ORTJ0954

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Excess enthalpies of 72 binary liquid mixtures of methyl n-alkanoates (C4 - C16) + alkan-1-ols (C2 - C10) at 298.15 K

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Enthalpy-of-mixing measurements H^E are reported at 298.15 K for 72 binary mixtures formed by eight methyl n-alkanoates (propanoate, butanoate, pentanoate, heptanoate, nonanoate, undecanoate, tridecanoate, and pentadecanoate) with nine alkan-1-ols (ethanol through decan-1-ol). All the mixtures are endothermic with a regular increase of H^E as the chain length of the alkan-1-ol increases, except the methyl nonanoate + butan-1-ol mixture. On the contrary, H^E regulary decreases with the chain length of the methyl n-alkanoates, except for methyl butanoate + ethanol, + propan-1-ol, or + butan-1-ol. These exceptions are observed also in the variation of the molar excess volumes with the chain length of the molecules.

1. INTRODUCTION

In continuation of our systematic experimental studies on the excess molar enthalpies H^E of mixtures containing methyl n-alkanoates and n-alkanes [GONE0931], we present here measurements at 298.15 K for 72 binary mixtures formed by eight methyl n-alkanoates (propanoate, butanoate, pentanoate, heptanoate, nonanoate, undecanoate, tridecanoate, and pentadecanoate) with nine alkan-1-ols (ethanol through decan-1-ol). The purpose of this investigation is to examine the effect of the chain length of each of the two linear molecules on the properties of the mixtures.

Several workers have reported H^E data for mixtures containing methyl ethanoate + alkan-1-ols [BENM1890];[GROJ1710];[NAGI0703];[NAGI0720]; see also [SINP0830]). In the literature we have found only a few H^E data for mixtures containing higher alkanoates + alkan-1-ols, all at 298.15 K: methyl propanoate + propan-1-ol [FERJ1850], + butan-1-ol, + hexan-1-ol, or + decan-1-ol [FERJ1830], methyl butanoate + propan-1-ol [FERJ1850], + butan-1-ol, + pentan-1-ol, + hexan-1-ol, heptan-1-ol, + octan-1-ol, + nonan-1-ol, or + decan-1-ol [FERJ1851], and methyl pentanoate + butan-1-ol, + hexan-1-ol, + octan-1-ol, or + decan-1-ol [FERJ1830].

2. EXPERIMENTAL SECTION

2.1. Apparatus and Procedure

The experimental data were taken at atmospheric pressure by means of a Calvet type microcalorimeter, model MS-80D (SETARAM, Lyon, France) with a stainless steel batch mixing cell (volume ca. 8 cm^3) and with negligible vapor phase described in [ORTJ0921]. The temperature T was maintained constant to within 0.02 K at (298.15 ± 0.02) K. All temperatures are on ITS-90. The microcalorimeter was calibrated electrically after each measurement (see [ORTJ0921]). Check measurements on cyclohexane + hexane and benzene + heptadecane are in agreement to within 1 % (over central range of concentration) with the data reported in [MCGM0690] and [DIAM0742]. The estimated uncertainties in the mole fraction composition x_i and H^E are, respectively, $\sigma(x_i) = 0.0005$ and $\sigma(H^E) = 0.02\ |H^E|$ (over central range of concentration).

2.2. Materials

C_2H_6O, Ethanol (Ethyl alcohol). Fluka AG (Buchs, Switzerland) "puriss p. a." grade material of stated purity > 99.8 mole % degassed ultrasonically, dried over molecular sieves Type 3A (reference 69828, from Fluka), and used without further purification. n(D,298.15 K) = 1.3594; ρ_i(298.15 K)/kg m^{-3} = 784.94.

C_3H_8O, Propan-1-ol (Propyl alcohol). Fluka AG (Buchs, Switzerland) "puriss p. a." grade material of stated purity > 99.5 mole % purified as above. n(D,298.15 K) = 1.3833; ρ_i(298.15 K)/kg m^{-3} = 799.54.

$C_4H_8O_2$, Methyl propanoate (Methyl propionate). Fluka AG (Buchs, Switzerland) "purum" grade material of stated GLC purity > 99.0 mole %, purified as above; n(D, 293.15 K) = 1.3745; ρ_i(298.15 K)/kg m^{-3} = 909.30.

$C_4H_{10}O$, Butan-1-ol (Butyl alcohol). Fluka AG (Buchs, Switzerland) "puriss p. a." grade material of stated purity > 99.5 mole % purified as above. n(D,298.15 K) = 1.3974; ρ_i(298.15 K)/kg m^{-3} = 805.93.

$C_5H_{10}O_2$, Methyl butanoate (Methyl butyrate). Fluka AG (Buchs, Switzerland) "purum" grade material of stated GLC purity > 99.0 mole %, purified as above; n(D, 293.15 K) = 1.3849; ρ_i(298.15 K)/kg m^{-3} = 892.31.

$C_5H_{12}O$, Pentan-1-ol (Amyl alcohol). Fluka AG

(Buchs, Switzerland) "puriss p. a." grade material of stated purity > 99.0 mole % purified as above. n(D,298.15 K) = 1.4077; ρ_i(298.15 K)/kg m^{-3} = 810.40.

$C_6H_{12}O_2$, Methyl pentanoate (Methyl valerate). Fluka AG (Buchs, Switzerland) "purum" grade material of stated GLC purity > 99.0 mole %, purified as above; n(D, 293.15 K) = 1.3947; ρ_i(298.15 K)/kg m^{-3} = 884.52.

$C_6H_{14}O$, Hexan-1-ol (Hexyl alcohol). Fluka AG (Buchs, Switzerland) "puriss" grade material of stated purity > 99.0 mole % purified as above. n(D,298.15 K) = 1.4160; ρ_i(298.15 K)/kg m^{-3} = 815.26.

$C_7H_{16}O$, Heptan-1-ol (Heptyl alcohol). Fluka AG (Buchs, Switzerland) "puriss p. a." grade material of stated purity > 99.5 mole % purified as above. n(D,298.15 K) = 1.4223; ρ_i(298.15 K)/kg m^{-3} = 818.71.

$C_8H_{16}O_2$, Methyl heptanoate (Methyl enanthate). Fluka AG (Buchs, Switzerland) "puriss" grade material of stated GLC purity > 99.0 mole %, purified as above; n(D, 293.15 K) = 1.4095; ρ_i(298.15 K)/kg m^{-3} = 875.40.

$C_8H_{18}O$, Octan-1-ol (Octyl alcohol). Fluka AG (Buchs, Switzerland) "puriss p. a." grade material of stated purity > 99.5 mole % purified as above. n(D,298.15 K) = 1.4270; ρ_i(298.15 K)/kg m^{-3} = 821.67.

$C_9H_{20}O$, Nonan-1-ol (Nonyl alcohol). Fluka AG (Buchs, Switzerland) "purum" grade material of stated purity > 98.0 mole % purified as above. n(D,298.15 K) = 1.4315; ρ_i(298.15 K)/kg m^{-3} = 824.78.

$C_{10}H_{20}O_2$, Methyl nonanoate (Methyl pelargonate). Fluka AG (Buchs, Switzerland) "puriss" grade material of stated GLC purity > 99.0 mole %, purified as above; n(D, 293.15 K) = 1.4208; ρ_i(298.15 K)/kg m^{-3} = 870.11.

$C_{10}H_{22}O$, Decan-1-ol (Decyl alcohol). Fluka AG (Buchs, Switzerland) "puriss" grade material of stated purity > 99.0 mole % purified as above. n(D,298.15 K) = 1.4349; ρ_i(298.15 K)/kg m^{-3} = 826.42.

$C_{12}H_{24}O_2$, Methyl undecanoate. Fluka AG (Buchs, Switzerland) "puriss" grade material of stated GLC purity > 98.0 mole %, purified as above; n(D, 293.15 K) = 1.4270; ρ_i(298.15 K)/kg m^{-3} = 866.75.

$C_{14}H_{28}O_2$, Methyl tridecanoate. Fluka AG (Buchs, Switzerland) "puriss" grade material of stated GLC purity > 98.0 mole %, purified as above; n(D, 293.15 K) = 1.4329; ρ_i(298.15 K)/kg m^{-3} = 863.94.

$C_{16}H_{32}O_2$, Methyl pentadecanoate. Fluka AG (Buchs, Switzerland) 'puriss' grade material of stated GLC purity > 99.0 mole %, purified as above; n(D, 293.15 K) = 1.4370; ρ_i(298.15 K)/kg m^{-3} = 862.35.

3. RESULTS

The direct experimental H^E values of 48 systems (the alkanoates + ethanol, + propan-1-ol, + butan-1-ol, + hexan-1-ol, + octan-1-ol, and + decan-1-ol), are tabulated and graphed in the Appendix and all are saved on disk as Standard ELDATA Files **ORTJ0954.001** through **ORTJ0954.072.**

The data were fitted to Eq. (1):

$$H^E_{calc}/\text{J mol}^{-1} = x_1x_2\Sigma A_i[x_1/(x_1 + kx_2)]^{i-1} \quad (1)$$

all points weighted equally. With an adjusted coefficient k and n = 4 coefficients A_i the standard deviations $\sigma(H^E)$, defined by Eq.(2):

$$\sigma(H^E) = [\Sigma(H^E_{calc} - H^E)^2/(N-n)]^{1/2} \quad (2)$$

where N is the number of experimental values, are less than 10 J mol^{-1} (ca. 0.4 % at x_1 = 0.5).

4. DISCUSSION AND CONCLUSIONS

All the mixtures are endothermic with a regular increase of H^E as the chain length of the alkan-1-ol increases, except the methyl nonanoate + butan-1-ol mixture. On the contrary, H^E regulary decreases with the chain length of the methyl n-alkanoates, except for methyl butanoate + ethanol, + propan-1-ol, and + butan-1-ol. These exceptions are observed also in the variation of the molar excess volumes with the chain length of the molecules.

Our measurements are in rather poor agreement with the data reported by Fernandez et al. At equimolar composition our data are in general up to 5% higher than in [FERJ1830]. The mean deviations for all points range from 9 to 15 % compared to [FERJ1850] and [FERJ1851].

REFERENCES

[BENM1890] – Bender, M.; Heintz, A. Excess enthalpies of binary mixtures of methyl acetate with methanol, butan-1-ol, hexan-1-ol, and decan-1-ol. *Thermochim. Acta* **1989,** *151,* 219-224.

[DIAM0742] – Diaz Pena, M.; Menduina, C. Excess enthalpies at 298.15 K of binary mixtures of benzene with n-alkanes. *J. Chem. Thermodyn.* **1974,** *6,* 387-393.

[FERJ1830] – Fernandez, J.; Paz Andrade, M. I.; Sarmiento, F.; Bravo, R. Excess enthalpies of (methyl propanoate or methyl pentanoate + 1-alkanol) at 298.15 K. *J. Chem. Thermodyn.* **1983,** *15,* 1145-1149.

[FERJ1850] – Fernandez, J.; Berro, C.; Paz Andrade, M. I. Excess thermodynamic functions of 1-propanol + methyl propanoate and 1-propanol + methyl butanoate systems. *Fluid Phase Equilib.* **1985,** *20,* 145-153.

[FERJ1851] – Fernandez, J.; Pintos, M.; Baluja, M. C.; Jimenez, E.; Paz Andrade, M. I. Excess enthalpies of some ester + alcohol binary mixtures. *J. Chem. Eng. Data* **1985,** *30,* 318-320.

[GONE0931] – Gonzalez, E.; Ortega, J. Thermodynamic properties of (a methyl ester + an n-alkane). IV. HmE and VmE for {xCH3(CH2)u-1CO2CH3 (u = 1 to 6) + (1 - x)CH3(CH2)10CH3}. *J. Chem. Thermodyn.* **1993,** *25,* 801-806.

[GROJ1710] – Grolier, J.-P.; Viallard, A. Etude thermodynamique des interactions moleculaires ester-alcool. I. Grandeurs de melange des systemes binaires: acetate d'ethyle et acetate de methyle avec differents alcools. *J. Chim. Phys. Phys.-Chim. Biol.* **1971,** *68,* 1442-1448.

[MCGM0690] – McGlashan, M. L.; Stoeckli, H. F. A flow calorimeter for enthalpies of mixing. The enthalpy of mixing of n-hexane + cyclohexane at 298.15 K. *J. Chem. Thermodyn.* **1969,** *1,* 589-594.

[NAGI0703] – Nagata, I.; Tago, O.; Takahashi, T. Heats of mixing for binary methyl ethyl ketone - methyl acetate - alcohol systems [Jpn]. *Kagaku Kogaku* **1970,** *34,* 1107-1112.

[NAGI0720] – Nagata, I.; Ohta, T.; Takahashi, T. Excess thermodynamic functions of methyl acetate-methanol and methyl acetate-ethanol systems. *J. Chem. Eng. Jpn.* **1972,** *5,* 227-231.

[ORTJ0921] – Ortega, J.; Gonzalez, E.; Matos, J. S.; Legido, J. L. Thermodynamic properties of a (methyl ester + an n-alkane). I. HmE and VmE for {xCH3(CH2)u-1CO2CH3 (u = 1 to 6) + (1 - x)CH3(CH2)6CH3}. *J. Chem. Thermodyn.* **1992,** *24,* 15-22.

[SINP0830] – Singh, P. P. Topological aspects of the effect of temperature and pressure on the thermodynamics of binary mixtures of non-electrolytes. *Thermochim. Acta* **1983,** *66,* 37-73.

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ORTJ0954.001

Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: 1. C_2H_6O, Ethanol
2. $C_4H_8O_2$, Methyl propanoate

[P1] = .298150E+03

[X1]	[Y1]
.963000E−01	.479400E+03
.190600E+00	.805600E+03
.280000E+00	.102540E+04
.358400E+00	.115440E+04
.431300E+00	.123000E+04
.497200E+00	.124650E+04
.553900E+00	.122440E+04
.603000E+00	.117920E+04
.644700E+00	.112220E+04
.689800E+00	.105430E+04
.734800E+00	.954700E+03
.780200E+00	.851500E+03
.828800E+00	.704500E+03
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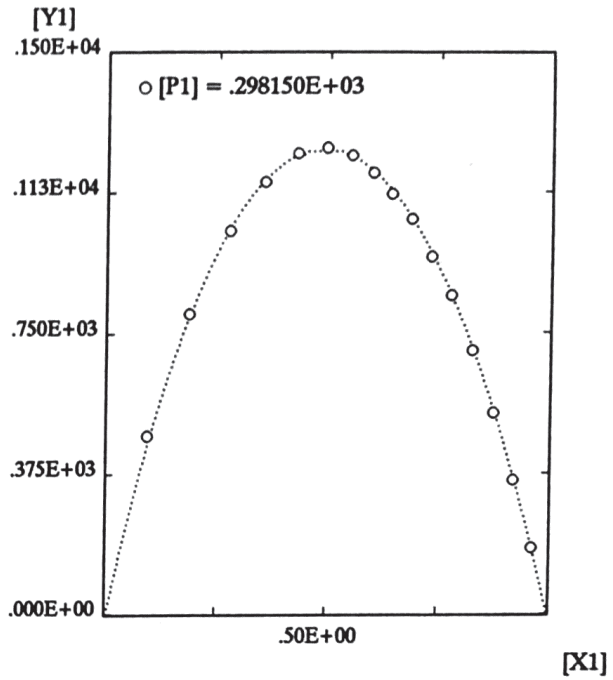

ORTJ0954.010

Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: 1. C_2H_6O, Ethanol
2. $C_5H_{10}O_2$, Methyl butanoate

[P1] = .298150E+03

[X1]	[Y1]
.105900E+00	.491700E+03
.211600E+00	.827900E+03
.307000E+00	.104940E+04
.393300E+00	.116850E+04
.467700E+00	.120450E+04
.552900E+00	.118520E+04
.603400E+00	.113040E+04
.647800E+00	.106790E+04
.683700E+00	.997300E+03
.725800E+00	.904400E+03
.768100E+00	.804400E+03
.811900E+00	.688100E+03
.854500E+00	.560300E+03
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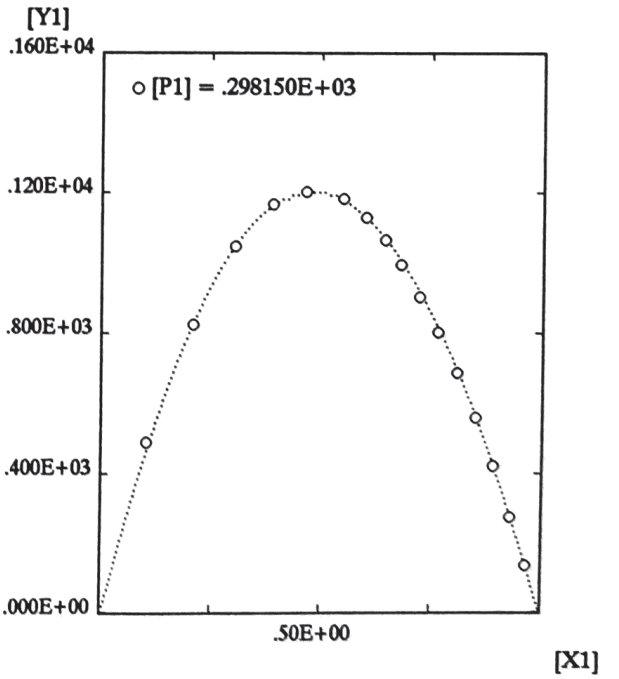

Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.019**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. C_2H_6O, Ethanol**
2. $C_6H_{12}O_2$, Methyl pentanoate

[P1] = .298150E+03

[X1]	[Y1]
.121400E+00	.591900E+03
.237500E+00	.930600E+03
.341100E+00	.115760E+04
.432100E+00	.124990E+04
.509300E+00	.125520E+04
.573600E+00	.121190E+04
.627700E+00	.114570E+04
.670600E+00	.106620E+04
.706400E+00	.990000E+03
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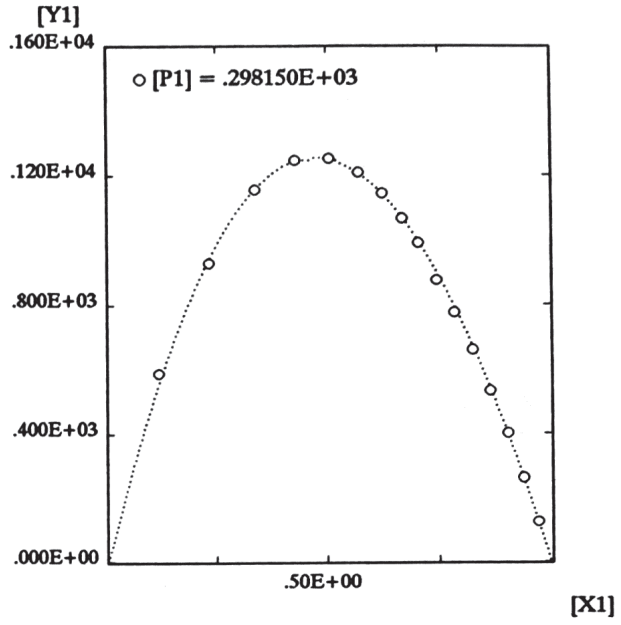

Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.028**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. C_2H_6O, Ethanol**
2. $C_8H_{16}O_2$, Methyl heptanoate

[P1] = .298150E+03

[X1]	[Y1]
.144700E+00	.713200E+03
.276800E+00	.110460E+04
.367700E+00	.129390E+04
.444400E+00	.135260E+04
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.711100E+00	.106850E+04
.747700E+00	.958000E+03
.782500E+00	.856200E+03
.817600E+00	.752700E+03
.850700E+00	.643300E+03
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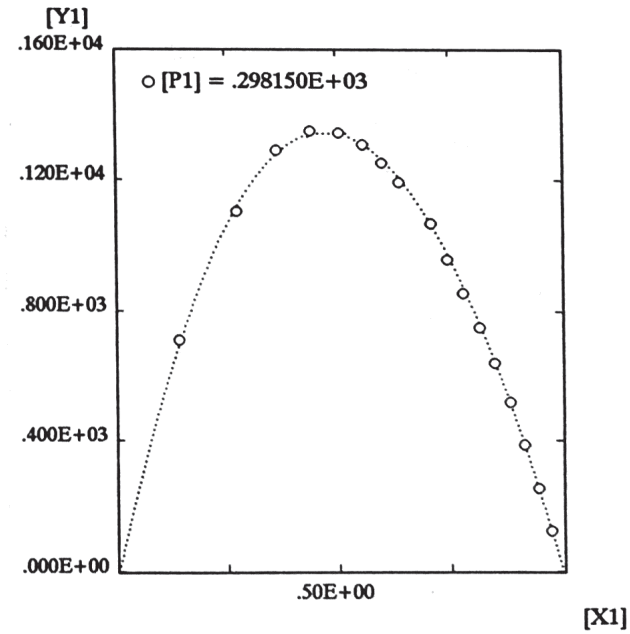

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Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. C_2H_6O, Ethanol**
2. $C_{10}H_{20}O_2$, Methyl nonanoate

[P1] = .298150E+03

[X1]	[Y1]
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.272000E+00	.121530E+04
.372800E+00	.138970E+04
.453100E+00	.143820E+04
.517500E+00	.142180E+04
.573400E+00	.137790E+04
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.654300E+00	.124590E+04
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.753200E+00	.995300E+03
.785100E+00	.901400E+03
.816900E+00	.792800E+03
.847600E+00	.695500E+03
.877900E+00	.586800E+03
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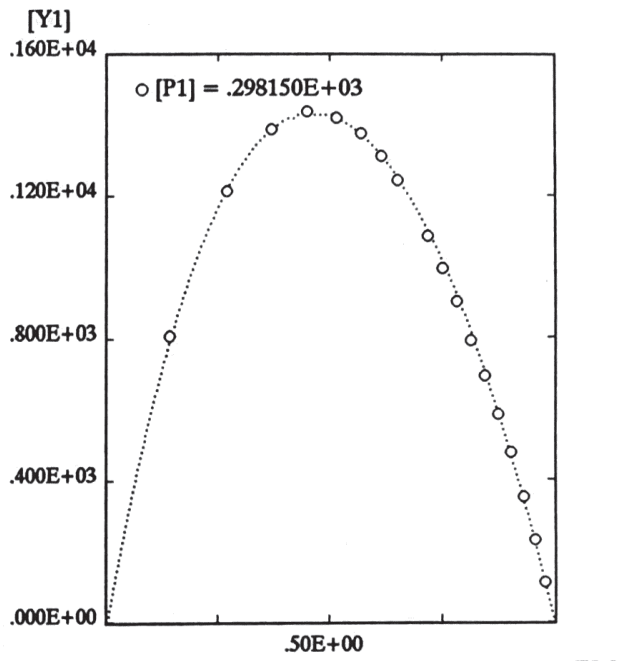

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Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. C_2H_6O, Ethanol**
2. $C_{12}H_{24}O_2$, Methyl undecanoate

[P1] = .298150E+03

[X1]	[Y1]
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.351400E+00	.138450E+04
.439000E+00	.148220E+04
.473400E+00	.150290E+04
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.564200E+00	.147640E+04
.637600E+00	.139160E+04
.667800E+00	.131720E+04
.705300E+00	.121980E+04
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.757400E+00	.106240E+04
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.815400E+00	.861300E+03
.844000E+00	.747600E+03
.871700E+00	.645900E+03
.897800E+00	.540900E+03
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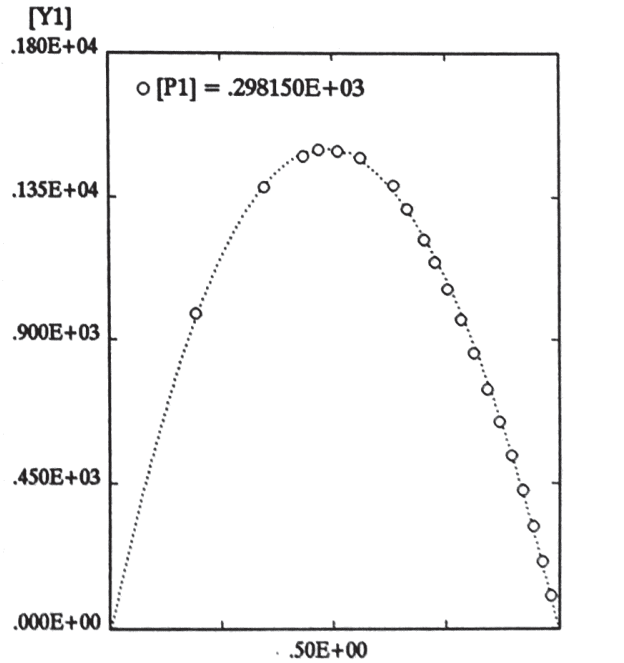

Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.055**
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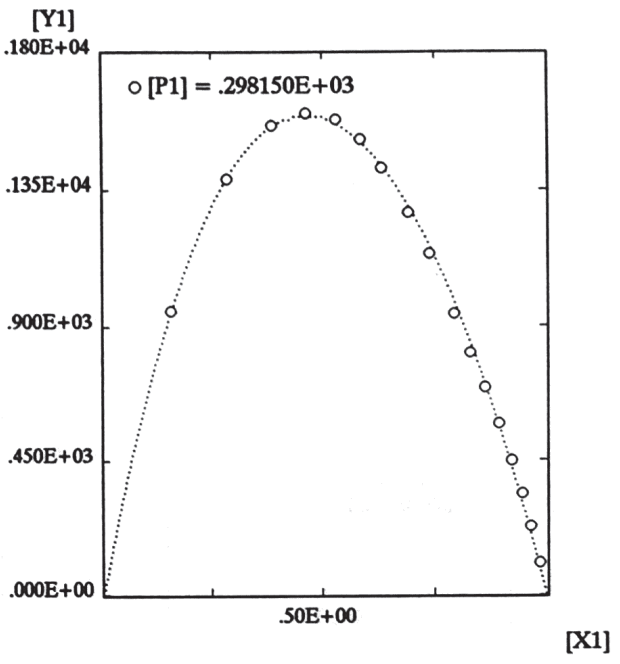
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. C_2H_6O, Ethanol**
2. $C_{14}H_{28}O_2$, Methyl tridecanoate

[P1] = .298150E+03

[X1]	[Y1]
.160900E+00	.955900E+03
.287600E+00	.138610E+04
.389100E+00	.156330E+04
.467000E+00	.160210E+04
.534200E+00	.158290E+04
.587800E+00	.151760E+04
.634800E+00	.142360E+04
.695200E+00	.127630E+04
.740700E+00	.114240E+04
.795700E+00	.943000E+03
.832000E+00	.813300E+03
.864700E+00	.697400E+03
.896400E+00	.575800E+03
.924700E+00	.451600E+03
.947100E+00	.340600E+03
.966400E+00	.230800E+03
.986400E+00	.108700E+03

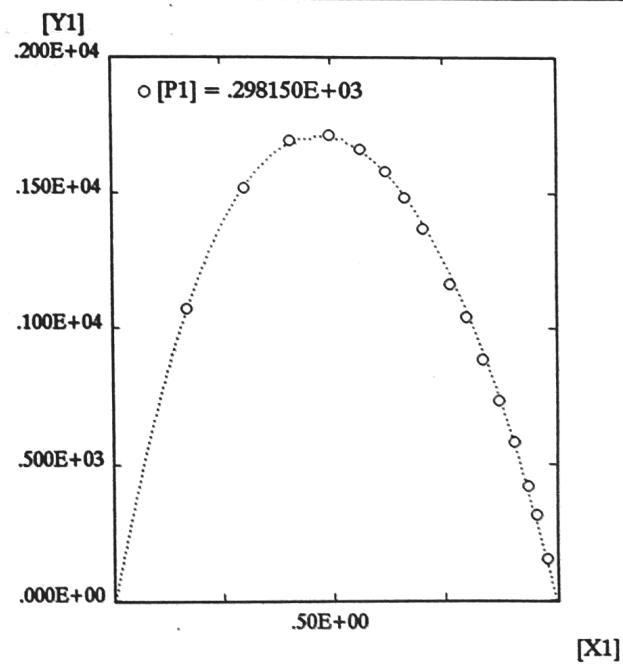


Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.064**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. C_2H_6O, Ethanol**
2. $C_{16}H_{32}O_2$, Methyl pentadecanoate

[P1] = .298150E+03

[X1]	[Y1]
.172900E+00	.107430E+04
.305400E+00	.152230E+04
.410100E+00	.169910E+04
.498800E+00	.171790E+04
.567200E+00	.166500E+04
.624300E+00	.158440E+04
.666600E+00	.148660E+04
.706900E+00	.137130E+04
.766300E+00	.116630E+04
.801960E+00	.104690E+04
.838600E+00	.888500E+03
.874200E+00	.737100E+03
.909100E+00	.582700E+03
.940600E+00	.421300E+03
.957900E+00	.315900E+03
.981700E+00	.153500E+03



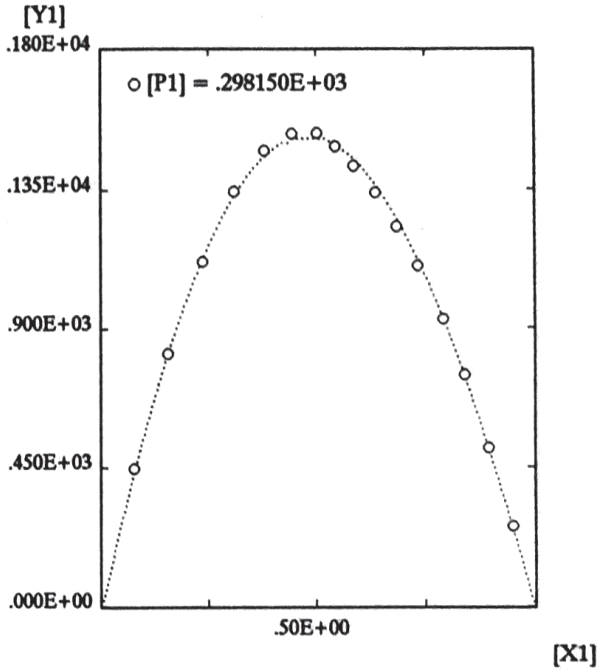
ORTJ0954.002

Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. C_3H_8O, Propan-1-ol**
2. $C_4H_8O_2$, Methyl propanoate

[P1] = .298150E+03

[X1]	[Y1]
.783000E−01	.449400E+03
.159300E+00	.821700E+03
.239400E+00	.112030E+04
.313800E+00	.134550E+04
.384100E+00	.147760E+04
.447600E+00	.153120E+04
.505500E+00	.153400E+04
.547700E+00	.149020E+04
.590100E+00	.142780E+04
.640400E+00	.134210E+04
.687900E+00	.123120E+04
.737400E+00	.110390E+04
.794400E+00	.930900E+03
.842400E+00	.751400E+03
.898400E+00	.513000E+03
.952600E+00	.260300E+03



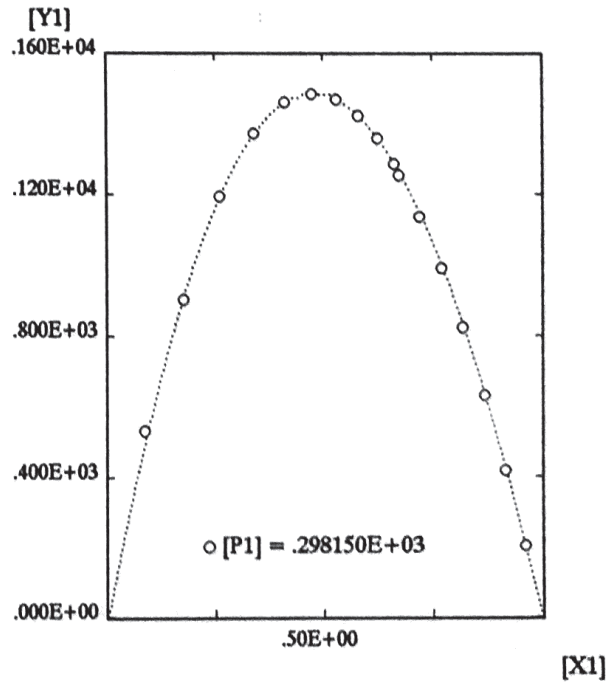
ORTJ0954.011

Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. C_3H_8O, Propan-1-ol**
2. $C_5H_{10}O_2$, Methyl butanoate

[P1] = .298150E+03

[X1]	[Y1]
.877000E−01	.534100E+03
.178300E+00	.904400E+03
.263800E+00	.119630E+04
.342600E+00	.137480E+04
.414500E+00	.146340E+04
.477500E+00	.148720E+04
.534300E+00	.147110E+04
.583900E+00	.142410E+04
.626800E+00	.136070E+04
.664300E+00	.128880E+04
.675900E+00	.125790E+04
.723000E+00	.113930E+04
.772300E+00	.992800E+03
.821300E+00	.825400E+03
.870400E+00	.632800E+03
.918600E+00	.418200E+03
.963600E+00	.202700E+03

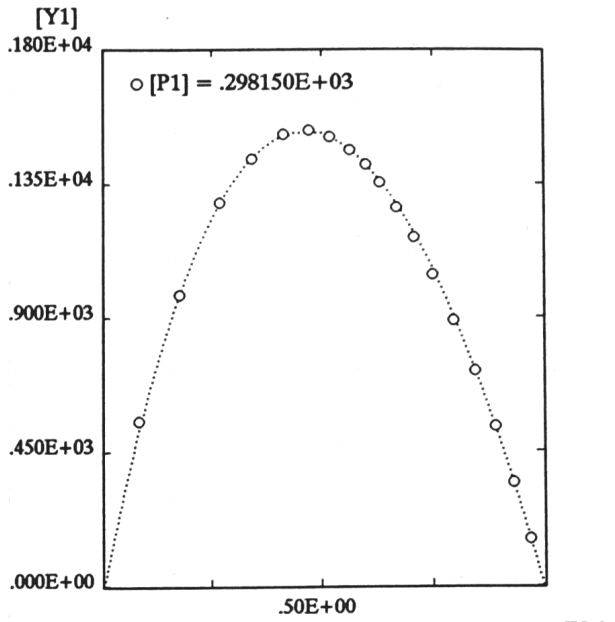


Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.020**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. C_3H_8O, Propan-1-ol**
2. $C_6H_{12}O_2$, Methyl pentanoate

[P1] = .298150E+03

[X1]	[Y1]
.850000E−01	.555100E+03
.179100E+00	.977600E+03
.271500E+00	.128760E+04
.345100E+00	.143760E+04
.416000E+00	.151920E+04
.474000E+00	.153270E+04
.521300E+00	.151180E+04
.566000E+00	.146530E+04
.603100E+00	.141610E+04
.633700E+00	.135470E+04
.671500E+00	.126910E+04
.709600E+00	.116970E+04
.751800E+00	.104230E+04
.799600E+00	.890800E+03
.847100E+00	.720000E+03
.892600E+00	.533500E+03
.934000E+00	.348600E+03
.971300E+00	.160900E+03

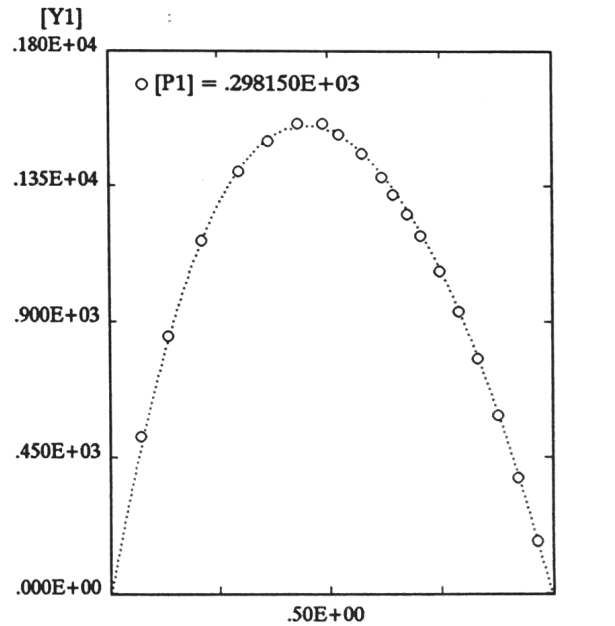


Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.029**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. C_3H_8O, Propan-1-ol**
2. $C_8H_{16}O_2$, Methyl heptanoate

[P1] = .298150E+03

[X1]	[Y1]
.731000E−01	.521200E+03
.136300E+00	.853000E+03
.214600E+00	.116950E+04
.300900E+00	.140170E+04
.367900E+00	.150170E+04
.435800E+00	.156070E+04
.491100E+00	.156040E+04
.528100E+00	.152450E+04
.578500E+00	.146150E+04
.622000E+00	.138290E+04
.647500E+00	.132440E+04
.678900E+00	.125860E+04
.709200E+00	.118710E+04
.751000E+00	.107060E+04
.793100E+00	.936100E+03
.834900E+00	.782900E+03
.881000E+00	.593400E+03
.926498E+00	.383400E+03
.968900E+00	.174500E+03

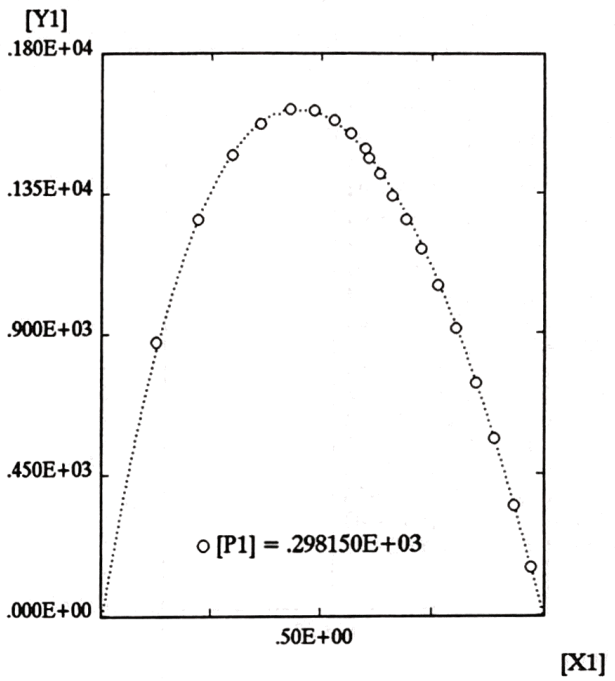


Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.038**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. C_3H_8O, Propan-1-ol**
2. $C_{10}H_{20}O_2$, Methyl nonanoate

[P1] = .298150E+03

[X1]	[Y1]
.126700E+00	.875800E+03
.223300E+00	.126870E+04
.301000E+00	.147710E+04
.364500E+00	.157750E+04
.432200E+00	.162510E+04
.487200E+00	.162050E+04
.532000E+00	.158940E+04
.569800E+00	.154690E+04
.601900E+00	.149810E+04
.609400E+00	.146540E+04
.635400E+00	.141470E+04
.663700E+00	.134110E+04
.694000E+00	.126460E+04
.728900E+00	.117070E+04
.766100E+00	.105350E+04
.806500E+00	.916400E+03
.852100E+00	.742100E+03
.892400E+00	.564600E+03
.936600E+00	.351700E+03
.973900E+00	.155700E+03



Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.047**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. C_3H_8O, Propan-1-ol**
2. $C_{12}H_{24}O_2$, Methyl undecanoate

[P1] = .298150E+03

[X1]	[Y1]
.141800E+00	.949200E+03
.247500E+00	.137150E+04
.324300E+00	.155640E+04
.393600E+00	.164560E+04
.447600E+00	.166880E+04
.493600E+00	.166310E+04
.532500E+00	.163710E+04
.565900E+00	.160140E+04
.599800E+00	.152130E+04
.635800E+00	.143790E+04
.664200E+00	.137570E+04
.734500E+00	.118540E+04
.794400E+00	.101070E+04
.823900E+00	.902800E+03
.863400E+00	.740100E+03
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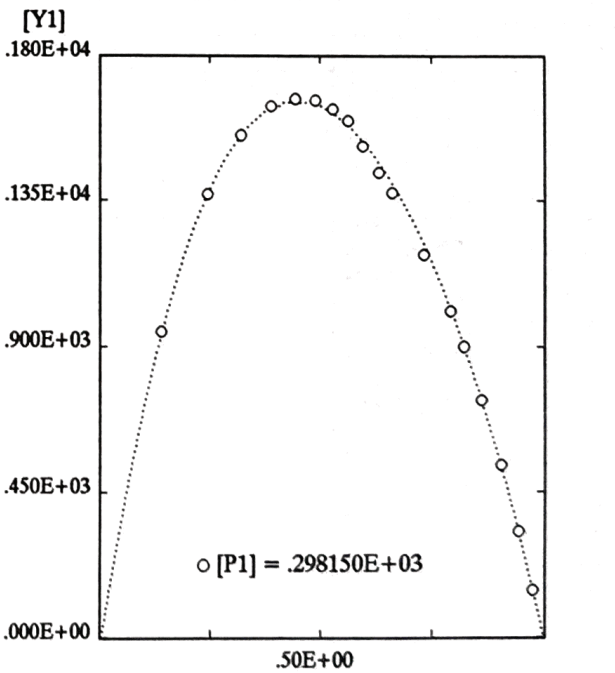
.946400E+00	.330100E+03
.977600E+00	.147500E+03



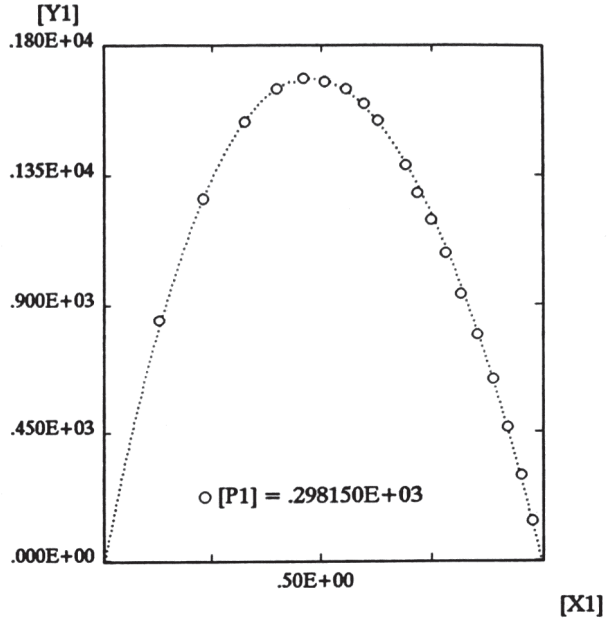
ORTJ0954.056

Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. C_3H_8O, Propan-1-ol**
2. $C_{14}H_{28}O_2$, Methyl tridecanoate

[P1] = .298150E+03

[X1]	[Y1]
.130700E+00	.848300E+03
.231600E+00	.127310E+04
.326800E+00	.153720E+04
.400800E+00	.165350E+04
.461200E+00	.168780E+04
.509900E+00	.167710E+04
.558400E+00	.165320E+04
.598500E+00	.160190E+04
.630900E+00	.154300E+04
.693000E+00	.138630E+04
.720100E+00	.129120E+04
.751400E+00	.119910E+04
.783000E+00	.108270E+04
.817200E+00	.938500E+03
.855600E+00	.795200E+03
.891300E+00	.637700E+03
.924600E+00	.469700E+03
.954700E+00	.300000E+03
.980300E+00	.139700E+03



ORTJ0954.065

Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. C_3H_8O, Propan-1-ol**
2. $C_{16}H_{32}O_2$, Methyl pentadecanoate

[P1] = .298150E+03

[X1]	[Y1]
.747000E−01	.563400E+03
.155100E+00	.101630E+04
.289700E+00	.154190E+04
.403300E+00	.178360E+04
.486400E+00	.182490E+04
.530300E+00	.178790E+04
.566600E+00	.174840E+04
.600600E+00	.168560E+04
.632700E+00	.163320E+04
.657700E+00	.156920E+04
.698700E+00	.145930E+04
.735300E+00	.132700E+04
.762600E+00	.122810E+04
.789300E+00	.112090E+04
.817900E+00	.101740E+04
.848400E+00	.892600E+03
.881600E+00	.741100E+03
.912200E+00	.581300E+03
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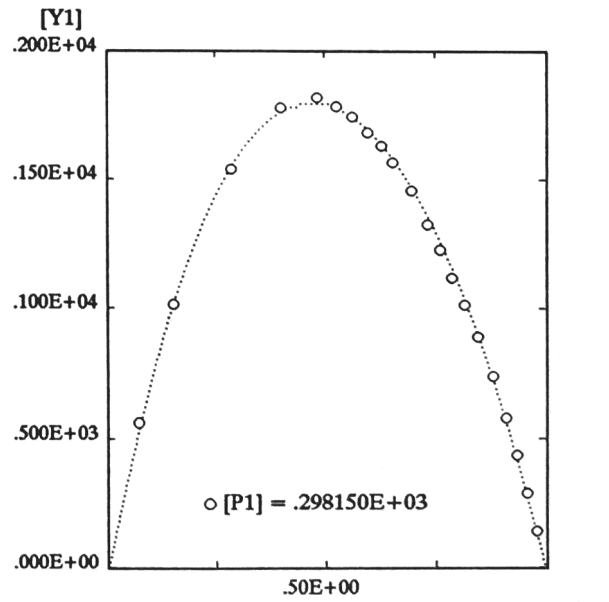
.981300E+00	.144600E+03



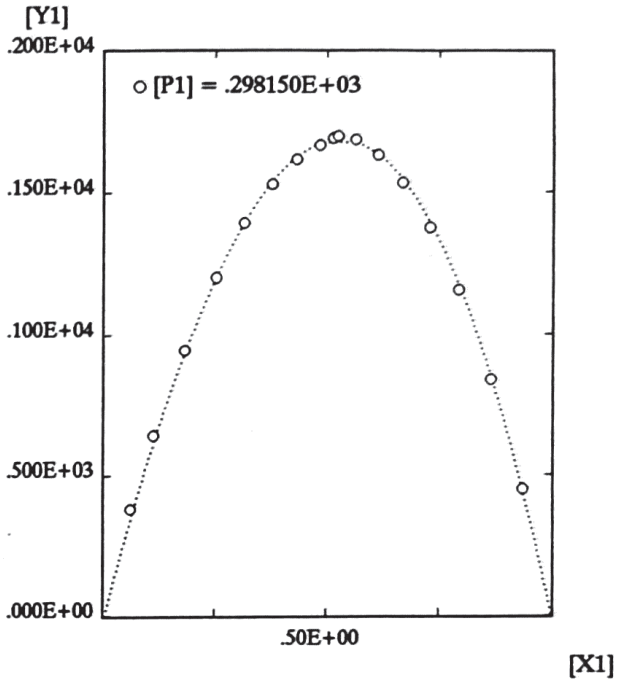
ORTJ0954.003

Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. $C_4H_8O_2$, Methyl propanoate**
2. $C_4H_{10}O$, Butan-1-ol

[P1] = .298150E+03

[X1]	[Y1]
.626000E−01	.382900E+03
.115400E+00	.644700E+03
.185200E+00	.947600E+03
.254800E+00	.120500E+04
.318700E+00	.139500E+04
.380600E+00	.153240E+04
.435500E+00	.161840E+04
.486300E+00	.166760E+04
.516400E+00	.169470E+04
.526800E+00	.170140E+04
.566800E+00	.168760E+04
.616100E+00	.163290E+04
.671200E+00	.153660E+04
.732100E+00	.137840E+04
.796500E+00	.116100E+04
.867500E+00	.840000E+03
.937500E+00	.450600E+03



ORTJ0954.005

Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. $C_4H_8O_2$, Methyl propanoate**
2. $C_6H_{14}O$, Hexan-1-ol

[P1] = .298150E+03

[X1]	[Y1]
.802000E−01	.523100E+03
.162300E+00	.953000E+03
.239900E+00	.130290E+04
.318200E+00	.157800E+04
.389600E+00	.175930E+04
.453000E+00	.186330E+04
.510300E+00	.191210E+04
.584000E+00	.188490E+04
.632900E+00	.183190E+04
.683100E+00	.174960E+04
.734500E+00	.160140E+04
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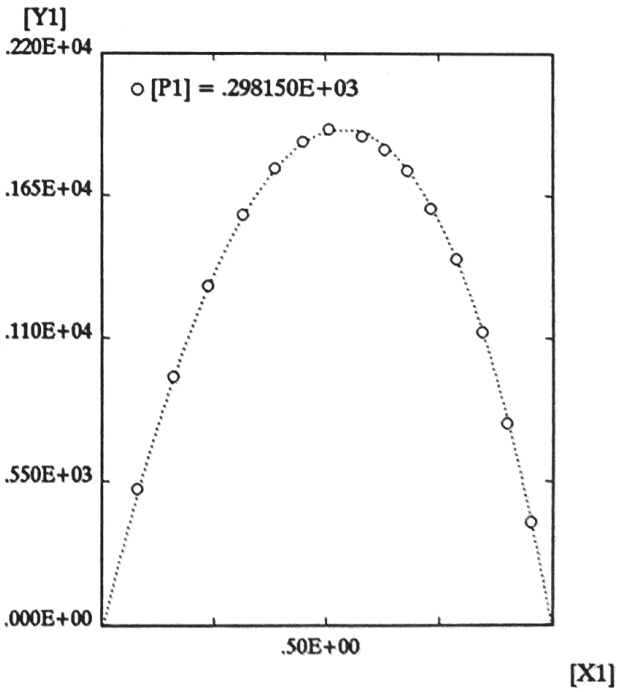
.902800E+00	.775200E+03
.955300E+00	.398400E+03



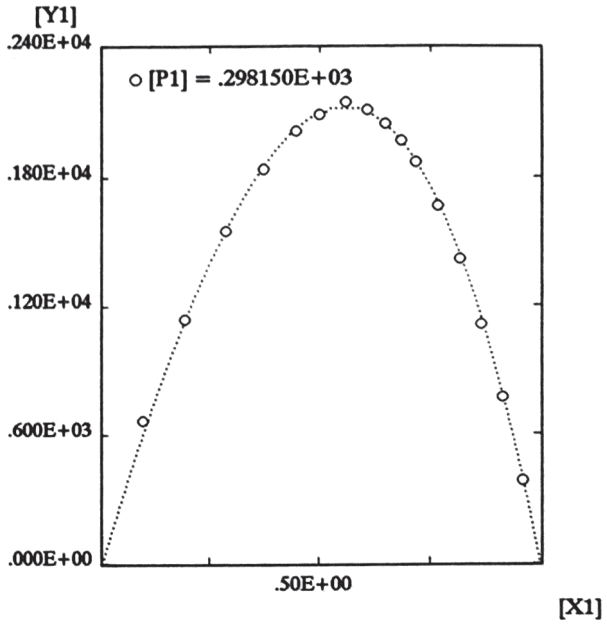
ORTJ0954.007

Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. $C_4H_8O_2$, Methyl propanoate**
2. $C_8H_{18}O$, Octan-1-ol

[P1] = .298150E+03

[X1]	[Y1]
.997000E−01	.671600E+03
.196000E+00	.114150E+04
.289400E+00	.155400E+04
.376100E+00	.183980E+04
.449400E+00	.201340E+04
.502900E+00	.208940E+04
.561300E+00	.214740E+04
.610600E+00	.211090E+04
.651000E+00	.204830E+04
.687100E+00	.196800E+04
.719100E+00	.186950E+04
.769100E+00	.167010E+04
.819400E+00	.142040E+04
.868100E+00	.111540E+04
.916100E+00	.775200E+03
.961100E+00	.385600E+03



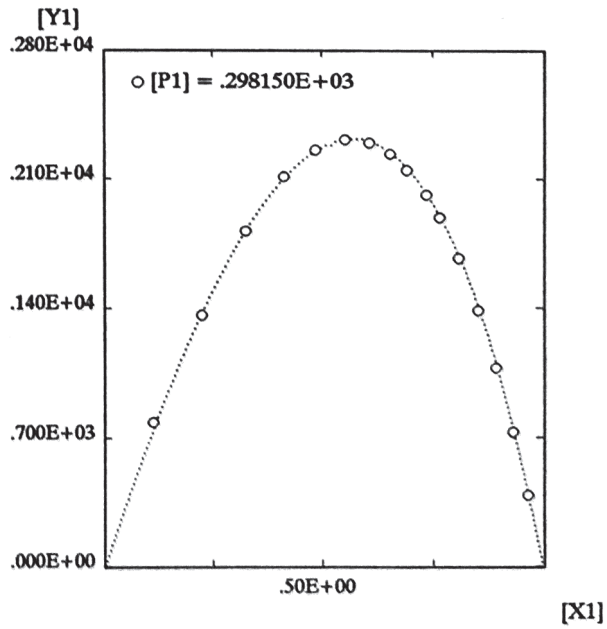
ORTJ0954.009

Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. $C_4H_8O_2$, Methyl propanoate**
2. $C_{10}H_{22}O$, Decan-1-ol

[P1] = .298150E+03

[X1]	[Y1]
.114500E+00	.790300E+03
.226900E+00	.136620E+04
.328400E+00	.182200E+04
.416900E+00	.211590E+04
.488400E+00	.225790E+04
.554700E+00	.231470E+04
.610000E+00	.229890E+04
.657100E+00	.223990E+04
.695100E+00	.215190E+04
.738100E+00	.201870E+04
.767200E+00	.189500E+04
.809800E+00	.167560E+04
.853600E+00	.139240E+04
.894800E+00	.108130E+04
.933600E+00	.733900E+03
.968600E+00	.385100E+03

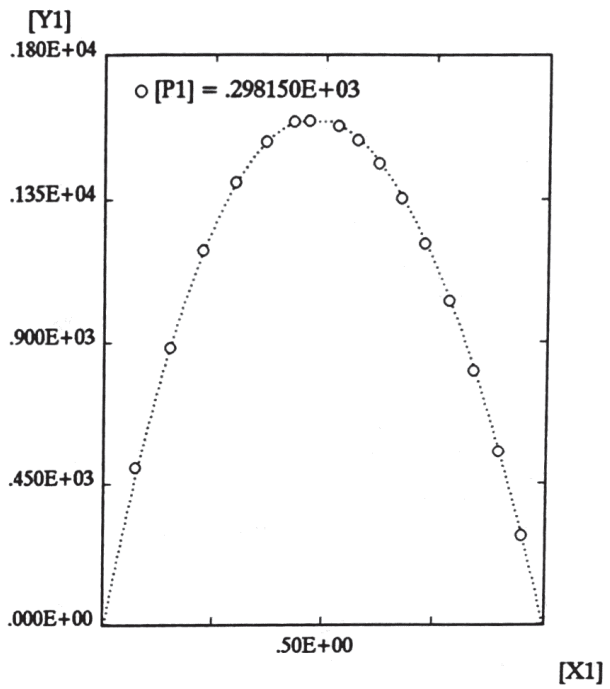


Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.012**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. $C_4H_{10}O$, Butan-1-ol**
2. $C_5H_{10}O_2$, Methyl butanoate

[P1] = .298150E+03

[X1]	[Y1]
.735000E−01	.504500E+03
.151700E+00	.884500E+03
.226300E+00	.119260E+04
.299200E+00	.140460E+04
.367700E+00	.153180E+04
.430100E+00	.159390E+04
.464500E+00	.159590E+04
.530500E+00	.158030E+04
.575000E+00	.153520E+04
.622800E+00	.146340E+04
.674000E+00	.135660E+04
.727800E+00	.121330E+04
.783900E+00	.103130E+04
.840200E+00	.812100E+03
.897000E+00	.553600E+03
.951300E+00	.284000E+03

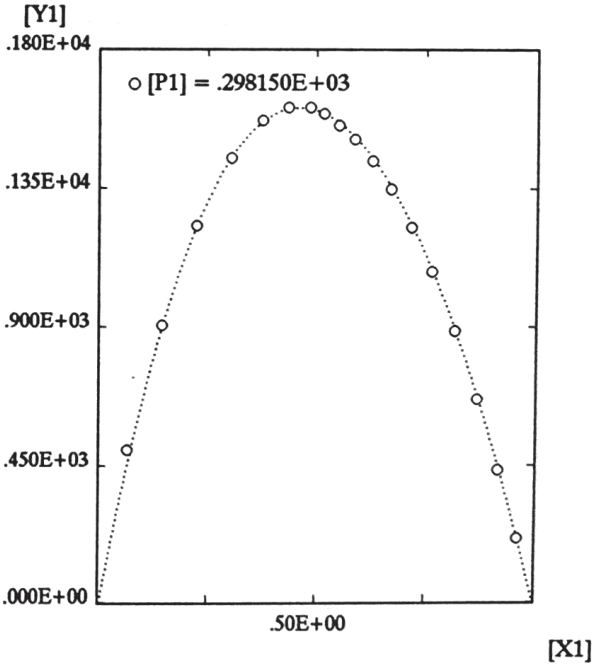


Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.021**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. $C_4H_{10}O$, Butan-1-ol**
2. $C_6H_{12}O_2$, Methyl pentanoate

[P1] = .298150E+03

[X1]	[Y1]
.686000E−01	.505200E+03
.147200E+00	.907000E+03
.227100E+00	.123140E+04
.306300E+00	.144910E+04
.379000E+00	.157050E+04
.438200E+00	.161330E+04
.487500E+00	.161420E+04
.519800E+00	.159440E+04
.554500E+00	.155670E+04
.590200E+00	.151140E+04
.630700E+00	.144090E+04
.672100E+00	.135150E+04
.719200E+00	.122820E+04
.765700E+00	.108260E+04
.819100E+00	.889600E+03
.871400E+00	.670300E+03
.920000E+00	.437500E+03
.964200E+00	.211000E+03

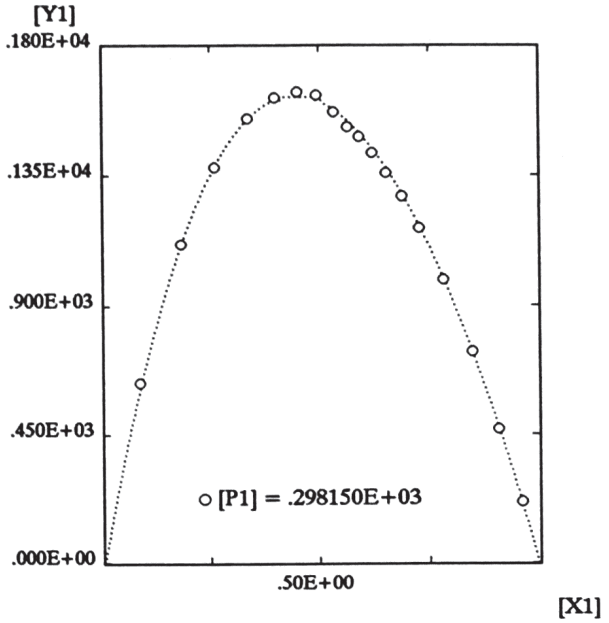


Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.030**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. $C_4H_{10}O$, Butan-1-ol**
2. $C_8H_{16}O_2$, Methyl heptanoate

[P1] = .298150E+03

[X1]	[Y1]
.890000E−01	.636500E+03
.184900E+00	.111440E+04
.262900E+00	.137940E+04
.339500E+00	.154840E+04
.402100E+00	.162140E+04
.453900E+00	.164040E+04
.497600E+00	.163090E+04
.536800E+00	.157230E+04
.568600E+00	.152090E+04
.595000E+00	.148670E+04
.623800E+00	.142900E+04
.655700E+00	.135990E+04
.690800E+00	.127970E+04
.730200E+00	.116940E+04
.785700E+00	.990600E+03
.850400E+00	.743000E+03
.910800E+00	.472300E+03
.962600E+00	.216600E+03

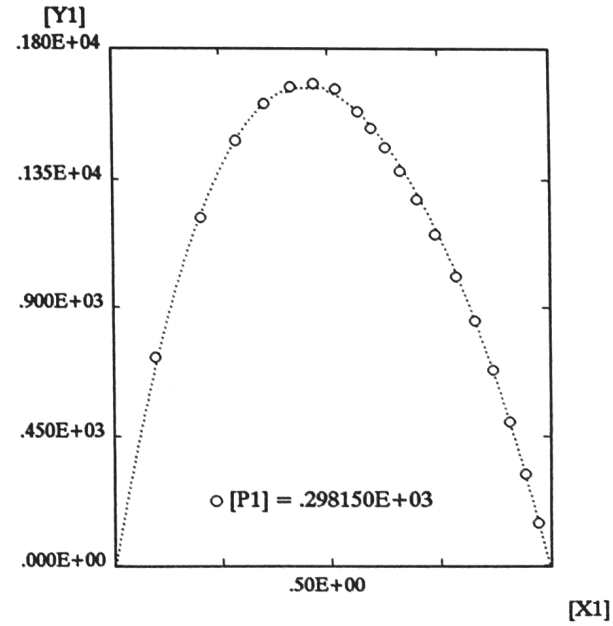


Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.039**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. $C_4H_{10}O$, Butan-1-ol**
2. $C_{10}H_{20}O_2$, Methyl nonanoate

[P1] = .298150E+03

[X1]	[Y1]
.998000E−01	.727500E+03
.206500E+00	.121840E+04
.289300E+00	.148650E+04
.356700E+00	.161280E+04
.417400E+00	.166980E+04
.471600E+00	.168120E+04
.520500E+00	.166290E+04
.571600E+00	.158510E+04
.601000E+00	.152800E+04
.631300E+00	.146290E+04
.664800E+00	.138310E+04
.702200E+00	.128470E+04
.743600E+00	.116010E+04
.789900E+00	.101090E+04
.832000E+00	.855800E+03
.872600E+00	.684800E+03
.910600E+00	.503100E+03
.945400E+00	.320200E+03
.975800E+00	.149800E+03

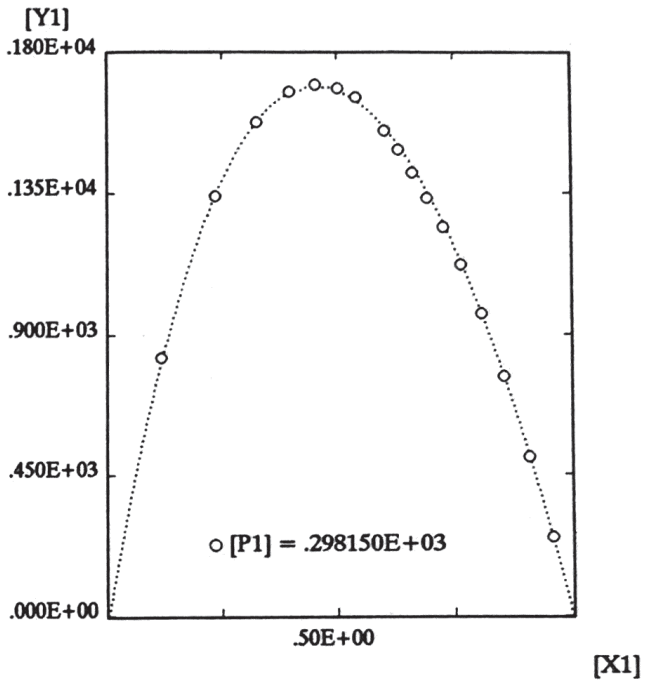


Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.048**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. $C_4H_{10}O$, Butan-1-ol**
2. $C_{12}H_{24}O_2$, Methyl undecanoate

[P1] = .298150E+03

[X1]	[Y1]
.118900E+00	.828500E+03
.237600E+00	.134240E+04
.329100E+00	.157790E+04
.400500E+00	.167670E+04
.457400E+00	.170080E+04
.504700E+00	.168970E+04
.544700E+00	.165920E+04
.604700E+00	.155230E+04
.635800E+00	.149120E+04
.664600E+00	.141690E+04
.695800E+00	.133560E+04
.729900E+00	.124410E+04
.768300E+00	.112390E+04
.811000E+00	.967800E+03
.858400E+00	.765200E+03
.911900E+00	.507600E+03
.960400E+00	.251700E+03

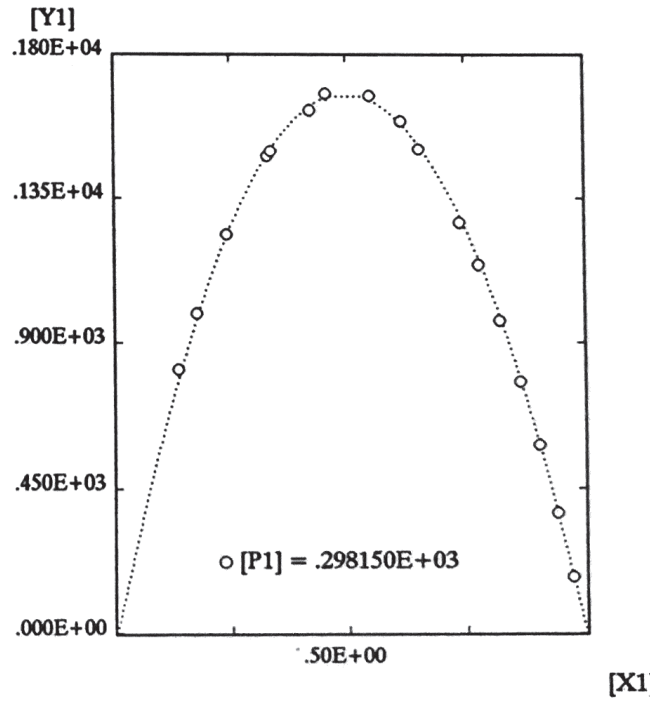


Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.057**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. $C_4H_{10}O$, Butan-1-ol**
2. $C_{14}H_{28}O_2$, Methyl tridecanoate

[P1] = .298150E+03

[X1]	[Y1]
.138200E+00	.820500E+03
.179100E+00	.992400E+03
.244800E+00	.123810E+04
.333600E+00	.148630E+04
.341300E+00	.150230E+04
.426500E+00	.163000E+04
.460400E+00	.168220E+04
.553400E+00	.167580E+04
.619200E+00	.159700E+04
.656600E+00	.150870E+04
.740800E+00	.127790E+04
.780000E+00	.114450E+04
.823500E+00	.970000E+03
.866000E+00	.782600E+03
.906100E+00	.585800E+03
.942700E+00	.375900E+03
.974300E+00	.179900E+03



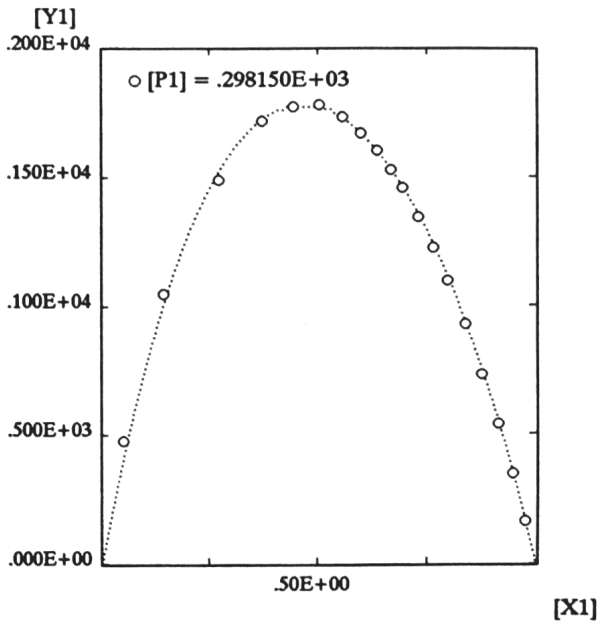
ORTJ0954.066

Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. $C_4H_{10}O$, Butan-1-ol**
2. $C_{16}H_{32}O_2$, Methyl pentadecanoate

[P1] = .298150E+03

[X1]	[Y1]
.543000E−01	.478300E+03
.148300E+00	.105030E+04
.276400E+00	.149440E+04
.376100E+00	.172070E+04
.447200E+00	.177740E+04
.507700E+00	.178420E+04
.560000E+00	.173630E+04
.602700E+00	.167460E+04
.639700E+00	.160600E+04
.670400E+00	.153230E+04
.698400E+00	.146030E+04
.733600E+00	.134740E+04
.768200E+00	.122690E+04
.800400E+00	.109810E+04
.840700E+00	.932200E+03
.879300E+00	.736500E+03
.915800E+00	.541200E+03
.948700E+00	.349100E+03
.976900E+00	.167200E+03



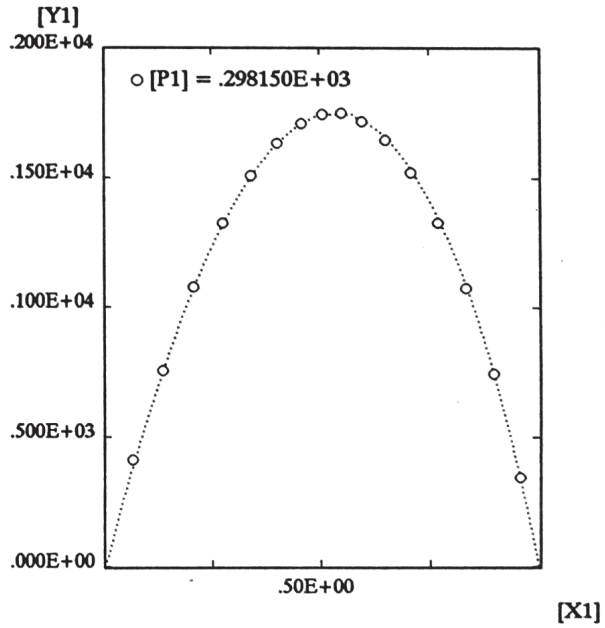
ORTJ0954.014

Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. $C_5H_{10}O_2$, Methyl butanoate**
2. $C_6H_{14}O$, Hexan-1-ol

[P1] = .298150E+03

[X1]	[Y1]
.672000E−01	.414000E+03
.138200E+00	.759900E+03
.209900E+00	.107920E+04
.278500E+00	.132610E+04
.344300E+00	.151110E+04
.405400E+00	.163740E+04
.461100E+00	.171240E+04
.510300E+00	.174560E+04
.554200E+00	.175070E+04
.600200E+00	.171960E+04
.654100E+00	.164790E+04
.712300E+00	.152350E+04
.772700E+00	.132830E+04
.834700E+00	.107720E+04
.898200E+00	.747700E+03
.958500E+00	.346300E+03

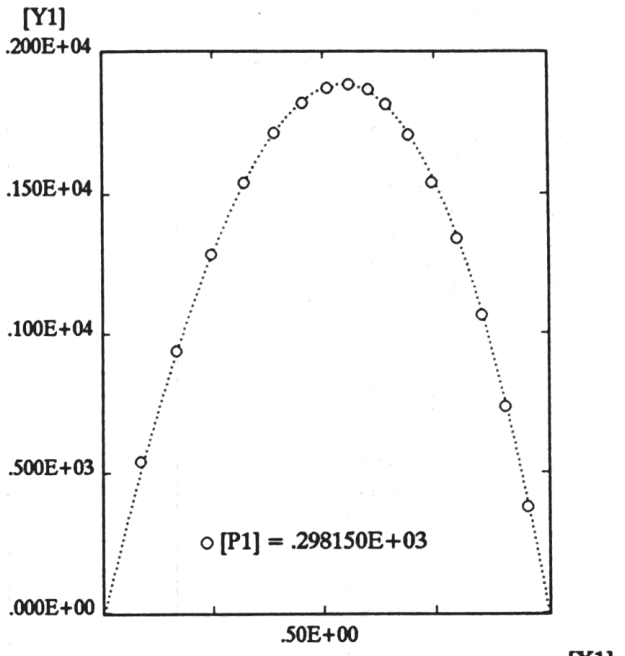


Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.016**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. $C_5H_{10}O_2$, Methyl butanoate**
2. $C_8H_{18}O$, Octan-1-ol

[P1] = .298150E+03

[X1]	[Y1]
.862000E−01	.543900E+03
.169400E+00	.940000E+03
.249600E+00	.128740E+04
.324500E+00	.154210E+04
.393600E+00	.171680E+04
.456600E+00	.182210E+04
.512700E+00	.187420E+04
.561900E+00	.188690E+04
.605000E+00	.186800E+04
.645200E+00	.181580E+04
.694900E+00	.170790E+04
.746800E+00	.154060E+04
.800100E+00	.134040E+04
.855600E+00	.106680E+04
.907600E+00	.739500E+03
.956100E+00	.378800E+03

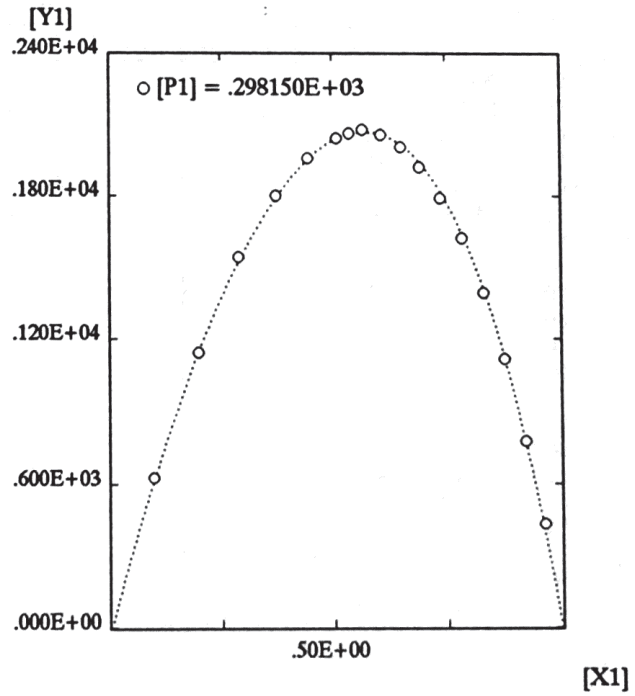


Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.018**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. $C_5H_{10}O_2$, Methyl butanoate**
2. $C_{10}H_{22}O$, Decan-1-ol

[P1] = .298150E+03

[X1]	[Y1]
.993000E−01	.630200E+03
.200800E+00	.114670E+04
.291800E+00	.154660E+04
.375000E+00	.180310E+04
.447400E+00	.196040E+04
.512200E+00	.204520E+04
.539200E+00	.206670E+04
.570100E+00	.208090E+04
.610700E+00	.205930E+04
.653700E+00	.200790E+04
.693800E+00	.192500E+04
.739500E+00	.179510E+04
.786600E+00	.162880E+04
.833600E+00	.139520E+04
.878900E+00	.111930E+04
.923500E+00	.781900E+03
.964300E+00	.432100E+03

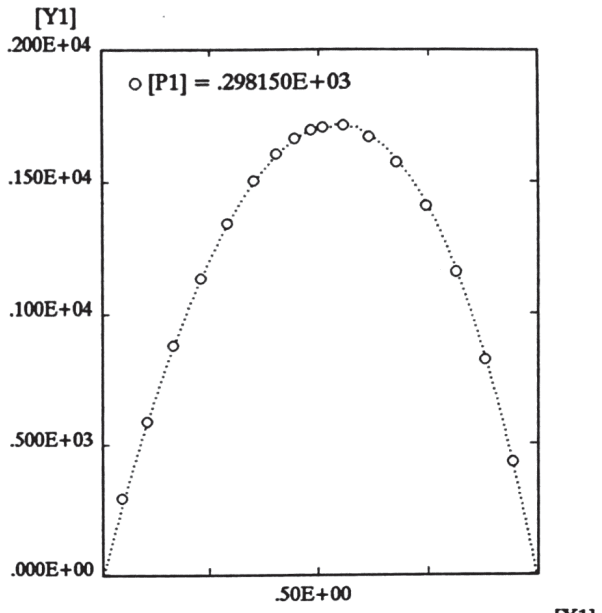


Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.023**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. $C_6H_{12}O_2$, Methyl pentanoate**
2. $C_6H_{14}O$, Hexan-1-ol

[P1] = .298150E+03

[X1]	[Y1]
.484000E−01	.297800E+03
.106500E+00	.592100E+03
.167800E+00	.881200E+03
.231800E+00	.113670E+04
.293300E+00	.134370E+04
.354100E+00	.150670E+04
.405000E+00	.160830E+04
.448400E+00	.166810E+04
.485600E+00	.170070E+04
.512400E+00	.171120E+04
.558000E+00	.171750E+04
.615700E+00	.167440E+04
.679100E+00	.157540E+04
.745600E+00	.140870E+04
.814400E+00	.115890E+04
.881800E+00	.824700E+03
.946500E+00	.433900E+03

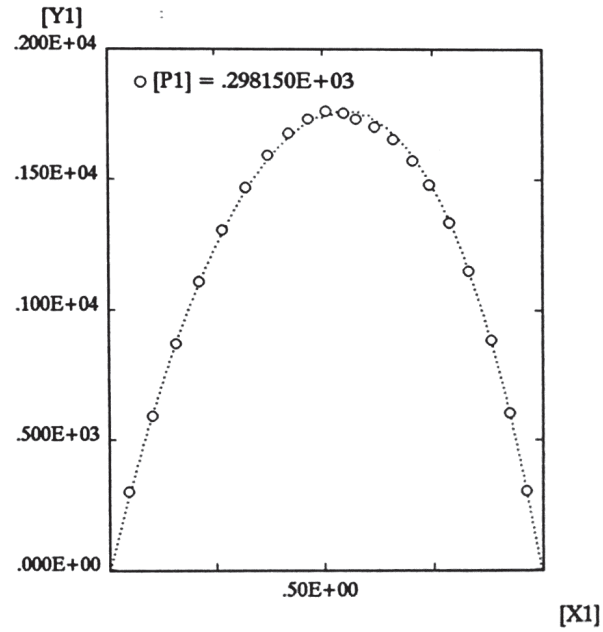


Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.025**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. $C_6H_{12}O_2$, Methyl pentanoate**
2. $C_8H_{18}O$, Octan-1-ol

[P1] = .298150E+03

[X1]	[Y1]
.482000E−01	.303900E+03
.103200E+00	.592900E+03
.159900E+00	.874300E+03
.215400E+00	.111090E+04
.270200E+00	.130940E+04
.323500E+00	.147000E+04
.376000E+00	.159530E+04
.424300E+00	.168150E+04
.468800E+00	.173640E+04
.510300E+00	.176650E+04
.550200E+00	.175770E+04
.579300E+00	.173580E+04
.621700E+00	.170680E+04
.663000E+00	.165870E+04
.706400E+00	.157720E+04
.744700E+00	.148470E+04
.790000E+00	.133900E+04
.834300E+00	.115350E+04
.884700E+00	.888600E+03
.927400E+00	.605100E+03
.966400E+00	.307200E+03

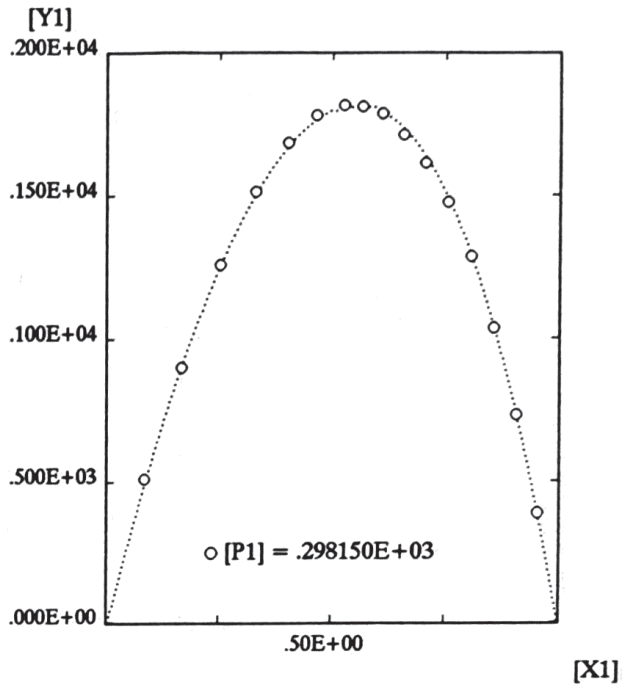


Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.027**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. $C_6H_{12}O_2$, Methyl pentanoate**
2. $C_{10}H_{22}O$, Decan-1-ol

[P1] = .298150E+03

[X1]	[Y1]
.863000E−01	.513900E+03
.170100E+00	.903900E+03
.255800E+00	.126240E+04
.333200E+00	.151700E+04
.405100E+00	.168870E+04
.468300E+00	.178740E+04
.529500E+00	.182060E+04
.570000E+00	.181670E+04
.613300E+00	.179090E+04
.659400E+00	.171550E+04
.707900E+00	.161640E+04
.758500E+00	.147770E+04
.809400E+00	.128790E+04
.860900E+00	.103890E+04
.910300E+00	.732900E+03
.957300E+00	.390800E+03



Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.032**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. $C_6H_{14}O$, Hexan-1-ol**
2. $C_8H_{16}O_2$, Methyl heptanoate

[P1] = .298150E+03

[X1]	[Y1]
.654000E−01	.512000E+03
.141400E+00	.923100E+03
.219900E+00	.125620E+04
.295900E+00	.147650E+04
.367500E+00	.160510E+04
.418400E+00	.164350E+04
.461900E+00	.165400E+04
.499600E+00	.164260E+04
.544200E+00	.158480E+04
.589600E+00	.151600E+04
.624200E+00	.144830E+04
.668800E+00	.133830E+04
.734500E+00	.114640E+04
.805200E+00	.886100E+03
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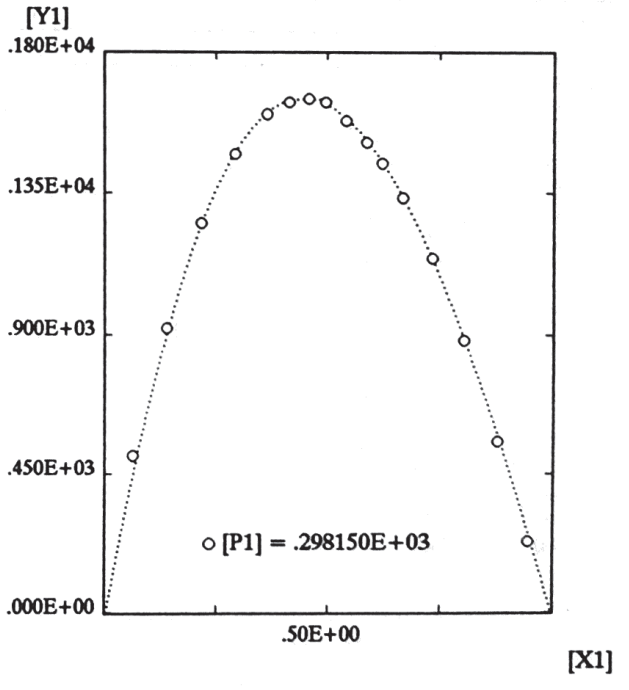
.948500E+00	.233500E+03

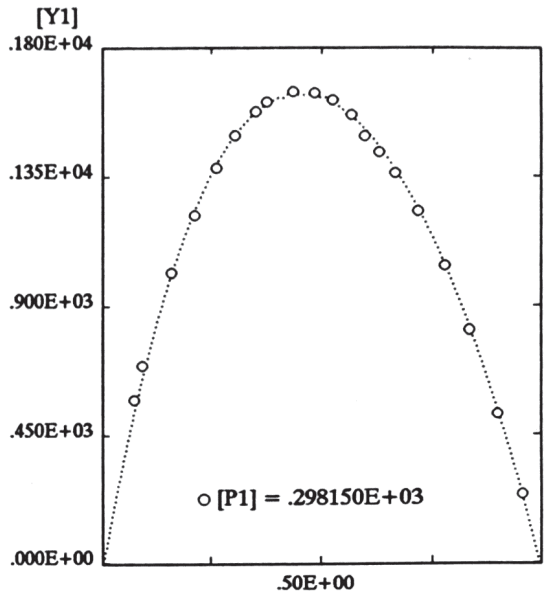


Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.041**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: 1. $C_6H_{14}O$, Hexan-1-ol
2. $C_{10}H_{20}O_2$, Methyl nonanoate

[P1] = .298150E+03

[X1]	[Y1]
.756000E−01	.577500E+03
.938000E−01	.696500E+03
.162000E+00	.101790E+04
.214100E+00	.121890E+04
.265300E+00	.138340E+04
.306600E+00	.149470E+04
.353900E+00	.157820E+04
.379100E+00	.161160E+04
.437600E+00	.164770E+04
.486200E+00	.164450E+04
.526800E+00	.161970E+04
.569900E+00	.156730E+04
.599500E+00	.149270E+04
.632300E+00	.143590E+04
.668300E+00	.136390E+04
.719600E+00	.123190E+04
.780500E+00	.104030E+04
.837200E+00	.818200E+03
.902900E+00	.524500E+03
.959400E+00	.242100E+03

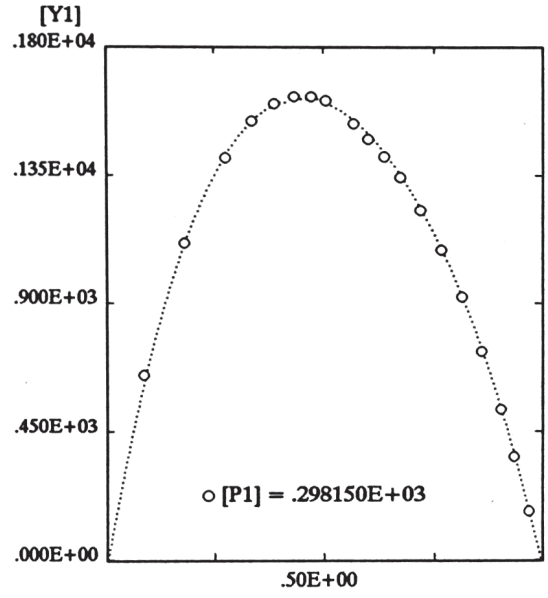


Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.050**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: 1. $C_6H_{14}O$, Hexan-1-ol
2. $C_{12}H_{24}O_2$, Methyl undecanoate

[P1] = .298150E+03

[X1]	[Y1]
.881000E−01	.651100E+03
.184000E+00	.111490E+04
.278300E+00	.141420E+04
.339400E+00	.154170E+04
.391800E+00	.160350E+04
.436200E+00	.162690E+04
.475100E+00	.162810E+04
.508300E+00	.161420E+04
.570500E+00	.153330E+04
.603500E+00	.148010E+04
.639500E+00	.141920E+04
.676100E+00	.134610E+04
.721300E+00	.123270E+04
.767600E+00	.109340E+04
.814700E+00	.925200E+03
.860900E+00	.734500E+03
.905000E+00	.532500E+03
.937100E+00	.363500E+03
.972300E+00	.171700E+03

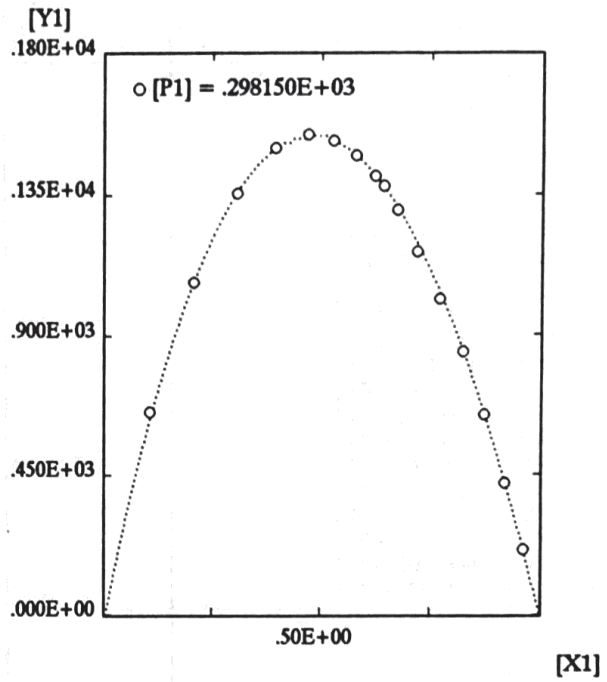


Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.059**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: 1. $C_6H_{14}O$, Hexan-1-ol
2. $C_{14}H_{28}O_2$, Methyl tridecanoate

[P1] = .298150E+03

[X1]	[Y1]
.108500E+00	.656400E+03
.209400E+00	.107530E+04
.310900E+00	.135820E+04
.398100E+00	.150230E+04
.472100E+00	.154480E+04
.530700E+00	.152400E+04
.581400E+00	.147730E+04
.625500E+00	.141190E+04
.645400E+00	.138120E+04
.677300E+00	.130360E+04
.722300E+00	.117070E+04
.774500E+00	.101760E+04
.826700E+00	.848200E+03
.875500E+00	.645300E+03
.923200E+00	.424300E+03
.965300E+00	.210100E+03

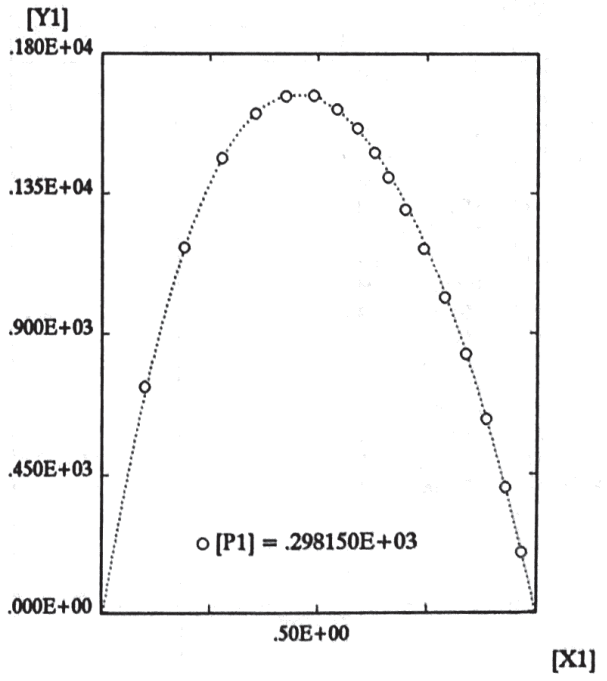


Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.068**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: 1. $C_6H_{14}O$, Hexan-1-ol
2. $C_{16}H_{32}O_2$, Methyl pentadecanoate

[P1] = .298150E+03

[X1]	[Y1]
.100900E+00	.734000E+03
.192500E+00	.118050E+04
.279800E+00	.146490E+04
.358600E+00	.161030E+04
.428600E+00	.166620E+04
.493000E+00	.166830E+04
.545500E+00	.162410E+04
.592200E+00	.156230E+04
.631300E+00	.148480E+04
.663400E+00	.140520E+04
.702100E+00	.130190E+04
.745200E+00	.117630E+04
.793600E+00	.101720E+04
.842000E+00	.835500E+03
.888400E+00	.629400E+03
.931300E+00	.408400E+03
.969600E+00	.195000E+03



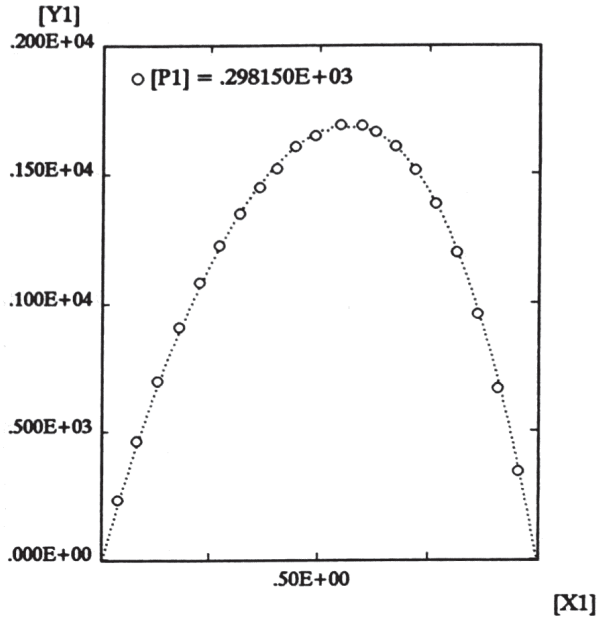
ORTJ0954.034

Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: 1. $C_8H_{16}O_2$, Methyl heptanoate
2. $C_8H_{18}O$, Octan-1-ol

[P1] = .298150E+03

[X1]	[Y1]
.394000E−01	.235000E+03
.839000E−01	.466100E+03
.131500E+00	.698100E+03
.182100E+00	.912300E+03
.228700E+00	.108530E+04
.274300E+00	.122800E+04
.321200E+00	.135150E+04
.365800E+00	.145170E+04
.406100E+00	.152290E+04
.447500E+00	.160860E+04
.492900E+00	.165150E+04
.550200E+00	.169260E+04
.599800E+00	.169180E+04
.630200E+00	.166690E+04
.675200E+00	.160810E+04
.721500E+00	.151650E+04
.768200E+00	.138560E+04
.816700E+00	.119860E+04
.865200E+00	.957600E+03
.911200E+00	.666600E+03
.959000E+00	.345300E+03



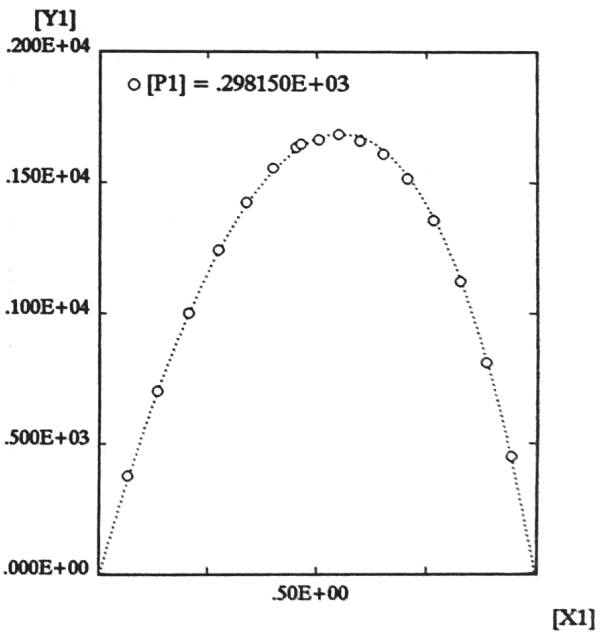
ORTJ0954.036

Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: 1. $C_8H_{16}O_2$, Methyl heptanoate
2. $C_{10}H_{22}O$, Decan-1-ol

[P1] = .298150E+03

[X1]	[Y1]
.673000E−01	.382400E+03
.136900E+00	.703200E+03
.208400E+00	.100450E+04
.277100E+00	.124360E+04
.342000E+00	.142730E+04
.402000E+00	.155760E+04
.455900E+00	.163780E+04
.465800E+00	.165070E+04
.506900E+00	.166930E+04
.551900E+00	.168760E+04
.600900E+00	.166380E+04
.654200E+00	.161470E+04
.708900E+00	.151980E+04
.768000E+00	.135990E+04
.828600E+00	.112670E+04
.888700E+00	.813800E+03
.945800E+00	.453100E+03



Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.043**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. $C_8H_{18}O$, Octan-1-ol**
2. $C_{10}H_{20}O_2$, Methyl nonanoate

[P1] = .298150E+03

[X1]	[Y1]
.597000E−01	.484500E+03
.126300E+00	.866700E+03
.193900E+00	.117160E+04
.261500E+00	.138290E+04
.325500E+00	.151410E+04
.384500E+00	.158290E+04
.438600E+00	.160820E+04
.487900E+00	.160040E+04
.532600E+00	.156850E+04
.585500E+00	.149560E+04
.627600E+00	.142010E+04
.670100E+00	.133520E+04
.711900E+00	.123650E+04
.755600E+00	.111260E+04
.800500E+00	.958900E+03
.845300E+00	.783700E+03
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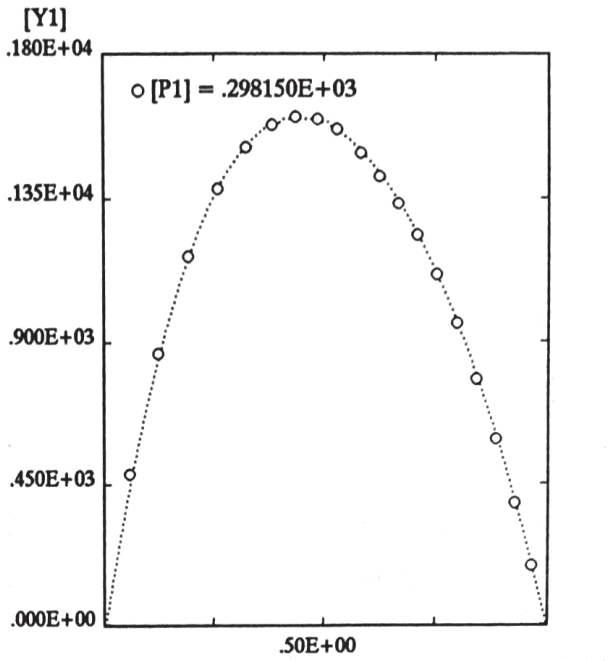
.930100E+00	.389700E+03
.967500E+00	.192900E+03

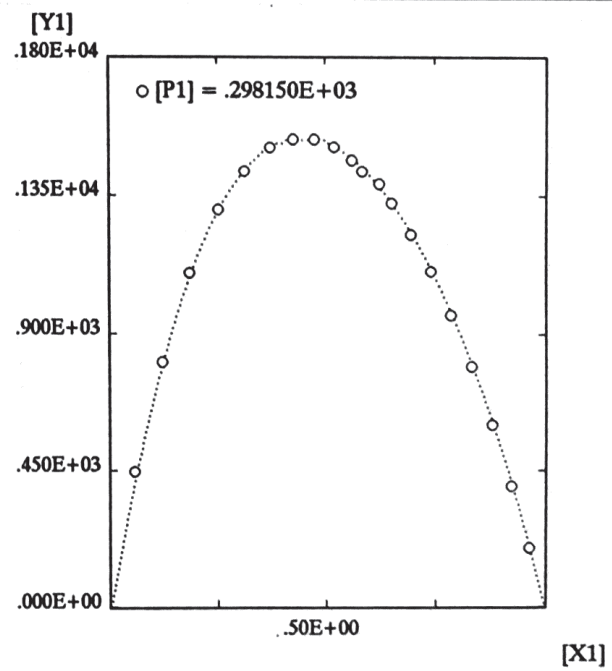


Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.052**
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. $C_8H_{18}O$, Octan-1-ol**
2. $C_{12}H_{24}O_2$, Methyl undecanoate

[P1] = .298150E+03

[X1]	[Y1]
.586000E−01	.449100E+03
.123600E+00	.810300E+03
.188800E+00	.109940E+04
.255300E+00	.130590E+04
.316600E+00	.143320E+04
.375900E+00	.150750E+04
.428800E+00	.153530E+04
.477000E+00	.153450E+04
.522600E+00	.150990E+04
.563000E+00	.146800E+04
.586800E+00	.143110E+04
.625200E+00	.139190E+04
.654100E+00	.132870E+04
.697500E+00	.122590E+04
.742400E+00	.110560E+04
.788800E+00	.964400E+03
.835000E+00	.797800E+03
.882100E+00	.604200E+03
.925600E+00	.400300E+03
.965700E+00	.196700E+03



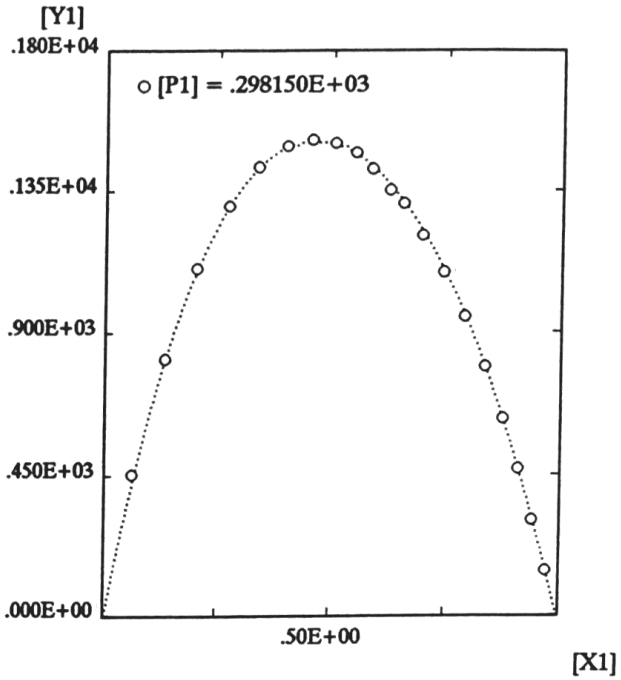
ORTJ0954.061

Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. $C_8H_{18}O$, Octan-1-ol**
2. $C_{14}H_{28}O_2$, Methyl tridecanoate

[P1] = .298150E+03

[X1]	[Y1]
.648000E−01	.454500E+03
.136800E+00	.819800E+03
.206200E+00	.110620E+04
.275300E+00	.130460E+04
.339800E+00	.142670E+04
.401600E+00	.149510E+04
.457000E+00	.151490E+04
.506700E+00	.150380E+04
.551600E+00	.147160E+04
.588500E+00	.142010E+04
.626700E+00	.135310E+04
.656900E+00	.131070E+04
.698500E+00	.120830E+04
.746100E+00	.109130E+04
.793200E+00	.950500E+03
.837900E+00	.794100E+03
.878400E+00	.629200E+03
.912800E+00	.471400E+03
.945300E+00	.306700E+03
.975500E+00	.145500E+03



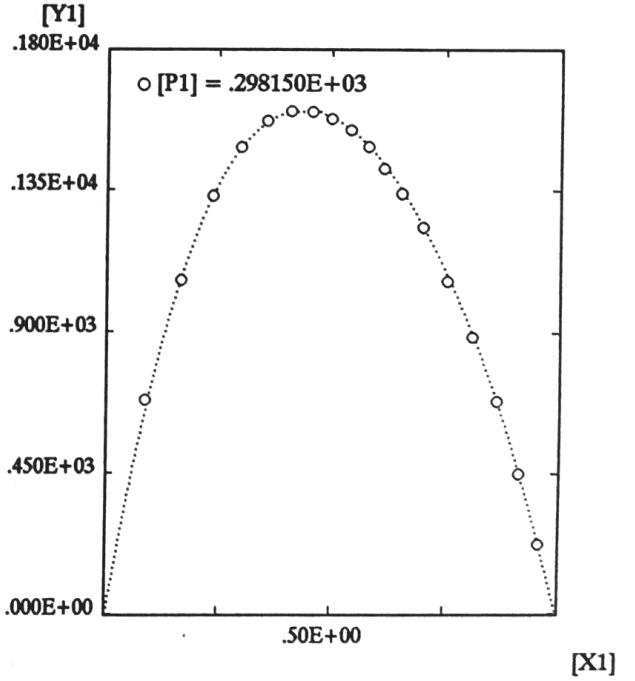
ORTJ0954.070

Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: **1. $C_8H_{18}O$, Octan-1-ol**
2. $C_{16}H_{32}O_2$, Methyl pentadecanoate

[P1] = .298150E+03

[X1]	[Y1]
.894000E−01	.682700E+03
.169100E+00	.106790E+04
.240500E+00	.133420E+04
.301700E+00	.148920E+04
.359900E+00	.157470E+04
.412700E+00	.160590E+04
.460400E+00	.160340E+04
.502300E+00	.157990E+04
.544400E+00	.154500E+04
.583200E+00	.149150E+04
.618700E+00	.142180E+04
.656800E+00	.134140E+04
.703200E+00	.123700E+04
.757200E+00	.106670E+04
.812000E+00	.890200E+03
.865800E+00	.683100E+03
.916600E+00	.450000E+03
.962100E+00	.222800E+03



Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.045**

State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid

Parameters: [P1] T/K, Temperature

Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy

Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: 1. $C_{10}H_{20}O_2$, **Methyl nonanoate**
2. $C_{10}H_{22}O$, **Decan-1-ol**

[P1] = .298150E+03

[X1]	[Y1]
.567000E−01	.309000E+03
.123400E+00	.603300E+03
.190700E+00	.879400E+03
.256400E+00	.110220E+04
.318400E+00	.127370E+04
.374900E+00	.139310E+04
.428400E+00	.147510E+04
.478000E+00	.152520E+04
.522600E+00	.154740E+04
.563200E+00	.156000E+04
.608700E+00	.154620E+04
.669500E+00	.148370E+04
.733800E+00	.136130E+04
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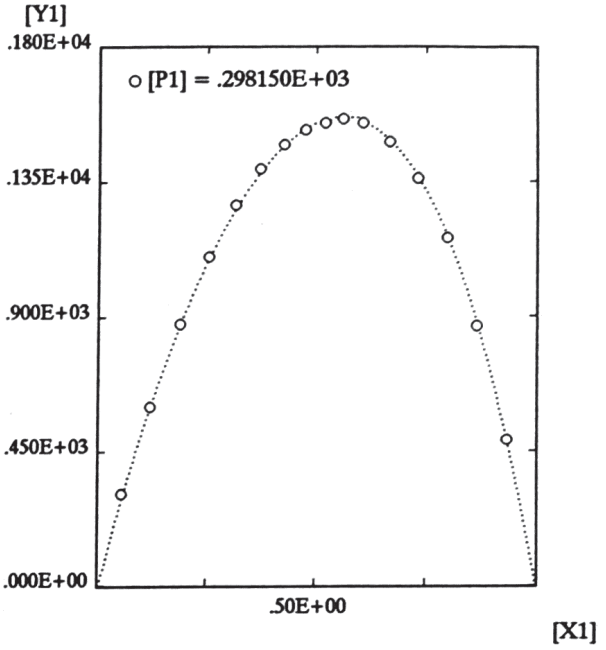
.937200E+00	.489800E+03



Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION **ORTJ0954.054**

State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid

Parameters: [P1] T/K, Temperature

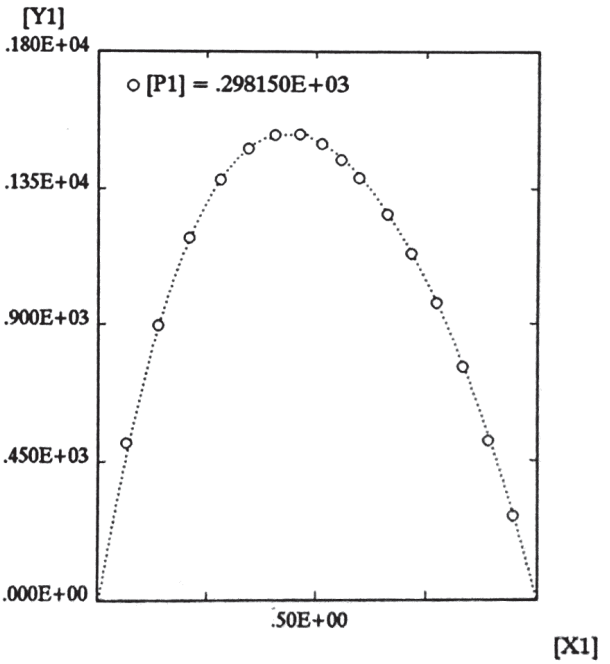
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy

Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: 1. $C_{10}H_{22}O$, **Decan-1-ol**
2. $C_{12}H_{24}O_2$, **Methyl undecanoate**

[P1] = .298150E+03

[X1]	[Y1]
.664000E−01	.514700E+03
.139300E+00	.897800E+03
.211800E+00	.119150E+04
.283300E+00	.138170E+04
.347900E+00	.148320E+04
.409300E+00	.152950E+04
.465100E+00	.153000E+04
.514700E+00	.149850E+04
.558900E+00	.144830E+04
.598500E+00	.138850E+04
.662900E+00	.126930E+04
.717800E+00	.114050E+04
.775100E+00	.972000E+03
.834500E+00	.762400E+03
.893400E+00	.517700E+03
.949400E+00	.270100E+03



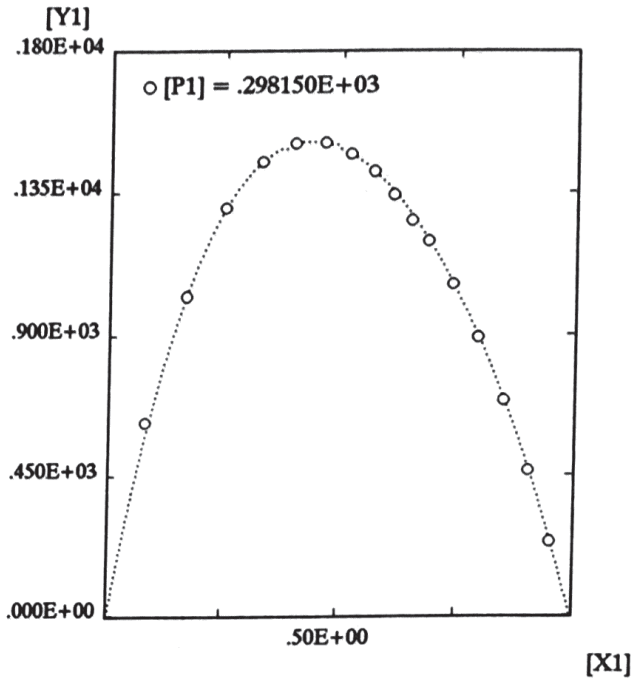
ORTJ0954.063

Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: 1. $C_{10}H_{22}O$, **Decan-1-ol**
2. $C_{14}H_{28}O_2$, **Methyl tridecanoate**

[P1] = .298150E+03

[X1]	[Y1]
.840000E−01	.624500E+03
.171200E+00	.102670E+04
.253600E+00	.130310E+04
.331900E+00	.145090E+04
.402500E+00	.150930E+04
.465800E+00	.151020E+04
.521000E+00	.147440E+04
.570600E+00	.141800E+04
.613800E+00	.134330E+04
.652200E+00	.126230E+04
.688200E+00	.119780E+04
.742000E+00	.106260E+04
.796000E+00	.895300E+03
.851900E+00	.690800E+03
.906500E+00	.466900E+03
.955500E+00	.239900E+03



ORTJ0954.072

Property Code: [HMSD1000] HEAT OF MIXING AND SOLUTION
State: Two-component system, single-phase liquid or two-phase liquid-liquid (LL)
Pure component 1, liquid
Pure component 2, liquid
Parameters: [P1] T/K, Temperature
Variables: [X1] x_1/-, Mole fraction of component 1
[Y1] H^E/Jmol^{-1}, Molar excess enthalpy
Method: Direct low-pressure calorimetric measurement of H^E at variable x_1 and constant T

Components: 1. $C_{10}H_{22}O$, **Decan-1-ol**
2. $C_{16}H_{32}O_2$, **Methyl pentadecanoate**

[P1] = .298150E+03

[X1]	[Y1]
.866000E−01	.665800E+03
.171100E+00	.107520E+04
.251800E+00	.135690E+04
.323600E+00	.150160E+04
.388400E+00	.156260E+04
.444700E+00	.156820E+04
.491900E+00	.154140E+04
.535800E+00	.150230E+04
.581400E+00	.142470E+04
.625200E+00	.134640E+04
.670400E+00	.125710E+04
.718100E+00	.114020E+04
.767000E+00	.100490E+04
.816900E+00	.839200E+03
.866200E+00	.644900E+03
.916100E+00	.429900E+03
.960700E+00	.215000E+03