166381008	0.5128	0.508	5.0800E-04	0.000514	1.154955	1.154955		
293.15	1.231084911	0.6064	0.538	5.3800E-04	0.000538	-9.5E-08	9.48E-08		
293.15	1.294816136	0.7001	0.56	5.6000E-04	0.000556	-0.72613	0.726125		
293.15	1.399727416	0.8577	0.583	5.8300E-04	0.000571	-2.10101	2.101012		2.182817
298.15	0.897674905	0.1483	0.356	3.5600E-04	0.00036	1.253532	1.253532		
298.15	0.988192242	0.2721	0.4	4.0000E-04	0.000407	1.663565	1.663565		
298.15	1.071515965	0.3885	0.445	4.4500E-04	0.000447	0.502257	0.502257		
298.15	1.148718166	0.4985	0.485	4.8500E-04	0.000481	-0.84466	0.84466		
298.15	1.243385372	0.6363	0.527	5.2700E-04	0.000514	-2.48656	2.486561		
298.15	1.294046499	0.7114	0.543	5.4300E-04	0.000527	-3.00391	3.003909		
298.15	1.407677426	0.8834	0.557	5.5700E-04	0.000541	-2.8681	2.868101		1.803226
303.15	0.858674437	0.1041	0.326	3.2600E-04	0.000326	-0.03736	0.037355		
303.15	0.917585763	0.1842	0.352	3.5200E-04	0.000354	0.60875	0.60875		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	303.15	0.978986285	0.2689	0.381	3.8100E-04	0.000384	0.666161	0.666161	
	303.15	1.053432677	0.3733	0.424	4.2400E-04	0.000418	-1.44199	1.441989	
	303.15	1.175533335	0.5487	0.488	4.8800E-04	0.000467	-4.31636	4.316358	
	303.15	1.269672064	0.6876	0.514	5.1400E-04	0.000495	-3.78662	3.786625	
	303.15	1.362489673	0.8278	0.54	5.4000E-04	0.00051	-5.5224	5.522398	
Average Error for Temp.									2.339948
Total Error for All T_{oi}									$\frac{k_{ij}}{l_{ij}}$ 0.955225 1.282426

DIETHYL ETHER (1) - CHLOROFORM (2)

AT - AH

00926 Anderson, D. K.; Babb, A. L.; J. Phys. Chem., 65, 1281-1283(1961)

P= 0.101 MPa

%AAD= 1.180905

		Diethyl Ether	(mPa s)						
298.15	1.482867763	0	0.535	5.3500E-04	0.00054	0.905958	0.905958		
298.15	1.227766752	0.274	0.472	4.7200E-04	0.000496	5.023195	5.023195		
298.15	1.023664562	0.528	0.397	3.9700E-04	0.000408	2.891523	2.891523		
298.15	0.919465404	0.672	0.34	3.4000E-04	0.000347	1.929449	1.929449		
298.15	0.792303362	0.863	0.268	2.6800E-04	0.000267	-0.40807	0.408072		
298.15	0.708004791	1	0.225	2.2500E-04	0.000218	-3.02501	3.025009		2.56306

CHLOROFORM (1) - DIETHYL ETHER (2)

AH - AT

01528 Nigam, R. K.; Mahl, B. S.; Indian J. Chem., 9, 1255-1258(1971)

P= 0.101 MPa

		Chloroform	(mPa s)						
288.15	0.860158256	0.2213	0.331	3.3100E-04	0.000333	0.529217	0.529217		
288.15	0.951820542	0.3539	0.394	3.9400E-04	0.000395	0.318673	0.318673		
288.15	1.063909168	0.505	0.468	4.6800E-04	0.000466	-0.46362	0.463624		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	288.15	1.167409863	0.6348	0.52	5.2000E-04	0.000518	-0.32181	0.321809	
	288.15	1.267745251	0.7526	0.553	5.5300E-04	0.000555	0.405923	0.405923	
	288.15	1.328865814	0.8208	0.564	5.6400E-04	0.000572	1.339381	1.339381	0.482661
	293.15	0.820140458	0.1704	0.295	2.9500E-04	0.000294	-0.17627	0.176272	
	293.15	0.900718343	0.2909	0.354	3.5400E-04	0.000347	-1.92864	1.928639	
	293.15	1.00913953	0.4425	0.416	4.1600E-04	0.000416	-2.6E-05	2.6E-05	
	293.15	1.100708887	0.562	0.466	4.6600E-04	0.000466	0.053622	0.053622	
	293.15	1.201015964	0.6848	0.507	5.0700E-04	0.000509	0.400882	0.400882	
	293.15	1.304834128	0.8038	0.536	5.3600E-04	0.00054	0.664042	0.664042	
	293.15	1.392938338	0.8989	0.555	5.5500E-04	0.000556	0.26421	0.26421	0.498242
	298.15	0.80488046	0.1567	0.282	2.8200E-04	0.000275	-2.62546	2.62546	
	298.15	0.906550879	0.3094	0.343	3.4300E-04	0.000338	-1.32321	1.323207	
	298.15	0.994609697	0.4329	0.395	3.9500E-04	0.000392	-0.74811	0.748115	
	298.15	1.089847864	0.5582	0.445	4.4500E-04	0.000443	-0.55277	0.552765	
	298.15	1.196852637	0.6897	0.489	4.8900E-04	0.000486	-0.62632	0.626319	
	298.15	1.299316626	0.8073	0.519	5.1900E-04	0.000514	-0.9665	0.966502	
	298.15	1.380014058	0.8947	0.536	5.3600E-04	0.000528	-1.41523	1.415233	1.179657
Average Error for Temp.									
Total Error for All Tei									
<div> <div>k_{ij}</div> <div>l_{ij}</div> </div>									
							1.113714	0.760191	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
BENZENE (1) - CARBON TETRACHLORIDE (2)									
AR - AH									
01729 Aminabhavi, T. M.; Patel, R. C.; Bridger, K.; Jayadevappa, E. S.; Prasad, B. R.; J. Chem. Eng. Data, 27, 125-128(1982)									
P= 0.101 MPa									
			<i>Benzene</i>	(mPa s)					
	298.15	1.583526088	0	0.9785	9.7850E-04	0.000902	-7.79902	7.799017	
	298.15	1.51765893	0.1	0.9426	9.4260E-04	0.000866	-8.09053	8.090534	
	298.15	1.45053429	0.2	0.905	9.0500E-04	0.000836	-7.64636	7.646365	
	298.15	1.382426535	0.3	0.8721	8.7210E-04	0.000808	-7.3732	7.373201	
	298.15	1.313209196	0.4	0.8399	8.3990E-04	0.00078	-7.08858	7.08858	
	298.15	1.242854937	0.5	0.8082	8.0820E-04	0.000752	-6.91297	6.912969	
	298.15	1.171335512	0.6	0.7747	7.7470E-04	0.000723	-6.64039	6.640389	
	298.15	1.098621735	0.7	0.7439	7.4390E-04	0.000693	-6.80735	6.807346	
	298.15	1.024683436	0.8	0.7246	7.2460E-04	0.000663	-8.53347	8.533475	
	298.15	0.949489422	0.9	0.6833	6.8330E-04	0.000632	-7.47297	7.472969	
	298.15	0.873007427	1	0.6565	6.5650E-04	0.000602	-8.31762	8.317616	7.396203

CARBON TETRACHLORIDE (1) - BENZENE (2)									
AH - AR									
00620 Heric, E. L.; Brewer, J. G.; J. Chem. Eng. Data, 12(4), 574-583(1967)									
P= 0.101 MPa									
			<i>Carbon Tetrachl</i>	(mPa s)					
	298.15	1.583526088	1	0.9004	9.0040E-04	0.000902	0.198425	0.198425	
	298.15	1.510038611	0.887	0.8636	8.6360E-04	0.000863	-0.10652	0.106515	
	298.15	1.432524438	0.7734	0.8282	8.2820E-04	0.000828	-1.1E-07	1.09E-07	
	298.15	1.378373777	0.6941	0.8043	8.0430E-04	0.000806	0.233628	0.233628	
	298.15	1.309509197	0.5947	0.7731	7.7310E-04	0.000779	0.750099	0.750099	
	298.15	1.202233505	0.443	0.7283	7.2830E-04	0.000736	1.041903	1.041903	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	298.15	1.134693482	0.3494	0.7017	7.0170E-04	0.000708	0.922244	0.922244	
	298.15	1.067423209	0.2576	0.6747	6.7470E-04	0.00068	0.839247	0.839247	
	298.15	1.000309688	0.1674	0.648	6.4800E-04	0.000653	0.740699	0.740699	
	298.15	0.943950213	0.0927	0.6278	6.2780E-04	0.00063	0.352925	0.352925	
	298.15	0.873007427	0	0.6042	6.0420E-04	0.000602	-0.38152	0.381521	0.55414

CARBON TETRACHLORIDE (1) - BENZENE (2)

AH - AR The values at B = 0.2348 mol%, B = 0.4835 mol% and B = 0.7767 mol% were taken from Grunberg, L., Trans. Faraday Soc. 50, 1293(1954).

01368 Katti, P. K.; Chaudri, M. M.; Prakash, O.; J. Chem. Eng. Data, 11(4), 593-594(1966)
P= 0.101 MPa

		Carbon Tetrachl							
		Carbon Tetrachl		(mPa s)					
298.15	0.873007427	0	0.5996	5.9960E-04	0.000602	0.38273	0.38273		
298.15	0.968407395	0.125	0.6346	6.3460E-04	0.00064	0.827956	0.827956		
298.15	1.050554811	0.2348	0.6652	6.6520E-04	0.000673	1.233218	1.233218		
298.15	1.231135266	0.4835	0.7352	7.3520E-04	0.000748	1.687514	1.687514		
298.15	1.242854937	0.5	0.7404	7.4040E-04	0.000752	1.611209	1.611209		
298.15	1.347958251	0.65	0.7872	7.8720E-04	0.000794	0.876651	0.876651		
298.15	1.434762924	0.7767	0.8291	8.2910E-04	0.000829	0.004208	0.004208		
298.15	1.51755893	0.9	0.8691	8.6910E-04	0.000866	-0.31773	0.317728		
298.15	1.583526088	1	0.9019	9.0190E-04	0.000902	0.03178	0.03178		0.936926

BENZENE (1) - CARBON TETRACHLORIDE (2)

AR - AH

(From Irving, NEL Report, 1977 - Linke, 1941)

P= 0.101 MPa

Wt Frac	0	285.15	1.607050356	Benzene	0	0.775	7.7500E-04	0.001098	41.71124	41.71124
				Benzene		(cP)				

[illegible]

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
<i>Total Error for All Tei</i>									
								<i>kij</i>	<i>ljj</i>
								378.0374	1.057634 0.85262

BENZENE (1) - CHLOROFORM (2)

AR - AH

00213 Fort, R. J.; Moore, W. R.; Trans. Faraday Soc., 62, 1112-1119(1966)

P= 0.101 MPa

%AAD= 0.62935

		<i>Benzene</i>		<i>(mPa s)</i>					
298.15	1.482867763	0	0.504	5.0400E-04	0.00054	7.112475	7.112475		
298.15	1.350258524	0.2	0.525	5.2500E-04	0.000546	4.062331	4.062331		
298.15	1.223308323	0.4	0.541	5.4100E-04	0.000552	2.059378	2.059378		
298.15	1.101662483	0.6	0.555	5.5500E-04	0.00056	0.936149	0.936149		
298.15	0.984995359	0.8	0.574	5.7400E-04	0.000575	0.137786	0.137786		
298.15	0.873007427	1	0.602	6.0200E-04	0.000602	-0.01747	0.017467		1.798911

(From Irving, NEL Report, 1977 - same data source)

298.15	1.482867763	0	0.504	5.0400E-04	0.00054	7.112475	7.112475		
298.15	1.350258524	0.2	0.519	5.1900E-04	0.000546	5.265364	5.265364		
298.15	1.223308323	0.4	0.537	5.3700E-04	0.000552	2.819596	2.819596		
298.15	1.101662483	0.6	0.558	5.5800E-04	0.00056	0.393481	0.393481		
298.15	0.984995359	0.8	0.58	5.8000E-04	0.000575	-0.89812	0.898122		
298.15	0.873007427	1	0.602	6.0200E-04	0.000602	-0.01747	0.017467		2.344141

CHLOROFORM (1) - BENZENE (2)

AH - AR

00344 Malo, F.; Hernandez, J. L.; An. R. Soc. Esp. Fis. Quim. Ser. B, 65, 9-18(1969)

P= 0.101 MPa

		<i>Chloroform</i>		<i>(mPa s)</i>					
288.15	0.882947548	0	0.699	6.9900E-04	0.000694	-0.6774	0.677401		
288.15	0.939655173	0.101	0.672	6.7200E-04	0.000672	0.001903	0.001903		

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
	288,15	1.022559924	0.245	0.65	6.5000E-04	0.00649	-0.13871	0.138707	
	288,15	1.13459747	0.433	0.631	6.3100E-04	0.00663	-0.16565	0.165652	
	288,15	1.271497851	0.653	0.616	6.1600E-04	0.00616	0.031574	0.031574	
	288,15	1.501202805	1	0.6	6.0000E-04	0.0006	-0.07377	0.073773	0.084459
	293,15	0.87799651	0	0.644	6.4400E-04	0.00646	0.281385	0.281385	
	293,15	0.934345405	0.101	0.627	6.2700E-04	0.00627	0.009137	0.009137	
	293,15	1.016716859	0.245	0.606	6.0600E-04	0.00608	0.342632	0.342632	
	293,15	1.128017022	0.433	0.593	5.9300E-04	0.00593	-0.05202	0.052019	
	293,15	1.263990353	0.653	0.582	5.8200E-04	0.00582	-0.00014	0.000138	
	293,15	1.49207552	1	0.57	5.7000E-04	0.00569	-0.25421	0.25421	0.100981
	303,15	0.867979124	0	0.559	5.5900E-04	0.00562	0.53933	0.53933	
	303,15	0.923600276	0.101	0.548	5.4800E-04	0.00549	0.182391	0.182391	
	303,15	1.004889523	0.245	0.533	5.3300E-04	0.00536	0.649648	0.649648	
	303,15	1.114692748	0.433	0.527	5.2700E-04	0.00527	0.040304	0.040304	
	303,15	1.248783259	0.653	0.52	5.2000E-04	0.00522	0.288555	0.288555	
	303,15	1.473576782	1	0.516	5.1600E-04	0.00513	-0.53735	0.537353	0.290225
	313,15	0.85779985	0	0.493	4.9300E-04	0.00493	-0.0666	0.066602	
	313,15	0.912678697	0.101	0.483	4.8300E-04	0.00484	0.219293	0.219293	
	313,15	0.992863616	0.245	0.473	4.7300E-04	0.00476	0.728819	0.728819	
	313,15	1.101138465	0.433	0.47	4.7000E-04	0.00472	0.393906	0.393906	
	313,15	1.233305402	0.653	0.471	4.7100E-04	0.0047	-0.2377	0.237699	
	313,15	1.454733353	1	0.472	4.7200E-04	0.00465	-1.38018	1.380183	0.394929
	323,15	0.847448009	0	0.438	4.3800E-04	0.00435	-0.71234	0.712343	
	323,15	0.901568858	0.101	0.431	4.3100E-04	0.0043	-0.31402	0.314024	
	323,15	0.980625588	0.245	0.426	4.2600E-04	0.00426	-0.04858	0.048581	
	323,15	1.087338121	0.433	0.43	4.3000E-04	0.00425	-1.22981	1.229809	0.530805

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa·s)	η_{pred} (Pa·s)	%D	%AD	%AAD
CHLOROFORM (1) - BENZENE (2)									
AH - AR									
01571 Asfour, A. F. A.; Dullien, F. A. L.; J. Chem. Eng. Data, 26(3), 312-316(1981)									
P= 0.101 MPa									
			Chloroform	(mPa·s)					
	298.51	0.872646714	0	0.6026	6.0260E-04	0.000599	-0.61497	0.614975	
	298.51	0.909752887	0.0672	0.5938	5.9380E-04	0.000588	-0.96216	0.962163	
	298.51	0.956623201	0.1508	0.5847	5.8470E-04	0.000577	-1.26217	1.262169	
	298.51	0.993219186	0.2151	0.5795	5.7950E-04	0.000571	-1.5134	1.513396	
	298.51	1.045609591	0.3057	0.5722	5.7220E-04	0.000563	-1.52859	1.528595	
	298.51	1.167915826	0.5108	0.5613	5.6130E-04	0.000553	-1.48575	1.485746	
	298.51	1.253298373	0.6489	0.559	5.5900E-04	0.000548	-1.88302	1.883021	
	298.51	1.360312907	0.8164	0.5493	5.4930E-04	0.000544	-1.00482	1.004817	
	298.51	1.435213033	0.9301	0.5403	5.4030E-04	0.00054	0.001241	0.001241	
	298.51	1.482201627	1	0.5356	5.3560E-04	0.000538	0.42253	0.42253	
Average Error for Temp.								1.205143	
Total Error for All Tot: 21.91158 1.025132 0.915389									

DICHLOROMETHANE (1) - BENZENE (2)

AH-AR

01528 Nigam, R. K.; Mahl, B. S.; Indian J. Chem., 9, 1255-1258(1971)

P= 0,101 MPa

		<i>Dichloromethane</i>		(mPa s)			
293,15	0,87799651	0	0,648	6,4800E-04	0,000646	-0,33764	0,337636
293,15	0,927015593	0,1454	0,591	5,9100E-04	0,000596	0,887611	0,887611
293,15	0,968319839	0,259	0,559	5,5900E-04	0,000561	0,431274	0,431274
293,15	1,009992716	0,3662	0,531	5,3100E-04	0,000532	0,194648	0,194648
293,15	1,042497422	0,4451	0,513	5,1300E-04	0,000513	-0,05208	0,052085
293,15	1,073055846	0,5158	0,498	4,9800E-04	0,000497	-0,16218	0,162178

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
293.15	1.108180854	0.5932	0.484	4.8400E-04	0.000482	-0.38126	0.381264		
293.15	1.139662359	0.6593	0.471	4.7100E-04	0.000471	0.001218	0.001218		
293.15	1.166820619	0.714	0.463	4.6300E-04	0.000463	-2.1E-07	2.06E-07		
293.15	1.192575336	0.764	0.456	4.5600E-04	0.000457	0.149221	0.149221		0.251055
298.15	0.873007427	0	0.603	6.0300E-04	0.000602	-0.18328	0.183275		
298.15	0.946315724	0.2149	0.535	5.3500E-04	0.000538	0.563484	0.563484		
298.15	0.976442601	0.2959	0.514	5.1400E-04	0.000517	0.562571	0.562571		
298.15	1.010023162	0.3817	0.497	4.9700E-04	0.000496	-0.10284	0.102837		
298.15	1.05598409	0.4921	0.477	4.7700E-04	0.000473	-0.75224	0.752237		
298.15	1.078971873	0.5445	0.466	4.6600E-04	0.000464	-0.47828	0.478275		
298.15	1.102215014	0.5957	0.458	4.5800E-04	0.000455	-0.61134	0.611341		
298.15	1.12098513	0.6358	0.452	4.5200E-04	0.000449	-0.64418	0.644177		
298.15	1.148318906	0.6923	0.445	4.4500E-04	0.000441	-0.80931	0.809311		0.565529
303.15	0.867979124	0	0.57	5.7000E-04	0.000562	-1.4009	1.400903		
303.15	0.923263055	0.1659	0.516	5.1600E-04	0.000517	0.175649	0.175649		
303.15	0.959478	0.2665	0.494	4.9400E-04	0.000492	-0.31194	0.311937		
303.15	1.004299207	0.3831	0.468	4.6800E-04	0.000467	-0.16501	0.16501		
303.15	1.04865669	0.4907	0.446	4.4600E-04	0.000447	0.257504	0.257504		
303.15	1.09442585	0.5944	0.429	4.2900E-04	0.000431	0.446537	0.446537		
303.15	1.133555184	0.6777	0.419	4.1900E-04	0.00042	0.292831	0.292831		
303.15	1.172282986	0.7557	0.412	4.1200E-04	0.000412	0.054611	0.054611		
303.15	1.203930446	0.8164	0.406	4.0600E-04	0.000407	0.347769	0.347769		0.256481
Average Error for Temp.									
Total Error for All T_{oi}									
							k_{ij}	l_{ij}	
							0.98159	1.056376	

TOLUENE (1) - CARBON TETRACHLORIDE (2)

AR - AH

00466 Katz, M.; Lobo, P. W.; Solimo, H.; An. Asoc. Quim. Argent., 61, 83-90(1973)

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa·s)	%D	%AD	%AAD
	P=	0.101 MPa							
			<i>Toluene</i>	(mPa s)					
	298.15	0.863933615	1	0.557	5.5700E-04	0.000548	-1.70205	1.702052	
	298.15	0.911255467	0.92826	0.571	5.7100E-04	0.000569	-0.42485	0.424845	
	298.15	0.976595637	0.8307	0.598	5.9800E-04	0.000597	-0.11766	0.117658	
	298.15	1.049481623	0.72387	0.632	6.3200E-04	0.000629	-0.44853	0.448533	
	298.15	1.118518932	0.62457	0.65	6.5000E-04	0.000659	1.460894	1.460894	
	298.15	1.200807967	0.50854	0.695	6.9500E-04	0.000696	0.18417	0.18417	
	298.15	1.275984325	0.40469	0.714	7.1400E-04	0.000731	2.381731	2.381731	
	298.15	1.357158801	0.29479	0.765	7.6500E-04	0.00077	0.716301	0.716301	
	298.15	1.42775886	0.20104	0.841	8.4100E-04	0.000807	-4.00468	4.004683	
	298.15	1.504418464	0.10112	0.856	8.5600E-04	0.000851	-0.56733	0.56733	
	298.15	1.583526088	0	0.902	9.0200E-04	0.000902	0.02069	0.02069	1.145127

CARBON TETRACHLORIDE (1) - TOLUENE (2)

AH - AR

00322 Konobeev, B. I.; Lyapin, V. V.; J. Appl. Chem. USSR, 43(4), 806-813(1970)

	P=	0.101 MPa							
			<i>Carbon Tetrachl</i>	(mPa s)					
	293.15	0.868489849	0	0.586	5.8600E-04	0.000581	-0.81809	0.81809	
	293.15	0.961956174	0.14	0.624	6.2400E-04	0.000625	0.209343	0.209343	
	293.15	0.997962679	0.193	0.641	6.4100E-04	0.000642	0.182229	0.182229	
	293.15	1.075905615	0.306	0.677	6.7700E-04	0.000679	0.258924	0.258924	
	293.15	1.132782553	0.387	0.705	7.0500E-04	0.000706	0.106179	0.106179	
	293.15	1.191239748	0.469	0.734	7.3400E-04	0.000734	-0.00021	0.00021	
	293.15	1.282097516	0.594	0.782	7.8200E-04	0.00078	-0.31384	0.313836	
	293.15	1.379652977	0.725	0.832	8.3200E-04	0.000832	2.24E-09	2.24E-09	
	293.15	1.424394909	0.784	0.86	8.6000E-04	0.000858	-0.24943	0.249427	
	293.15	1.592630502	1	0.97	9.7000E-04	0.000971	0.132704	0.132704	0.165019

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
	313,15	0.850075971	0	0.466	4.6600E-04	0.000462	-0.91444	0.914442	
	313,15	0.941318453	0.14	0.496	4.9600E-04	0.000496	-0.08588	0.085882	
	313,15	0.976455736	0.193	0.506	5.0600E-04	0.000508	0.465046	0.465046	
	313,15	1.052493231	0.306	0.535	5.3500E-04	0.000536	0.134844	0.134844	
	313,15	1.107959147	0.387	0.555	5.5500E-04	0.000556	0.10073	0.10073	
	313,15	1.164948037	0.469	0.578	5.7800E-04	0.000576	-0.35399	0.353994	
	313,15	1.253487314	0.594	0.609	6.0900E-04	0.000608	-0.16592	0.165917	
	313,15	1.348504144	0.725	0.646	6.4600E-04	0.000644	-0.37591	0.375914	
	313,15	1.392064741	0.784	0.663	6.6300E-04	0.000661	-0.35762	0.357624	
	313,15	1.555762537	1	0.739	7.3900E-04	0.000733	-0.86604	0.866041	0.254984
	333,15	0.83112277	0	0.382	3.8200E-04	0.000375	-1.88252	1.882524	
	333,15	0.920058232	0.14	0.415	4.1500E-04	0.000402	-3.19671	3.196713	
	333,15	0.954293032	0.193	0.42	4.2000E-04	0.000412	-1.94976	1.949762	
	333,15	1.028350808	0.306	0.441	4.4100E-04	0.000433	-1.77678	1.776776	
	333,15	1.082349552	0.387	0.451	4.5100E-04	0.000448	-0.57644	0.57644	
	333,15	1.137810738	0.469	0.463	4.6300E-04	0.000464	0.173552	0.173552	
	333,15	1.22393586	0.594	0.485	4.8500E-04	0.000487	0.488221	0.488221	
	333,15	1.316306897	0.725	0.51	5.1000E-04	0.000513	0.494977	0.494977	
	333,15	1.358635496	0.784	0.53	5.3000E-04	0.000524	-1.09517	1.095173	
	333,15	1.517596687	1	0.592	5.9200E-04	0.000571	-3.53363	3.533633	1.218952
Average Error for Temp.									
Total Error for All Temp									
<div> <div>CHLOROFORM (1) - TOLUENE (2)</div> <div> <div>AH - AR</div> <div>01571 Asfour, A. F. A.; Dullien, F. A. L.; J. Chem. Eng. Data, 26(3), 312-316(1981)</div> <div>P= 0.101 MPa</div> </div> </div>									
	298,15	0.863933615	0	0.5526	5.5260E-04	0.000548	-0.91937	0.919368	%AAD= 0.200072
									k_{ij} l_{ij} 1.031591 0.903643

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
CARBON TETRACHLORIDE (1) - HEXANE (2)									
AH - AA									
00918 Bidlack, D. L.; Anderson, D. K.; J. Phys. Chem., 68(12), 3790-3794(1964)									
P= 0.101 MPa									
Carbon Tetrachli (mPa s)									
298.15	0.658026202		0	0.2958	2.9580E-04	0.000305	3.25562	3.25562	
298.15	0.780205879		0.1729	0.3422	3.4220E-04	0.000342	1.64E-08	1.64E-08	
298.15	0.951133081		0.3869	0.4102	4.1020E-04	0.000406	-1.0899	1.089903	
298.15	1.13121757		0.5869	0.5067	5.0670E-04	0.000496	-2.18287	2.182867	
298.15	1.338927915		0.7908	0.6461	6.4610E-04	0.000642	-0.66535	0.665354	
298.15	1.583526088		1	0.8963	8.9630E-04	0.000902	0.656769	0.656769	
Average Error for Temp.									0.984531
Total Error for All Tei									
kij									
ijj									
Total Error for All Tei									
8.61843									
0.999135									
0.929352									

CYCLOHEXANE (1) - CARBON TETRACHLORIDE (2)

CA - AH
01729 Aminabhavi, T. M.; Patel, R. C.; Bridger, K.; Jayadevappa, E. S.; Prasad, B. R.; J. Chem. Eng. Data, 27, 125-128(1982)

%AAD= 0.942205

P= 0.101 MPa

Cyclohexane (mPa s)									
293.15	1.592630502		0	0.9785	9.7850E-04	0.000971	-0.73713	0.737125	
293.15	1.502380603		0.1	0.97	9.7000E-04	0.000954	-1.62568	1.625685	
293.15	1.414256933		0.2	0.9648	9.6480E-04	0.000947	-1.87165	1.871654	
293.15	1.32818523		0.3	0.954	9.5400E-04	0.000943	-1.10378	1.103785	
293.15	1.244094647		0.4	0.9465	9.4650E-04	0.000942	-0.52197	0.521967	
293.15	1.161917563		0.5	0.9527	9.5270E-04	0.00094	-1.37574	1.375735	
293.15	1.0815894		0.6	0.9421	9.4210E-04	0.000937	-0.52772	0.527721	
293.15	1.003048454		0.7	0.9458	9.4580E-04	0.000935	-1.18027	1.180273	
293.15	0.926235734		0.8	0.9637	9.6370E-04	0.000934	-3.10298	3.10298	
293.15	0.85109482		0.9	0.9643	9.6430E-04	0.000938	-2.70852	2.708517	
293.15	0.77757172		1	0.9751	9.7510E-04	0.000955	-2.10463	2.104633	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm ³)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa s)	%D	%AD	%AAD
									1.557591

CARBON TETRACHLORIDE (1) - CYCLOHEXANE (2)

AH - CA The values at B = 0.2720 molF, B = 0.5295 molF and B = 0.7707 molF were taken from Grunberg, L., Trans. Faraday Soc. 50, 1293(1954).

01368 Katti, P. K.; Chaudri, M. M.; Prakash, O.; J. Chem. Eng. Data, 11(4), 593-594(1966)
P= 0.101 MPa

Carbon Tetrachloride (mPa s)									
298.15	0.773109026	0	0.8856	8.8560E-04	0.000881	-0.49161	0.49161		
298.15	0.975742384	0.272	0.858	8.5800E-04	0.00086	0.190325	0.190325		
298.15	1.155261432	0.5	0.8551	8.5510E-04	0.000864	1.092615	1.092615		
298.15	1.179171602	0.5295	0.8568	8.5680E-04	0.000865	0.975708	0.975708		
298.15	1.257692664	0.625	0.8594	8.5940E-04	0.000868	0.946143	0.946143		
298.15	1.380881378	0.7707	0.867	8.6700E-04	0.000873	0.663322	0.663322		
298.15	1.583526088	1	0.9019	9.0190E-04	0.000902	0.03178	0.03178		0.773623

CARBON TETRACHLORIDE (1) - CYCLOHEXANE (2)

AH - CA

00111 Wei, I. C.; Rowley, R. L.; J. Chem. Eng. Data, 29(3), 332-335(1984)

Carbon Tetrachloride (mPa s)									
Vol Frac		P=	0.101 MPa						
0	298.15	0.773109026	0	0.8906	8.9060E-04	0.000881	-1.05027	1.050269	
0.2047	298.15	0.863578722	0.1234409	0.866	8.6600E-04	0.000863	-0.3503	0.350297	
0.3317	298.15	0.931184531	0.2135642	0.8555	8.5550E-04	0.00086	0.484794	0.484794	
0.433	298.15	0.99320373	0.2946951	0.8525	8.5250E-04	0.00086	0.866408	0.866408	
0.5333	298.15	1.063324677	0.3846944	0.8561	8.5610E-04	0.000862	0.646806	0.646806	
0.6298	298.15	1.140815683	0.4820806	0.8581	8.5810E-04	0.000864	0.688132	0.688132	
0.7166	298.15	1.220842878	0.5804427	0.8664	8.6640E-04	0.000866	-7.7E-08	7.67E-08	
0.7959	298.15	1.304441717	0.680875	0.8729	8.7290E-04	0.000869	-0.43136	0.431365	

Press. (DIPPR)	Temp. (K)	Pred. Density (g/cm3)	Mole Frac.	Exp. Viscosity (DIPPR units)	Exp. Viscosity (Pa s)	η_{pred} (Pa.s)	%D	%AD	%AAD
1	298.15	1.583526088	1	0.8989	8.9890E-04	0.000902	0.365627	0.365627	
<i>Average Error for Temp.</i>									0.4954
<i>Total Error for All Temp</i>									$\frac{k_{ij}}{l_{ij}}$ 0.902877 1.203398

CHLOROFORM (1) - 1,4-DIOXANE (2)

AH - CT

00213 Fort, R. J.; Moore, W. R.; Trans. Faraday Soc., 62, 1112-1119(1966)

P=	0.101 MPa								%AAD=
		<i>Chloroform</i>	<i>(mPa s)</i>						
298.15	1.028516254	0	1.194	1.1940E-03	0.001041	-12.7794	12.77944		
298.15	1.114955399	0.2	1.08	1.0800E-03	0.001054	-2.42114	2.421142		
298.15	1.203528092	0.4	0.981	9.8100E-04	0.000994	1.289166	1.289166		
298.15	1.294314315	0.6	0.865	8.6500E-04	0.00087	0.584026	0.584026		
298.15	1.387398093	0.8	0.703	7.0300E-04	0.000709	0.798908	0.798908		
298.15	1.482867763	1	0.504	5.0400E-04	0.00054	7.112475	7.112475		1.27331

CHLOROFORM (1) - 1,4-DIOXANE (2)

AH - CT

01528 Nigam, R. K.; Mahl, B. S.; Indian J. Chem., 9, 1255-1258(1971)

P=	0.101 MPa								
		<i>Chloroform</i>	<i>(mPa s)</i>						
293.15	1.100027389	0.152	1.199	1.1990E-03	0.001143	-4.6871	4.687102		
293.15	1.153267387	0.2726	1.129	1.1290E-03	0.00112	-0.79151	0.791506		
293.15	1.204782526	0.3876	1.063	1.0630E-03	0.001072	0.862615	0.862615		
293.15	1.229092261	0.4413	1.035	1.0350E-03	0.001042	0.651228	0.651228		
293.15	1.263182079	0.516	0.992	9.9200E-04	0.000992	-0.00499	0.00499		
293.15	1.319785487	0.6385	0.919	9.1900E-04	0.000895	-2.58573	2.585731		
293.15	1.367781191	0.7409	0.819	8.1900E-04	0.000805	-1.72735	1.727351		

[illegible]

APPENDIX B**COMPUTER CODE**

An excel spreadsheet was set up using Visual Basic to calculate the viscosity from Chung's, Grunberg-Nissan's, and Reichenberg's viscosity models. The program is simple to use and self-explanatory, with the blue text indicating the required inputs, including composition, temperature, and pressure. This program was used to generate the data found in Table 5.10 and Table 5.11, Chapter 5.

A sample of the interface is given on the next page, Figure B.1. The code for the program is also included in this Appendix.

[illegible]

Figure B.1: Interface of Viscosity Model Program

VISCOSITY CALCULATION PROGRAM CODE

Declarations

```
Public Const R = 8.3144
Public Const Gas As Boolean = True
Public Const Liquid As Boolean = False
Public Const Number_of_Components As Integer = 198
Public Acentric_Factor_vector(Number_of_Components) As Variant
Public B_Coefficients_matrix(7, 3) As Variant
Public Composition_vector(Number_of_Components) As Variant
Public E_Coefficients_matrix(10, 3) As Variant
Public first_index
Public Gas_Density As Variant
Public Gas_Pc_vector(Number_of_Components) As Variant
Public Gas_Tc_vector(Number_of_Components) As Variant
Public Gas_Thermal_Conductivity As Variant
Public Gas_Viscosity As Variant
Public Gas_ZFactor As Variant
Public Liquid_Density As Variant
Public Liquid_Pc_vector(Number_of_Components) As Variant
Public Liquid_Ref_1 As Variant
Public Liquid_Ref_2 As Variant
Public Liquid_Tc_vector(Number_of_Components) As Variant
Public Liquid_Thermal_Conductivity As Variant
Public Liquid_Viscosity As Variant
Public Liquid_Vstar_vector(Number_of_Components) As Variant
Public Mu_vector(Number_of_Components) As Variant
Public MW_vector(Number_of_Components) As Variant
Public Pressure As Variant
Public second_index
Public SRK_Acentric_Factor_vector(Number_of_Components) As Variant
Public Temperature As Variant
Public Vc_vector(Number_of_Components) As Variant
```

Initialize

Sub Initialize(Phase As Boolean)

```
Dim i, j As Integer
```

```
Pressure = Range("Pressure")
```

```
Temperature = Range("Temperature")
```

```
For i = 1 To Number_of_Components
```

```
    Acentric_Factor_vector(i) = Range("Acentric_Factor").Cells(i, 1)
```

```
    Composition_vector(i) = Range("Composition").Cells(i, 1)
```

```
    Gas_Pc_vector(i) = Range("Gas_Pc").Cells(i, 1)
```

```
    Gas_Tc_vector(i) = Range("Gas_Tc").Cells(i, 1)
```

```
    Mu_vector(i) = Range("Mu").Cells(i, 1)
```

```
    MW_vector(i) = Range("MW").Cells(i, 1)
```



```

    Vc_vector(i) = Range("Vc").Cells(i, 1)
Next i

For i = 1 To 7
    For j = 1 To 3
        B_Coefficients_matrix(i, j) = Range("B_Coefficients").Cells(i, j)
    Next j
Next i

For i = 1 To 10
    For j = 1 To 3
        E_Coefficients_matrix(i, j) = Range("E_Coefficients").Cells(i, j)
    Next j
Next i

For i = 1 To Number_of_Components
    Liquid_Pc_vector(i) = Range("Liquid_Pc").Cells(i, 1)
    Liquid_Tc_vector(i) = Range("Liquid_Tc").Cells(i, 1)
    Liquid_Vstar_vector(i) = Range("Liquid_Vstar").Cells(i, 1)
    SRK_Acentric_Factor_vector(i) = Range("SRK_Acentric_Factor").Cells(i, 1)
Next i

```

End Sub

Normalize

Sub MyNormalize()

Dim i As Integer

For i = 1 To Number_of_Components

Composition_vector(i) = Range("Composition").Cells(i, 1)

Next i

Call Normalize

End Sub

Sub Normalize()

Dim MoleSum As Variant

Dim i As Integer

MoleSum = 0#

For i = 1 To Number_of_Components

MoleSum = MoleSum + Composition_vector(i)

Next i

For i = 1 To Number_of_Components

```

    If (MoleSum > 0#) Then
        Composition_vector(i) = Composition_vector(i) / MoleSum
    End If
    Range("Composition").Cells(i, 1) = Composition_vector(i) * 1#
Next i

```

```

If (MoleSum = 0) Then
    Range("cartman").Value = 1#
End If

```

Call Sort

End Sub

Sub Sort()

```

    Dim i As Integer

```

```

    For i = 1 To Number_of_Components
        If (Range("Composition").Cells(i, 1) > 0#) Then
            first_index = i
            second_index = i
            i = Number_of_Components
        End If
    Next i

```

```

    For i = first_index + 1 To Number_of_Components
        If (Range("Composition").Cells(i, 1) > 0#) Then
            second_index = i
            i = Number_of_Components
        End If
    Next i

```

```

    Range("Liquid_Ref_1") = first_index
    Range("Liquid_Ref_2") = second_index

```

End Sub

Sub Clear()

```

    Range("Composition").ClearContents
    Range("Gas_ZFactor").ClearContents
    Range("Gas_Density").ClearContents
    Range("Gas_Viscosity").ClearContents
    Range("Liquid_Density").ClearContents
    Range("Liquid_Viscosity").ClearContents

```

End Sub

Calculate

Sub GasCalculateChung()

**Range("kenny").ClearContents
Range("cartman").ClearContents**

Call Initialize(Gas)

Call Normalize

**If (Range("cartman").Value <> 1#) Then
 If (first_index <> second_index) Then
 Call GasZFactorCalculate
 Call GasViscosityCalculate
 Else
 Range("kenny").Value = "Method is interpolative in nature, unable to calculate
pure component viscosity"
 End If
Else
 Range("kenny").Value = "Please enter non-zero compositions, and quit trying to
make my algorithm crash"
End If**

End Sub

Sub GasCalculateReich()

**Range("kenny").ClearContents
Range("cartman").ClearContents**

Call Initialize(Gas)

Call Normalize

**If (Range("cartman").Value <> 1#) Then
 If (first_index <> second_index) Then
 Call GasZFactorCalculate
 Call ReichViscosityCalculate
 Else
 Range("kenny").Value = "Method is interpolative in nature, unable to calculate
pure component viscosity"
 End If
Else
 Range("kenny").Value = "Please enter non-zero compositions, and quit trying to
make my algorithm crash"
End If**

End Sub

Sub LiquidCalculateChung()

Range("kenny").ClearContents

Range("cartman").ClearContents

Call Initialize(Liquid)

Call Normalize

If (Range("cartman").Value <> 1#) Then

If (first_index <> second_index) Then

Call LiquidDensityCalculate

Call LiquidViscosityCalculate

Else

Range("kenny").Value = "Method is interpolative in nature, unable to calculate pure component viscosity"

End If

Else

Range("kenny").Value = "Please enter non-zero compositions, and quit trying to make my algorithm crash"

End If

End Sub

Sub LiquidCalculateGrunberg()

Range("kenny").ClearContents

Range("cartman").ClearContents

Call Initialize(Liquid)

Call Normalize

If (Range("cartman").Value <> 1#) Then

If (first_index <> second_index) Then

Call LiquidDensityCalculate

Call GrunbergViscosityCalculate

Else

Range("kenny").Value = "Method is interpolative in nature, unable to calculate pure component viscosity"

End If

Else

Range("kenny").Value = "Please enter non-zero compositions, and quit trying to make my algorithm crash"

End If

End Sub

CubicRoots

Sub CubicRoots(C1 As Variant, C2 As Variant, C3 As Variant, V1 As Variant, V2 As Variant, V3 As Variant)

Dim rr, q, D, S1 As Variant

'Calculate variables used in the trigonometric solution of cubic equation

q = -(C2 / 3#) + (C1 * C1 / 9#)

rr = (((3# * C3) - (C1 * C2)) / 6#) + (C1 * C1 * C1 / 27#)

D = (q * q * q) - (rr * rr)

If (D >= 0#) Then

S1 = Application.Acos(rr / (q ^ 1.5))

V1 = -(2# * MySQRT(q) * Cos(S1 / 3#)) - (C1 / 3#)

V2 = -(2# * MySQRT(q) * Cos((S1 + 2# * Application.Pi()) / 3#)) - (C1 / 3#)

V3 = -(2# * MySQRT(q) * Cos((S1 + 4# * Application.Pi()) / 3#)) - (C1 / 3#)

Else

S1 = (MySQRT(-D) + Abs(rr)) ^ (1# / 3#)

S1 = S1 + (q / S1)

If (rr > 0#) Then

S1 = -S1

End If

V1 = S1 - C1 / 3#

V2 = V1

V3 = V1

End If

End Sub

Function MySQRT(number As Variant) As Double

MySQRT = number ^ (0.5)

End Function

ZFactor

Sub GasZFactorCalculate()

Range("Gas_Density") = GasDensityValue(1, Number_of_Components, Pressure)

Range("Gas_ZFactor") = Pressure / (R * Temperature * 1000000# *

Range("Gas_Density"))

End Sub

Function GasDensityValue(Low As Variant, High As Variant, P As Variant) As Variant

Dim A_vector(Number_of_Components), B_vector(Number_of_Components) As Variant

Dim A_mix, B_mix, Alpha, M, C1, C2, C3, V1, V2, V3, Vapour_Root As Variant

Dim i, j As Integer

'Assign cell values to matrix form

A_mix = 0#

B_mix = 0#

```

For i = Low To High
    M = 0.37464 + (1.54226 * Acentric_Factor_vector(i)) - (0.26992 *
(Acentric_Factor_vector(i) ^ 2#))
    Alpha = (1 + M * (1 - MySQRT(Temperature / Gas_Tc_vector(i)))) * (1 + M * (1 -
MySQRT(Temperature / Gas_Tc_vector(i))))
    A_vector(i) = 0.45724 * ((R * Gas_Tc_vector(i)) ^ 2#) * Alpha / Gas_Pc_vector(i)
    B_vector(i) = 0.0778 * R * Gas_Tc_vector(i) / Gas_Pc_vector(i)
Next i

'Calculate Peng Robinson coefficients based on published mixing rules
For i = Low To High
    B_mix = B_mix + B_vector(i) * Composition_vector(i)
    For j = Low To High
        A_mix = A_mix + Composition_vector(i) * Composition_vector(j) *
MySQRT(A_vector(i) * A_vector(j)) * (1# - Sheets("Kij").Range("Kij").Cells(i, j))
    Next j
Next i

'Calculate coefficients of volume explicit Peng Robinson cubic equation
C1 = B_mix - (R * Temperature / P)
C2 = (A_mix / P) - (2# * R * Temperature * B_mix / P) - (3# * B_mix * B_mix)
C3 = (B_mix * B_mix * B_mix) + (R * Temperature * B_mix * B_mix / P) - (A_mix *
B_mix / P)

'Vapour volume chosen as largest root in Peng Robinson cubic equation
Call CubicRoots(C1, C2, C3, V1, V2, V3)
Vapour_Root = Application.Max(V1, V2, V3)

GasDensityValue = 1# / (1000000# * Vapour_Root)

```

End Function

Gas

```

Dim Acentric_mix As Variant
Dim G1_mix As Variant
Dim MW_mix As Variant
Dim Mur_mix As Variant
Dim nu_mix As Variant
Dim Tc_mix As Variant
Dim Vc_mix As Variant
Dim y_mix As Variant

```

Sub GasViscosityCalculate()

```

    Range("Gas_Viscosity") = GasViscosityValue(1, Number_of_Components,
Range("Gas_Density"))

```

End Sub

Function GasViscosityValue(Low_Index As Variant, High_Index As Variant, Density As Variant) As Variant

'Chung's mixing rules and pure component viscosity

```
Dim Sigma_vector(Number_of_Components), Mu_vector(Number_of_Components),  
EoverK_vector(Number_of_Components) As Variant  
Dim MWij_matrix(Number_of_Components, Number_of_Components),  
Sigmaiij_matrix(Number_of_Components, Number_of_Components) As Variant  
Dim Acentricij_matrix(Number_of_Components, Number_of_Components),  
EoverKij_matrix(Number_of_Components, Number_of_Components) As Variant  
Dim Fc_mix, Nus_mix, Nuss_mix, Omega_mix, E_vector(10) As Variant  
Dim SigmaCubed, EoverK_mix, Tstar_mix, Mu_mix, G2_mix As Variant  
Dim i, j As Integer
```

'Assign cell values to matrix form

```
EoverK_mix = 0#  
SigmaCubed = 0#  
Acentric_mix = 0#  
Mu_mix = 0#  
MW_mix = 0#  
  
For i = Low_Index To High_Index  
    Mu_vector(i) = Range("Mu").Cells(i, 1)  
    Sigma_vector(i) = 0.809 * (Vc_vector(i) ^ (1# / 3#))  
    EoverK_vector(i) = Gas_Tc_vector(i) / 1.2593  
Next i  
  
For i = Low_Index To High_Index  
    For j = Low_Index To High_Index  
        EoverKij_matrix(i, j) = MySQRT(EoverK_vector(i) * EoverK_vector(j))  
        Sigmaiij_matrix(i, j) = MySQRT(Sigma_vector(i) * Sigma_vector(j))  
        Acentricij_matrix(i, j) = (Acentric_Factor_vector(i) + Acentric_Factor_vector(j)) /  
2#  
        MWij_matrix(i, j) = 2# * MW_vector(i) * MW_vector(j) / (MW_vector(i) +  
MW_vector(j))  
        EoverK_mix = EoverK_mix + (Composition_vector(i) * Composition_vector(j) *  
EoverKij_matrix(i, j) * (Sigmaiij_matrix(i, j) ^ 3#))  
        SigmaCubed = SigmaCubed + (Composition_vector(i) * Composition_vector(j) *  
(Sigmaiij_matrix(i, j) ^ 3#))  
    Next j  
Next i  
  
EoverK_mix = EoverK_mix / SigmaCubed  
Tstar_mix = Temperature / EoverK_mix  
Vc_mix = SigmaCubed / (0.809 ^ 3#)  
Tc_mix = 1.2593 * EoverK_mix  
  
For i = Low_Index To High_Index  
    For j = Low_Index To High_Index
```

```

    Acentric_mix = Acentric_mix + (Composition_vector(i) * Composition_vector(j) *
Acentricij_matrix(i, j) * (Sigmaij_matrix(i, j) ^ 3#))
    Mu_mix = Mu_mix + (Composition_vector(i) * Composition_vector(j) *
(Mu_vector(i) ^ 2#) * (Mu_vector(j) ^ 2#) / (Sigmaij_matrix(i, j) ^ 3#))
    Next j
Next i

```

```

Acentric_mix = Acentric_mix / SigmaCubed
Mu_mix = (SigmaCubed * Mu_mix) ^ 0.25
Mur_mix = 131.3 * Mu_mix / (MySQRT(Vc_mix * Tc_mix))
Fc_mix = 1# - (0.275 * Acentric_mix) + (0.059035 * (Mu_mix) ^ 4#)

```

```

For i = Low_Index To High_Index
    For j = Low_Index To High_Index
        MW_mix = MW_mix + (Composition_vector(i) * Composition_vector(j) *
EoverKij_matrix(i, j) * (Sigmaij_matrix(i, j) ^ 2#) * MySQRT(MWij_matrix(i, j)))
    Next j
Next i

```

```

MW_mix = (MW_mix / (EoverK_mix * (SigmaCubed ^ (2# / 3#)))) ^ 2#
Omega_mix = 1.16145 * (Tstar_mix ^ (-0.14874)) + (0.52487 * Exp(-0.7732 *
Tstar_mix)) + (2.16178 * Exp(-2.43787 * Tstar_mix))
y_mix = Density * Vc_mix / 6#

```

```

For i = 1 To 10
    E_vector(i) = E_Coefficients_matrix(i, 1) + (E_Coefficients_matrix(i, 2) *
Acentric_mix) + (E_Coefficients_matrix(i, 3) * (Mur_mix) ^ 4#)
Next i

```

```

G1_mix = (1# - (0.5 * y_mix)) / ((1# - y_mix) ^ 3#)
G2_mix = ((E_vector(1) * (1# - Exp(-E_vector(4) * y_mix)) / y_mix) + (E_vector(2) *
G1_mix * Exp(E_vector(5) * y_mix)) + (E_vector(3) * G1_mix)) / ((E_vector(1) *
E_vector(4)) + E_vector(2) + E_vector(3))
Nuss_mix = E_vector(7) * (y_mix ^ 2) * G2_mix * Exp(E_vector(8) + (E_vector(9) /
Tstar_mix) + (E_vector(10) / (Tstar_mix ^ 2#)))
Nus_mix = (MySQRT(Tstar_mix) * Fc_mix * ((1# / G1_mix) + (E_vector(6) * y_mix)) /
Omega_mix) + Nuss_mix

```

```

GasViscosityValue = Nus_mix * 36.344 * MySQRT(MW_mix * Tc_mix) / (Vc_mix ^ (2#
/ 3#))

```

End Function

Liquid

Sub LiquidDensityCalculate()

```

    Range("Liquid_Density") = LiquidDensityValue(1, Number_of_Components, Pressure,
Temperature)

```

End Sub

Function LiquidDensityValue(Low_Index As Variant, High_Index As Variant, P As Variant, T As Variant) As Variant

'Hankinson-Brost-Thompson method for liquid density

```
Dim VT_matrix(Number_of_Components, Number_of_Components) As Variant
Dim MW_mix, Tc_mix, Pc_mix, Vstar_mix, Vstar1_mix, Vstar2_mix, Vstar3_mix,
Wsrk_mix As Variant
Dim Pr_mix, Pvp_mix, PrNot_mix, PrOne_mix, Tr_mix, Alpha, Vr_mix, VrNot_mix,
Vs_mix, e_mix As Variant
Dim Beta_mix, c_mix, v_mix, rho_mix As Variant
Dim Zero As Boolean
Dim i, j As Integer
```

'Apply mixing rules from page 89-90 in Reid, Prausnitz and Poling

```
Vstar1_mix = 0#
Vstar2_mix = 0#
Vstar3_mix = 0#
MW_mix = 0#
Wsrk_mix = 0#
Tc_mix = 0#

If (Low_Index = High_Index And Composition_vector(Low_Index) = 0#) Then
    Composition_vector(Low_Index) = 1#
    Zero = True
Else
    Zero = False
End If

For i = Low_Index To High_Index
    Vstar1_mix = Vstar1_mix + (Liquid_Vstar_vector(i) ^ (1# / 3#)) *
Composition_vector(i)
    Vstar2_mix = Vstar2_mix + (Liquid_Vstar_vector(i) ^ (2# / 3#)) *
Composition_vector(i)
    Vstar3_mix = Vstar3_mix + Liquid_Vstar_vector(i) * Composition_vector(i)
    MW_mix = MW_mix + MW_vector(i) * Composition_vector(i)
    Wsrk_mix = Wsrk_mix + SRK_Acentric_Factor_vector(i) * Composition_vector(i)
    For j = Low_Index To High_Index
        VT_matrix(i, j) = MySQRT(Liquid_Tc_vector(i) * Liquid_Tc_vector(j) *
Liquid_Vstar_vector(i) * Liquid_Vstar_vector(j))
    Next j
Next i

For i = Low_Index To High_Index
    For j = Low_Index To High_Index
        Tc_mix = Tc_mix + (Composition_vector(i) * Composition_vector(j) * VT_matrix(i,
j))
    Next j
Next i
```

```

Vstar_mix = 0.25 * (Vstar3_mix + (3 * Vstar2_mix * Vstar1_mix))
Tc_mix = Tc_mix / Vstar_mix
Pc_mix = (0.291 - (0.8 * Wsrk_mix)) * R * Tc_mix / Vstar_mix
Pc_mix = Pc_mix * 1000# 'convert from kPa to Pa

```

'HBT compressed liquid correlation for a mixture from page 90 in Reid, Prausnitz and Poling

```

Tr_mix = T / Tc_mix
Alpha = 35# - (36# / Tr_mix) - (96.736 * (Log(Tr_mix) / Log(10#))) + (Tr_mix ^ 6#)
PrOne_mix = 4.86601 * (Log(Tr_mix) + (0.03721754 * Alpha))
PrNot_mix = (5.8031817 * (Log(Tr_mix) / Log(10#))) + (0.07608141 * Alpha)
Pr_mix = 10# ^ (PrNot_mix + (Wsrk_mix * PrOne_mix))
Pvp_mix = Pr_mix * Pc_mix / 101325# 'convert from Pa to atm

```

'Calculate HBT parameters using mixture properties

```

Vr_mix = (-0.296123 + (0.386914 * Tr_mix) - (0.0427258 * (Tr_mix ^ 2#)) - (0.0480645
* (Tr_mix ^ 3#))) / (Tr_mix - 1.00001)
e_mix = Exp(4.79594 + (0.250047 * Wsrk_mix) + (1.14188 * (Wsrk_mix ^ 2#)))

```

```

If (Tr_mix < 1#) Then
    VrNot_mix = 1# - (1.52816 * ((1# - Tr_mix) ^ (1# / 3#))) + (1.43907 * ((1# - Tr_mix) ^
(2# / 3#))) - (0.81446 * (1# - Tr_mix)) + (0.190454 * ((1# - Tr_mix) ^ (4# / 3#)))
    Beta_mix = (-1# - (9.070217 * ((1# - Tr_mix) ^ (1# / 3#))) + (62.45326 * ((1 - Tr_mix)
^ (2# / 3#))) - (135.1102 * (1# - Tr_mix)) + (e_mix * ((1# - Tr_mix) ^ (4# / 3#)))) * Pc_mix /
100000#

```

```

Else 'Is this OK?
    VrNot_mix = 1# + (1.52816 * ((Tr_mix - 1#) ^ (1# / 3#))) + (1.43907 * ((Tr_mix - 1#)
^ (2# / 3#))) - (0.81446 * (1# - Tr_mix)) + (0.190454 * ((Tr_mix - 1#) ^ (4# / 3#)))
    Beta_mix = (-1# + (9.070217 * ((Tr_mix - 1#) ^ (1# / 3#))) + (62.45326 * ((Tr_mix -
1#) ^ (2# / 3#))) - (135.1102 * (1# - Tr_mix)) + (e_mix * ((Tr_mix - 1#) ^ (4# / 3#)))) *
Pc_mix / 100000#
End If

```

```

Vs_mix = Vstar_mix * VrNot_mix * (1# - (Vr_mix * Wsrk_mix))
c_mix = 0.0861488 + (0.0344483 * Wsrk_mix)

```

```

v_mix = Vs_mix * (1# - (c_mix * Log((Beta_mix + (P / 100000)) / (Beta_mix +
(Pvp_mix * 1.01325))))) 'convert P from Pa to bar and Pvp_mix from atm to bar
rho_mix = MW_mix / v_mix

```

```

If (Zero = True) Then
    Composition_vector(Low_Index) = 0#
End If

```

```

LiquidDensityValue = rho_mix

```

End Function

Sub LiquidViscosityCalculate()

'Chung's dense-phase/liquid model with mixing rules of Teja and Rice (interpolation)

```
Dim Vcij_matrix(Number_of_Components, Number_of_Components),  
TcVcij_matrix(Number_of_Components, Number_of_Components) As Variant  
Dim Index(2), RefViscosity(2), eRef(2), T, FluidTemp, CompViscosity, Density As  
Variant  
Dim Acentric_mix, e_mix, MW_mix, nu_mix, Tc_mix, Vc_mix, Index_Composition As  
Variant  
Dim i, j As Integer
```

```
Acentric_mix = 0#  
MW_mix = 0#  
Tc_mix = 0#  
Vc_mix = 0#
```

```
For i = 1 To Number_of_Components  
    MW_mix = MW_mix + Composition_vector(i) * MW_vector(i)  
    Acentric_mix = Acentric_mix + Composition_vector(i) *  
SRK_Acentric_Factor_vector(i)  
Next i
```

```
For i = 1 To Number_of_Components  
    For j = 1 To Number_of_Components  
        TcVcij_matrix(i, j) = MySQRT(Liquid_Tc_vector(i) * Liquid_Tc_vector(j) *  
Vc_vector(i) * Vc_vector(j))  
        Vcij_matrix(i, j) = (((Vc_vector(i) ^ (1# / 3#)) + (Vc_vector(j) ^ (1# / 3#))) ^ 3#) / 8#  
    Next j  
Next i
```

```
For i = 1 To Number_of_Components  
    For j = 1 To Number_of_Components  
        Tc_mix = Tc_mix + Composition_vector(i) * Composition_vector(j) *  
TcVcij_matrix(i, j)  
        Vc_mix = Vc_mix + Composition_vector(i) * Composition_vector(j) * Vcij_matrix(i,  
j)  
    Next j  
Next i
```

```
Tc_mix = Tc_mix / Vc_mix  
e_mix = (Vc_mix ^ (2# / 3#)) / MySQRT(Tc_mix * MW_mix)
```

```
Index(1) = Range("Liquid_Ref_1")  
Index(2) = Range("Liquid_Ref_2")
```

```
For i = 1 To 2  
    T = Temperature * Liquid_Tc_vector(Index(i)) / Tc_mix  
    Index_Composition = Composition_vector(Index(i))  
    Composition_vector(Index(i)) = 1#
```

```

    Density = LiquidDensityValue(Index(i), Index(i), Pressure, T) / (1000# *
MW_vector(Index(i)))
    RefViscosity(i) = GasViscosityValue(Index(i), Index(i), Density)
    Composition_vector(Index(i)) = Index_Composition
    eRef(i) = (Vc_vector(Index(i)) ^ (2# / 3#)) / MySQRT(Liquid_Tc_vector(Index(i)) *
MW_vector(Index(i)))
    Next i

    nu_mix = (Acentric_mix - Acentric_Factor_vector(Index(1))) /
(Acentric_Factor_vector(Index(2)) - Acentric_Factor_vector(Index(1)))
    nu_mix = nu_mix * ((Log(RefViscosity(2) * eRef(2))) - (Log(RefViscosity(1) * eRef(1))))
    nu_mix = nu_mix + Log(RefViscosity(1) * eRef(1))
    nu_mix = Exp(nu_mix) / e_mix

    Range("Liquid_Viscosity") = nu_mix

```

End Sub

Sub GrunbergViscosityCalculate()

```

    Dim nu1, nu2, delta_i, delta_j, G12, W, Ni, Nj, Density, Index_Composition As Variant
    Dim i, j, k As Integer

    G12 = 1#
    delta_i = 0#
    delta_j = 0#

    If (Range("OH").Cells(first_index, 1) <> Range("OH").Cells(second_index, 1)) Then
        If (Range("OH").Cells(first_index, 1) > 0#) Then
            i = first_index
            j = second_index
        Else
            i = second_index
            j = first_index
        End If
    ElseIf (Range("COOH").Cells(first_index, 1) <> Range("COOH").Cells(second_index,
1)) Then
        If (Range("COOH").Cells(first_index, 1) > 0#) Then
            i = first_index
            j = second_index
        Else
            i = second_index
            j = first_index
        End If
    ElseIf (Range("Carbon").Cells(first_index, 1) <> Range("Carbon").Cells(second_index,
1)) Then
        If (Range("Carbon").Cells(first_index, 1) > 0#) Then
            i = first_index
            j = second_index
        Else
            i = second_index

```

```

    j = first_index
End If
Elseif (Range("Hydrogen").Cells(first_index, 1) <>
Range("Hydrogen").Cells(second_index, 1)) Then
    If (Range("Hydrogen").Cells(first_index, 1) > 0#) Then
        i = first_index
        j = second_index
    Else
        i = second_index
        j = first_index
    End If
Elseif (Range("groups").Cells(first_index, 1) <> Range("groups").Cells(second_index,
1)) Then
    If (Range("groups").Cells(first_index, 1) > 0#) Then
        i = first_index
        j = second_index
    Else
        i = second_index
        j = first_index
    End If
Else
    i = first_index
    j = second_index
    G12 = 0#
End If

If (G12 <> 0#) Then
    Ni = Range("Carbon").Cells(i, 1)
    Nj = Range("Carbon").Cells(j, 1)
    W = ((0.3161 * (Ni - Nj) ^ 2#) / (Ni + Nj)) - (0.1188 * (Ni - Nj))

    For k = 1 To 11
        delta_i = delta_i + (Range("groups").Cells(i, k) * Range("shapes").Cells(k, 1))
        delta_j = delta_j + (Range("groups").Cells(j, k) * Range("shapes").Cells(k, 1))
    Next k

    If (Range("MeOH").Cells(i, 1) = 1) Then
        delta_i = delta_i + 0.887
    ElseIf (Range("EtOH").Cells(i, 1) = 1) Then
        delta_i = delta_i - 0.023
    Else
        delta_i = delta_i - (Range("OH").Cells(i, 1) * 0.443)
    End If

    If (Range("MeOH").Cells(j, 1) = 1) Then
        delta_j = delta_j + 0.887
    ElseIf (Range("EtOH").Cells(j, 1) = 1) Then
        delta_j = delta_j - 0.023
    Else
        delta_j = delta_j - (Range("OH").Cells(j, 1) * 0.443)
    End If

```

```

If (Range("Cl").Cells(i, 1) <> 0) Then
    delta_i = delta_i + (Range("Cl").Cells(i, 1) * (0.653 - (0.161 *
Range("Carbon").Cells(i, 1))))
End If

```

```

If (Range("Cl").Cells(j, 1) <> 0) Then
    delta_j = delta_j + (Range("Cl").Cells(j, 1) * (0.653 - (0.161 *
Range("Carbon").Cells(j, 1))))
End If

```

```

If (Range("COOH").Cells(i, 1) <> 0) Then

```

```

    If (Range("group").Cells(j, 10) <> 0) Then
        If (Range("group").Cells(i, 1) = 1) Then
            delta_i = delta_i + 0.167
        Else
            delta_i = delta_i + 1.13
        End If
    End If
End If

```

```

    If (Range("associating").Cells(j, 1) = 0) Then
        delta_i = delta_i - 0.411 + (0.06074 * (Range("Carbon").Cells(i, 1) +
Range("Carbon").Cells(j, 1)))
    End If

```

```

End If

```

```

If (Range("COOH").Cells(j, 1) <> 0) Then

```

```

    If (Range("group").Cells(i, 10) <> 0) Then
        If (Range("group").Cells(j, 1) = 1) Then
            delta_j = delta_j + 0.167
        Else
            delta_j = delta_j + 1.13
        End If
    End If
End If

```

```

    If (Range("associating").Cells(i, 1) = 0) Then
        delta_j = delta_j - 0.411 + (0.06074 * (Range("Carbon").Cells(i, 1) +
Range("Carbon").Cells(j, 1)))
    End If

```

```

End If

```

```

G12 = delta_i - delta_j + W

```

```

If ((Range("associating").Cells(i, 1) + Range("associating").Cells(j, 1)) = 2) Then
    G12 = 1# - ((1# - G12) * (573# - Temperature) / 275#)
End If

```

```

If ((Range("alkane").Cells(i, 1) + Range("alkane").Cells(j, 1)) = 2) Then
    G12 = G12 * (1.343 - (0.685 * Composition_vector(i)))
End If

End If

Index_Composition = Composition_vector(first_index)
Composition_vector(first_index) = 1#
Density = LiquidDensityValue(first_index, first_index, Pressure, Temperature) /
(1000# * MW_vector(first_index))
nu1 = GasViscosityValue(first_index, first_index, Density)
Composition_vector(first_index) = Index_Composition

Index_Composition = Composition_vector(second_index)
Composition_vector(second_index) = 1#
Density = LiquidDensityValue(second_index, second_index, Pressure,
Temperature) / (1000# * MW_vector(second_index))
nu2 = GasViscosityValue(second_index, second_index, Density)
Composition_vector(second_index) = Index_Composition

Range("Liquid_Viscosity") = Exp(Composition_vector(first_index) * Log(nu1) +
Composition_vector(second_index) * Log(nu2) + Composition_vector(first_index) *
Composition_vector(second_index) * G12)

End Sub

Reichenberg

Sub ReichViscosityCalculate()

'Reichenburg's single fluid model for gas viscosity with associated mixing rules

    Dim astar, K1, K2, H12, U1, U2, C1, C2, nu1, nu2, Tr1, Tr2, Mur1, Mur2, Tr12, Mur12
    As Variant
    Dim i, j As Integer

    Tr1 = Gas_Tc_vector(first_index) / Temperature

    Tr2 = Gas_Tc_vector(second_index) / Temperature

    Mur1 = 52.46 * Gas_Pc_vector(first_index) * 0.00001 * (Mu_vector(first_index) /
Gas_Tc_vector(first_index)) ^ 2#

    Mur2 = 52.46 * Gas_Pc_vector(second_index) * 0.00001 * (Mu_vector(second_index)
/ Gas_Tc_vector(second_index)) ^ 2#

    astar = 0

    For i = 1 To 28
        astar = astar + Range("Shape").Cells(i, 1) * Range("Group").Cells(first_index, i)
    
```

Next i

$$\text{nu1} = \text{MySQRT}(\text{MW_vector}(\text{first_index})) * \text{Temperature} / (\text{astar} * (1\# + (4\# / \text{Gas_Tc_vector}(\text{first_index}))) * (1\# + (0.36 * \text{Tr1} * (\text{Tr1} - 1\#))) ^ (1\# / 6\#))$$

$$\text{nu1} = \text{nu1} * \text{Tr1} * (1\# + 270\# * (\text{Mur1} ^ 4\#)) / (\text{Tr1} + 270\# * (\text{Mur1} ^ 4\#))$$

astar = 0

For i = 1 To 28

astar = astar + Range("Shape").Cells(i, 1) * Range("Group").Cells(second_index, i)

Next i

$$\text{nu2} = \text{MySQRT}(\text{MW_vector}(\text{second_index})) * \text{Temperature} / (\text{astar} * (1\# + (4\# / \text{Gas_Tc_vector}(\text{second_index}))) * (1\# + (0.36 * \text{Tr2} * (\text{Tr2} - 1\#))) ^ (1\# / 6\#))$$

$$\text{nu2} = \text{nu2} * \text{Tr2} * (1\# + 270\# * (\text{Mur2} ^ 4\#)) / (\text{Tr2} + 270\# * (\text{Mur2} ^ 4\#))$$

$$\text{U1} = ((1\# + (0.36 * \text{Tr1} * (\text{Tr1} - 1\#))) ^ (1\# / 6\#)) * ((\text{Tr1} ^ 3.5) + ((10\# * \text{Mur1}) ^ 7\#)) / (\text{MySQRT}(\text{Tr1}) * (\text{Tr1} ^ 3.5) * (1\# + ((10\# * \text{Mur1}))))$$

$$\text{U2} = ((1\# + (0.36 * \text{Tr2} * (\text{Tr2} - 1\#))) ^ (1\# / 6\#)) * ((\text{Tr2} ^ 3.5) + ((10\# * \text{Mur2}) ^ 7\#)) / (\text{MySQRT}(\text{Tr2}) * (\text{Tr2} ^ 3.5) * (1\# + ((10\# * \text{Mur2}))))$$

$$\text{C1} = (\text{MW_vector}(\text{first_index}) ^ 0.25) / \text{MySQRT}(\text{nu1} * \text{U1})$$

$$\text{C2} = (\text{MW_vector}(\text{second_index}) ^ 0.25) / \text{MySQRT}(\text{nu2} * \text{U2})$$

$$\text{Tr12} = \text{Temperature} / \text{MySQRT}(\text{Gas_Tc_vector}(\text{first_index}) * \text{Gas_Tc_vector}(\text{second_index}))$$

$$\text{Mur12} = \text{MySQRT}(\text{Mur1} * \text{Mur2})$$

$$\text{H12} = \text{MySQRT}(\text{MW_vector}(\text{first_index}) * \text{MW_vector}(\text{second_index}) / 32\#) / (\text{MW_vector}(\text{first_index}) + \text{MW_vector}(\text{second_index})) ^ 1.5$$

$$\text{H12} = \text{H12} * ((1\# + (0.36 * \text{Tr12} * (\text{Tr12} - 1\#))) ^ (1\# / 6\#)) * ((\text{Tr12} ^ 3.5) + ((10\# * \text{Mur12}) ^ 7\#)) / (\text{MySQRT}(\text{Tr12}) * (\text{Tr12} ^ 3.5) * (1\# + ((10\# * \text{Mur12}))))$$

$$\text{H12} = \text{H12} * (\text{C1} + \text{C2}) ^ 2\#$$

$$\text{K1} = \text{Composition_vector}(\text{first_index}) * \text{nu1} / (\text{Composition_vector}(\text{first_index}) + \text{nu1} * (\text{Composition_vector}(\text{second_index}) * \text{H12} * (3\# + (2\# * \text{MW_vector}(\text{second_index}) / \text{MW_vector}(\text{first_index}))))$$

$$\text{K2} = \text{Composition_vector}(\text{second_index}) * \text{nu2} / (\text{Composition_vector}(\text{second_index}) + \text{nu2} * (\text{Composition_vector}(\text{first_index}) * \text{H12} * (3\# + (2\# * \text{MW_vector}(\text{first_index}) / \text{MW_vector}(\text{second_index}))))$$

$$\text{Range}(\text{"Gas_Viscosity"}) = \text{K1} * (1\# + (\text{H12} * \text{H12} * \text{K2} * \text{K2})) + \text{K2} * (1\# + (2\# * \text{H12} * \text{K1}) + (\text{H12} * \text{H12} * \text{K1} * \text{K1}))$$

End Sub