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P-V-T properties of hydrogen and mixtures containing hydrogen (with a generalized B-W-R equation of state)

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P-V-T PROPERTIES OF HYDROGEN
AND MIXTURES CONTAINING HYDROGEN

(WITH A GENERALIZED B-W-R EQUATION OF STATE)

BY

ARNOLD BRIEF

A THESIS

PRESENTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE

OF

MASTER OF SCIENCE IN CHEMICAL ENGINEERING

AT

NEWARK COLLEGE OF ENGINEERING

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Newark, New Jersey

1969

APPROVAL OF THESIS

P-V-T PROPERTIES OF HYDROGEN
AND MIXTURES CONTAINING HYDROGEN

(WITH A GENERALIZED B-W-R EQUATION OF STATE)

BY

ARNOLD BRIEF

FOR

DEPARTMENT OF CHEMICAL ENGINEERING

NEWARK COLLEGE OF ENGINEERING

BY

FACULTY COMMITTEE

APPROVED: _____

Newark, New Jersey

June, 1969

ABSTRACT

A Generalized B-W-R Equation of State is tested for hydrogen which is a quantum gas and for systems containing hydrogen.

The gases and systems studied are: hydrogen, nitrogen-hydrogen, methane-hydrogen, and ethane-hydrogen.

The pressure is calculated using observed P-V-T data and the deviation is computed therefrom. For the pure gas, hydrogen, the generalized equation is compared against the original B-W-R equation. For mixtures, the Gunn-Chueh-Prausnitz method which is used to calculate the pseudo-critical conditions of the mixture is compared against the Prausnitz-Gunn method.

The ranges studied in this paper are as follows: pure hydrogen 30-773°K and 1 to 1200 atm., nitrogen-hydrogen 0-300°C and 25 to 1000 atm., methane-hydrogen -210 to 300°F and pressures as high as 3100 psi., and ethane-hydrogen 70-300°F and pressures as high as 3800 psi.

The results obtained with hydrogen demonstrate that the generalized B-W-R equation is valid for hydrogen at somewhat lower temperatures than the original B-W-R. Over most of the temperature range good results are obtained with either equation. However, at high pressures the original equation is more accurate.

A comparison of the Gunn-Chueh-Prausnitz(G-C-P)method with the Prausnitz-Gunn(P-G)method for the three binary systems yields essentially equivalent results in terms of average and maximum deviations from observed values.

ACKNOWLEDGEMENT

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INTRODUCTION

The present paper is an expansion of the work performed by W.C.Edmister and co-workers(1)on the Benedict-Webb-Rubin (B-W-R) Equation of State.

Edmister and his co-workers formulated a generalized form of the B-W-R Equation of State and they evaluated this generalized equation for several hydrocarbons but not for hydrogen.

The present work consists in testing this equation for hydrogen which is a quantum gas and for mixtures containing hydrogen.

The gases and systems studied in this paper are:
hydrogen,nitrogen-hydrogen, methane-hydrogen and ethane-hydrogen.

THEORY AND BACKGROUND

The Benedict-Webb-Rubin Equation is an equation of state containing eight constants. These constants were derived empirically by fitting the equation to experimental P-V-T data.

$$P = RTd + (B_0 RT - A_0 - C_0/T^2)xd^2 + (bRT - a)xd^3 + a\alpha d^6 + \frac{cd^3}{T^2} (1 + \gamma d^2) \exp(-\gamma d^2) \quad (1)$$

Where the constants of the B-W-R equation for hydrogen are (2), (10):

$$A_0 = 585.127$$

$$B_0 = 3339.37 \times 10^{-4}$$

$$C_0 = 482.82 \times 10^4$$

$$a = -98.597$$

$$b = 868.2 \times 10^{-4}$$

$$c = 1423.17 \times 10^3$$

$$a\alpha = 49.239$$

$$\gamma = 900.00 \times 10^{-3}$$

These constants may be used in Equation(1) when T is in degrees R, P in psi., d in lb.mole/cu.ft. and R=10.7335 lb.cu.ft./sq.in.lb.mole °R

W.C.Edmister and co-workers generalized the above equation by expressing the eight constants as functions of the critical temperature, critical pressure and acentric factor.

$$\pi = \theta \rho + (B'_0 \theta - A'_0 - C'_0 / \theta^2) \times \rho^2 + (b'_0 \theta - a'_0) \times \rho^3 + (a'_0 \alpha') \times \rho^6 + \frac{c'_0 \rho^3}{\theta^2} (1 + \gamma' \rho^2) \exp(-\gamma' \rho^2) \quad (2)$$

Where:

$$\pi = P/P_c$$

$$\theta = T/T_c$$

$$\rho = dRT_c/P_c$$

The constants of Equation(2) are a function of the acentric factor, ω (1). They are as follows:

$$A'_0 = 0.343258 - 0.127521\omega - 0.509131\omega^2 \quad (3)$$

$$B'_0 = 0.113747 + 0.127349\omega - 0.243280\omega^2 \quad (4)$$

$$C'_0 = 0.098224 + 0.401236\omega - 0.0397267\omega^2 \quad (5)$$

$$a'_0 = 0.0235866 + 0.290284\omega - 0.295413\omega^2 \quad (6)$$

$$b'_0 = 0.0275404 + 0.131009\omega - 0.134924\omega^2 \quad (7)$$

$$c'_0 = 0.035694 + 0.185297\omega - 0.295413\omega^2 \quad (8)$$

$$\gamma' = 0.052058 - 0.09064\omega + 0.10506\omega^2 \quad (9)$$

$$a\alpha' = 0.0000875 \quad (10)$$

In order to work with Equation(1), the constants for the particular gas must be known, otherwise they must be determined. If Equation(2) is employed, then, only the acentric factor of the gas is needed to calculate the eight constants.

Edmister and co-workers compared their generalized equation(2) to the original B-W-R equation(1) by calculating pressures from both methods using observed P-V-T data of

several hydrocarbons. Their results were good(1).

The present paper tests the generalized equation on hydrogen and mixtures containing hydrogen.

Quantum gases do not follow the same law of corresponding states as that followed by the classical gases. Therefore, Equation(2) may not be used directly for hydrogen which is a quantum gas unless some modifications on the critical conditions are made.

These modifications are known as effective critical conditions and they are a function of the molecular mass of the gas. According to Gunn, Chueh, Prausnitz(3,4):

Effective Critical Temperature

$$T_c = \frac{T^0_c}{1 + \frac{c_1}{mxT}} \quad (11)$$

Effective Critical Pressure

$$P_c = \frac{P^0_c}{1 + \frac{c_2}{mxT}} \quad (12)$$

Effective Critical Volume

$$V_c = \frac{V^0_c}{1 + \frac{c_3}{mxT}} \quad (13)$$

Where:

$$c_1 = 21.8^\circ\text{K}$$

$$c_2 = 44.2^\circ\text{K}$$

$$c_3 = -9.91^\circ\text{K}$$

m-molecular mass of quantum gas, in this case hydrogen

Since the acentric factor of quantum gases is equal to zero, then the constants of the generalized equation are equal to the first term of Equations(3 through 9) and the calculations become relatively simple.

When the Generalized B-W-R Equation of State is used for mixtures of gases, then pseudo-critical constants are needed to obtain the reduced pressure, temperature and density values of Equation(2).

Gunn, Chueh and Prausnitz proposed a method for calculating a pseudo-critical temperature and pressure for a system containing a quantum gas. This method is as follows(3):

$$T_{cM} = \frac{\sum_i y_i x_i^{T^0} c_i}{1 + \frac{c_1}{m_M x^T}} \quad (14)$$

$$P_{cM} = \frac{R x \left(\sum_i y_i x_i^{Z^0} c_i \right) x \left(\sum_i y_i x_i^{T^0} c_i \right)}{\left(\sum_i y_i x_i^{V^0} c_i \right) x \left(1 + \frac{c_2}{m_M x^T} \right)} \quad (15)$$

$$\frac{1}{m_M} = \left[\sum_i \frac{y_i}{\sqrt{m_i}} \right]^2 \quad (16)$$

$$\omega_M = \sum_i y_i \omega_i \quad (17)$$

In this paper the Gunn, Chueh and Prausnitz method is compared against a method suggested by Prausnitz and Gunn for calculating pseudo-critical conditions of mixtures of classical gases(5).

$$T_{cM} = \sum_i y_i x_i^T c_i \quad (18)$$

$$V_{cM} = \sum_i y_i x_i^V c_i \quad (19)$$

$$Z_{cM} = \sum_i y_i x_i^Z c_i \quad (20)$$

$$P_{cM} = \frac{R x_{cM}^T x_{cM}^Z}{V_{cM}} \quad (21)$$

$$\omega_M = \sum_i y_i x_i \omega_i \quad (17)$$

Where T_{ci} and V_{ci} for hydrogen are obtained from Equations (11) and (13) and Z_c^0 is taken for hydrogen as 0.291.

The Prausnitz and Gunn method which consists of Equations(18 through 21)is a much simpler way to determine the pseudo-critical conditions of a mixture containing hydrogen.

The method introduced by Gunn, Chueh and Prausnitz was developed for mixtures containing quantum gases. However, the Prausnitz and Gunn method was proposed for mixtures of classical gases, and in this paper it is used to calculate the pseudo-critical conditions of mixtures containing hydrogen.

PROCEDURE

The computations of this paper were carried-out with the the aid of the IBM 1620.

The programs used in this work are listed in the following table.

1. Program (A) Generalized B-W-R Equation (30-300°K)
(B) Generalized B-W-R Equation (310-600°K)
(C) Generalized B-W-R Equation (198-773°K)
2. Program (A) Original B-W-R Equation (30-300°K)
(B) Original B-W-R Equation (310-600°K)
(C) Original B-W-R Equation (198-773°K)
3. Program (A) Methane-Hydrogen (P-G)* 9.03/90.97%
4. Program (A) Methane-Hydrogen (G-C-P)** 9.03/90.97%
5. Program (A) Ethane-Hydrogen (P-G) 89.96/10.04%
(B) Ethane-Hydrogen (P-G) 79.97/20.03%
(C) Ethane-Hydrogen (P-G) 50.17/49.83%
(D) Ethane-Hydrogen (P-G) 20.10/79.90%
6. Program (A) Ethane-Hydrogen (G-C-P) 89.96/10.04%
(B) Ethane-Hydrogen (G-C-P) 79.97/20.03%
(C) Ethane-Hydrogen (G-C-P) 50.17/49.83%
(D) Ethane-Hydrogen (G-C-P) 20.10/79.90%
7. Program (A) Nitrogen-Hydrogen (P-G) 12.56/87.44%
(B) Nitrogen-Hydrogen (P-G) 24.44/75.56%
(C) Nitrogen-Hydrogen (P-G) 48.26/51.74%
(D) Nitrogen-Hydrogen (P-G) 73.88/26.12%

- 8. Program (A) Nitrogen-Hydrogen (G-C-P) 12.56/87.44%
- (B) Nitrogen-Hydrogen (G-C-P) 24.44/75.56%
- (C) Nitrogen-Hydrogen (G-C-P) 48.26/51.74%
- (D) Nitrogen-Hydrogen (G-C-P) 73.88/26.12%

The actual programs are given in Appendix (A).

Sample calculations shown in Appendix (D) illustrate the procedure used in the computer calculations.

The average deviations and the maximum deviations given in Appendix (B) represent absolute values.

* Prausnitz and Gunn Method

**Gunn, Chueh and Prausnitz Method

SUMMARY OF RESULTS

HYDROGEN

Number of Points	Temperature Range (°K)	Pressure Range(atm.)	Average % Deviations	
			(Orig.)	(Gener.)
171	30.0-55.0	1-100	40.25	16.41
1582	60.0-600.0	1-100	0.23	0.31
121	198.16-773.16	100-1200	1.15	4.45

MIXTURES

Number of Points	System	Mole %	Average % Deviations	
			(Gunn-Chueh-Prausnitz)	(Prausnitz-Gunn)
44	N_2-H_2	12.56/87.44	3.47	3.48
42	N_2-H_2	24.44/75.56	3.28	3.27
46	N_2-H_2	48.26/51.74	2.34	2.33
43	N_2-H_2	73.88/26.12	1.64	1.54
113	CH_4-H_2	9.03/90.97	0.25	0.30
48	$C_2H_6-H_2$	89.96/10.04	2.85	2.55
48	$C_2H_6-H_2$	79.97/20.03	3.13	2.80
54	$C_2H_6-H_2$	50.17/49.83	2.78	2.48
54	$C_2H_6-H_2$	20.10/79.90	1.42	1.21

DISCUSSION OF RESULTS

The Generalized B-W-R Equation was applied to a quantum gas, hydrogen, over a wide range of conditions. The study covered temperatures from almost absolute zero to 500°C and pressures as high as 1200 atm. Pressures were computed for 1874 points covering the above range. A per-cent deviation was calculated from observed pressure data found in the literature. The results of the original B-W-R Equation are compared to the generalized equation in the following table:

Temperature Range (°K)	Pressure Range(atm.)	Average % Deviation (Original)(Generalized)	
30.0-55.0	1-100	40.25	16.41
60.0-600.0	1-100	0.23	0.31
198.16-773.16	100-1200	1.15	4.45

Analyzing the results carefully, the generalized equation gives better results than the original equation at low temperatures and pressures. Over most of the range studied, the deviations are small for both methods. However, at high pressures the results are better when using the original equation rather than the generalized equation.

The nitrogen-hydrogen system was studied for four different compositions covering a total of 175 points. The equation of state used was the generalized B-W-R. The pseudo-critical conditions of the mixture were calculated by two methods: the

Gunn, Chueh and Prausnitz method and the author's proposed method introduced by Prausnitz and Gunn. The results obtained by both methods were almost the same, ranging from 3.48% to 1.54% for the average deviations of the four compositions. The conditions covered a range of temperatures from 0°C to 300°C and pressures as high as 1000 atm.

The methane-hydrogen system was studied for the composition of 9 mole% of methane. The results were excellent. The over all deviation was 0.30% for the proposed method. A total of 113 points were tested over a range of temperatures from -210°F to 300°F and pressures as high as 3100 psi. The results obtained by both methods were equivalent.

The ethane-hydrogen system was studied for four compositions covering 204 points over a range of temperatures of 70°F to 300°F and pressures as high as 3800 psi. The over all deviations ranged from 2.55% to 1.21% for the four different compositions. Once again, the results obtained by Gunn, Chueh and Prausnitz and the proposed method were equivalent.

The absolute values of the computed deviations were used throughout this paper when obtaining average per-cent deviations.

CONCLUSION

The generalized form of the B-W-R Equation of State may be applied to hydrogen if effective critical conditions are used in place of true critical constants. Good results are obtained with this equation on hydrogen over a wide range, from 60°K to 773°K and pressures as high as 500 atm. Thus, obtaining a maximum absolute deviation of about five per-cent.

When working with mixtures containing hydrogen, the generalized equation may also be used over a wide range of conditions. It is the author's recommendation based upon the findings of the present work that the Prausnitz-Gunn method be used to compute the pseudo-critical P-V-T of a system containing hydrogen.

APPENDIX A

```
DIMENSION P(28),VOL(28)
DO 1 I=1,28
READ,P(I),VOL(I)
T= TEMPERATURE FOR THE PARTICULAR RUN
TOC=43.6
POC=20.7
CX=21.8
C2=44.7
S=2.01594
TYC=TOC/(1.+CX/(S*T))
PIC=POC/(1.+C2/(S*T))
A10=0.343258
B10=0.113747
A1=0.0235866
B1=0.0275404
C10=0.098224
C1=0.035694
D1=0.000875
GAM=0.052058
AL1=D1/A1
TC=1.8*T1C
PC=14.6960*PIC
R=10.7335
DEN1=1./(VOL(I)*0.016018)
DEN=DEN1/S
ALP=T*1.8/TC
RHO=DEN*R*TC/PC
ST=ALP*RHO
Q=(PIC*ALP-A10-C10/(ALP*ALP))*RHO*RHO
W=(B1*ALP-A1)*RHO**3
V=(A1*AL1)*RHO**6
Z=(C1*RHO**3/(ALP**2))*(1.+GAM)*RHO**2)*EXP(-GAM)*RHO*RHO)
P1=ST+Q+W+V+Z
PZ=PC*P1
PX=PZ/14.6960
DEV=((P(I)-PX)/P(I))*100.
1 PUNCH,P(I),PX,DEV
END
```

```
DIMENSION P(7),ZR(7)
DO 1 I=1,7
READ,P(I),ZR(I)
T=TEMPERATURE FOR THE PARTICULAR RUN
TOC=43.6
POC=20.2
CX=21.8
C2=44.2
S=2.01594
TIC=TOC/(1.+CX/(S*T))
PIC=POC/(1.+C2/(S*T))
A10=0.343258
B10=0.113747
A1=0.0235866
D1=0.0275404
C10=0.098224
C1=0.035694
D1=0.0000875
GAM=0.052058
AL1=D1/A1
TC=1.8*TIC
PC=14.6960*PIC
R=10.7335
PA=14.6960*P(I)
V=ZR(I)*R*T*1.8/PA
DEN=1.0/V
ALP=T*1.8/TC
RHO=DEN*R*TC/PC
ST=ALP*RHO
Q=(R10*ALP-A10-C10/(ALP*AL1))*RHO*RHO
W=(B1*ALP-A1)*RHO**3
V=(A1*AL1)*RHO**6
Z=(C1*RHO**3/(ALP**2))*(1.+GAM1*RHO**2)*EXP(-GAM1*RHO*RHO)
P1=ST+Q+W+V+Z
PZ=PC*P1
PX=PZ/14.6960
DEV=((P(I)-PX)/P(I))*100.
1 PUNCH,P(I),PX,DEV
END
```

```
DIMENSION P(11),VOL(11)
```

```
DO 1 I=1,11
```

```
READ,P(I),VOL(I)
```

```
T= TEMPERATURE FOR THE PARTICULAR RUN
```

```
TOC=43.6
```

```
POC=20.2
```

```
CX=21.8
```

```
C2=44.2
```

```
S=2.01594
```

```
TIC=TOC/(1.+CX/(S*T))
```

```
PIC=POC/(1.+C2/(S*T))
```

```
A10=0.343258
```

```
B10=0.113747
```

```
A1=0.0235866
```

```
B1=0.0275404
```

```
C10=0.098224
```

```
C1=0.035694
```

```
D1=0.0000875
```

```
GAM=0.052058
```

```
AL1=D1/A1
```

```
TC=TIC
```

```
PC=PIC
```

```
R=82.06
```

```
DEFN1=1./VOL(I)
```

```
DEN=DEFN1
```

```
ALP=T/TC
```

```
RHO=DEN*R*TC/PC
```

```
ST=ALP*RHO
```

```
Q=(B10*ALP-A10-C10/(ALP*ALP))*RHO*RHO
```

```
W=(B1*ALP-A1)*RHO**3
```

```
V=(A1*AL1)*RHO**6
```

```
Z=(C1*RHO**3/(ALP**2))* (1.+GAM1*RHO**2)*EXP(-GAM1*RHO*RHO)
```

```
P1=ST+Q+W+V+Z
```

```
PX=PC*P1
```

```
DEV=((P(I)-PX)/P(I))*100.
```

```
1 PUNCH,P(I),PX,DEV
```

```
END
```

12

11

10

2

8

7

6

5

4

3

2

1

NOTATION
PROGRAMS 1(A-C)

T	Temperature in degrees K
T _{oc}	Classical critical temperature
P _{oc}	Classical critical pressure
C _x	Effective critical constant
C ₂	Effective critical constant
S	Molecular weight
T _{1c}	Effective critical temperature
P _{1c}	Effective critical pressure
A _{1o} , B _{1o} , A ₁ , B ₁	
C _{1o} , C ₁ , D ₁ , GAM	Constants of the Generalized B-W-R Equation
R	Gas constant
DEN	Density gm. mole/cc.
ALP	Reduced temperature
RHO	Reduced density
ST, Q, W, V, Z	The five terms of the equation of state
P ₁	Reduced pressure
DEV	Deviation from observed value

PROGRAM 1(A)

TC	Temperature in degrees R
PC	Pressure in psi.
DENL	Density gm./cc.
PZ	Pressure in psi.
PX	Pressure in atm.

PROGRAM 1(B)

TC	Temperature in degrees R
PC	Pressure in psi.
PA	Pressure in psi.
V	Volume cc./gm.
PZ	Pressure in psi.
PX	Pressure in atm.

PROGRAM 1(C)

TC	Temperature in degrees K
PC	Pressure in atm.
DEN1	Density gm./cc.
PX	Pressure in atm.

```
DIMENSION P(28),VOL(28)
DO 1 I=1,28
  READ,P(I),VOL(I)
  T= TEMPERATURE FOR THE PARTICULAR RUN
  S=2.01594
  AO=585.127
  BO=3339.37E-4
  CO=482.82E4
  A=-98.597
  B=862.2E-4
  C=1423.17E3
  D=40.230
  GAM=900.00E-3
  AL=D7A
  T=T*1.8
  R=10.7325
  DEN1=1./(VOL(I)*0.01601R)
  DEN=DEN1/S
  ST=R*T*DEN
  Q=(BO*R*T-AO-CD/(T*T))*DEN*DEN
  W=(B*R*T-A)*DEN**3
  V=(A*AL)*DEN**6
  Z=(C*DEN**3/(T*T))*(1.+GAM*DEN**2)*EXP(-GAM*DEN**2)
  P1=ST+Q+W+V+Z
  PX=P1/14.6960
  DEV=((P(I)-PX)/P(I))*100.
1  PUNCH,P(I),PX,DEV
END
```

```
DIMENSION P(7),ZR(7)
DO 1 I=1,7
READ,P(I),ZR(I)
T= TEMPERATURE FOR THE PARTICULAR RUN
S=2.01594
AO=585.127
BO=3339.37E-4
CO=482.82E4
A=-98.597
B=862.2E-4
C=1423.17E3
D=40.239
GAM=200.00E-3
AL=D/A
T=T*1.8
R=10.733E
PA=14.6960*P(I)
V=ZR(I)*R*T/PA
DEN=1./V
ST=R*T*DEN
O=(BO*R*T-AO-CO/(T*T))*DEN*DEN
W=(R*R*T-A)*DEN**3
V=(A*AL)*DEN**6
Z=(C*DEN**3/(T*T))*(1.+GAM*DEN**2)*EXP(-GAM*DEN**2)
P1=ST+O+W+V+Z
PX=P1/14.6960
DEV=((P(I)-PX)/P(I))*100.
1 PUNCH,P(I),PX,DEV
END
```

12

11

10

9

8

7

6

5

4

3

2

1

```
DIMENSION P(11),VOL(11)
DO 1 I=1,11
  READ,D(I),VOL(I)
  T=TEMPERATURE FOR THE PARTICULAR RUN
  AO=585.127
  BO=3339.37E-4
  CO=482.8254
  A=-98.597
  B=862.2E-4
  C=1423.17E3
  D=49.239
  GAM=900.00E-3
  AL=D/A
  T=T*1.8
  R=10.7335
  DEN1=1./(VOL(I)*0.016018)
  DEN=DEN1
  ST=R*T*DEN
  Q=(BO*R*T-AO-CO/(T*T))*DEN*DEN
  W=(B*R*T-A)*DEN**3
  V=(A*AL)*DEN**6
  Z=(C*DEN**3/(T*T))*(1.+GAM*DEN**2)*EXP(-GAM*DEN**2)
  P1=ST+Q+W+V+Z
  PX=P1/14.6960
  DEV=((P(I)-PX)/P(I))*100.
1 PUNCH,P(I),PX,DEV
END
```

NOTATION

PROGRAMS 2(A-C)

T Temperature in degrees K
S Molecular weight
A₀, B₀, C₀, A
B, C, D, GAM Constants of the Original B-W-R Equation
T Temperature in degrees R
R Gas constant
DEN Density gm. mole/cc.
ST, Q, W, V, Z The five terms of the equation of state
P₁ Pressure in psi.
PX Pressure in atm.
DEV Deviation from observed value

PROGRAM 2(A)

DEN1 Density gm./cc/

PROGRAM 2(B)

PA Pressure in psi.
V Volume cc./gm. mole

PROGRAM 2(C)

DEN1 Density gm. mole/cc.

```

DIMENSION P(7),ZR(7)
DO 1 I=1,7
READ,P(I),ZR(I)
T= TEMPERATURE FOR THE PARTICULAR RUN
Y1=0.0903
Y2=0.9097
TCI=190.7
VC1=99.0
ZC1=0.290
T=(T+459.63)/1.8
TOC=43.6
POC=20.2
VOC=51.5
CX=21.8
C2=44.2
C3=-9.91
S=2.01594
TTC=TOC/(1.+CX/(S*T))
VC=VOC/(1.+(C3/(S*T)))
PIC=POC/(1.+C2/(S*T))
WT=0.013
W2=0.0
WM=Y1*WT+Y2*W2
A10=0.343258-0.127521*WM-0.509131*WM*WM
B10=0.113747+0.127349*WM-0.243280*WM*WM
A1=0.0235866+0.290284*WM-0.295413*WM*WM
B1=0.0275404+0.131009*WM-0.134924*WM*WM
C10=0.098224+0.401236*WM-0.0397267*WM*WM
C1=0.035694+0.185297*WM-0.230125*WM*WM
D1=0.0000875
GAM=0.052058-0.09064*WM+0.10506*WM*WM
AL1=D1/A1
TCM=Y1*TCI+Y2*TTC
VCM=Y1*VC1+Y2*VC
R=82.06
ZC=0.291
ZCM=Y1*ZC1+Y2*ZC
PCM=R*TCM*ZCM/VCM
12 PT=PT(I)/14.6960
11 DEN=PT/(ZR(I)*R*T)
ALP=T/TCM
10 RHO=DEN*R*TCM/PCM
9 Q=(B10*ALP-A10-C10/(ALP*ALP))*RHO*RHO
W=(B1*ALP-A1)*RHO**3
8 V=(A1*AL1)*RHO**6
Z=(C1*RHO**3/(ALP**2))*(1.+GAM*RHO**2)*EXP(-GAM*RHO*RHO)
7 P1=ST+Q+W+V+Z
PZ=PCM*PT
6 PX=PZ*14.6960
5 1 DEV=((P(I)-PX)/P(I))*100.0
END

```

```

DIMENSION P(7),ZR(7)
DO 1 I=1,7
READ,P(I),ZR(I)
T= TEMPERATURE FOR THE PARTICULAR RUN
Y1=0.0903
Y2=0.9097
TC1=190.7
VC1=99.0
ZC1=0.290
T=(T+459.63)/1.8
TCC=43.6
POC=20.2
VOC=51.5
CX=21.8
C2=44.2
C3=-9.91
S=2.01594
SS=16.041
T1C=TCC/(1.+CX/(S*T))
V1C=VOC/(1.+(C3/(S*T)))
P1C=POC/(1.+C2/(S*T))
W1=0.013
W2=0.0
WM=Y1*W1+Y2*W2
A1C=0.343258-0.127521*WM-0.500131*WM*WM
P1C=0.113747+0.127347*WM-0.243290*WM*WM
A1=0.0235866+0.290234*WM-0.205413*WM*WM
B1=0.0275404+0.131009*WM-0.134924*WM*WM
C1C=0.098224+0.401236*WM-0.0397267*WM*WM
C1=0.035694+0.185297*WM-0.230125*WM*WM
D1=0.0000875
GAM=0.052058-0.09964*WM+0.10506*WM*WM
AL1=D1/A1
HAB=(Y1/SQRT(SS)+Y2/SQRT(S))**2
SM=1./HAB
TCM=(Y1*TC1+Y2*TC0)/(1.+CX/(SM*T))
P=82.06
ZC=0.291
A=R*(Y1*ZC1+Y2*ZC)*(Y1*TC1+Y2*TC0)
B=(Y1*VC1+Y2*VOC)*(1.+C2/(SM*T))
PCM=A/B
PT=P(I)/14.6960
DEN=PT/(ZR(I)*R*T)
ALP=T/TCM
RHO=DEN*P*TCM/PCM
ST=ALP*RHO
Q=(P1C*ALP-A1C-C1C/(ALP*AL1))*RHO*RHO
W=(P1*ALP-A1)*RHO**3
V=(A1*AL1)*RHO**6
Z=(C1*RHO**3/(ALP**2))*(1.+GAM*RHO**2)*EXP(-GAM*RHO*RHO)
P1=ST+Q+W+V+Z
PZ=PCM*P1
PX=PZ*14.6960
DEV=((P(I)-PX)/P(I))*100.0
1 PUNCH,P(I),PX,DEV
END

```

```

DIMENSION P(6),ZR(6)
DO 1 I=1,6
READ,P(I),ZR(I)
T= TEMPERATURE FOR THE PARTICULAR RUN
Y1=0.8996
Y2=0.1004
TC1=305.4
VC1=148.0
ZC1=0.285
T=(T+459.63)/1.8
TOC=43.6
POC=20.2
VOC=51.5
CX=21.8
CZ=44.2
C3=-9.91
S=2.01594
T1C=TOC/(1.+CX/(S*T))
VC=VOC/(1.+(C3/(S*T)))
P1C=POC/(1.+C2/(S*T))
W1=0.1064
W2=0.0
WM=Y1*W1+Y2*W2
A10=0.343258-0.127521*WM-0.509131*WM*WM
B10=0.113747+0.127349*WM-0.243280*WM*WM
A1=0.0235866+0.290284*WM-0.295413*WM*WM
B1=0.0275404+0.131009*WM-0.134924*WM*WM
C10=0.098224+0.401236*WM-0.0397267*WM*WM
C1=0.035694+0.185297*WM-0.230125*WM*WM
D1=0.0000875
GAM=0.052058-0.09064*WM+0.10506*WM*WM
AL1=D1/A1
TCM=Y1*TC1+Y2*T1C
VCM=Y1*VC1+Y2*VC
R=82.06
ZC=0.291
ZCM=Y1*ZC1+Y2*ZC
PCM=R*TCM*ZCM/VCM
PT=PT(I)/I4.6960
DEN=PT/(ZR(I)*R*T)
ALP=T/TCM
RHO=DEN*R*TCM/PCM
ST=ALP*RHO
Q=(B10*ALP-A10-C10/(ALP*ALP))*RHO*RHO
W=(B1*ALP-A1)*RHO**3
V=(A1*AL1)*RHO**6
Z=(C1*RHO**3/(ALP**2))*(1.+GAM*RHO**2)*EXP(-GAM*RHO*RHO)
P1=ST+Q+W+V+Z
PZ=PCM*D1
PX=PZ*14.6960
DEV=((P(I)-PX)/P(I))*100.0
1 PUNCH,P(I),PX,DEV
END

```



```

DIMENSION P(6),ZR(6)
DO 1 I=1,6
READ,P(I),ZR(I)
T= TEMPERATURE FOR THE PARTICULAR RUN
Y1=0.7997
Y2=0.2003
TC1=305.4
VC1=148.0
ZC1=0.285
T=(T+459.63)/1.8
TOC=43.6
POC=20.2
VOC=51.5
CX=21.8
C2=44.2
C3=-9.91
S=2.01594
T1C=TOC/(1.+CX/(S*T))
VC=VOC/(1.+(C3/(S*T)))
P1C=POC/(1.+C2/(S*T))
W1=0.1064
W2=0.0
WV=Y1*W1+Y2*W2
A10=0.343258-0.127521*WM-0.509131*WM*WM
B10=0.113747+0.127349*WV-0.243280*WM*WM
A1=0.0235866+0.290284*WM-0.295413*WM*WM
B1=0.0275404+0.131009*WM-0.134924*WM*WM
C10=0.098224+0.401236*WM-0.0397267*WM*WM
C1=0.035694+0.185297*WM-0.230125*WM*WM
D1=0.0000875
GAM=0.052058-0.09064*WM+0.10506*WM*WM
AL1=D1/A1
TCM=Y1*TC1+Y2*T1C
VCM=Y1*VC1+Y2*VC
R=82.06
ZC=0.291
ZCM=Y1*ZC1+Y2*ZC
PCM=R*TCM*ZCM/VCM
PT=P(I)/14.6960
DEN=PT/(ZR(I)*R*T)
ALP=T/TCM
RHO=DEN*R*TCM/PCM
ST=ALP*RHO
Q=(B10*ALP-A10-C10/(ALP*ALP))*RHO*RHO
W=(B1*ALP-A1)*RHO**3
V=(A1*AL1)*RHO**6
Z=(C1*RHO**3/(ALP**2))*(1.+GAM*RHO**2)*EXP(-GAM*RHO*RHO)
P1=ST+Q+W+V+Z
PZ=PCM*P1
PX=PZ*14.6960
DEV=((P(I)-PX)/P(I))*100.0
1 PUNCH,P(I),PX,DEV
END

```

```

DIMENSION P(6),ZR(6)
DO 1 I=1,6
READ,P(I),ZR(I)
T= TEMPERATURE FOR THE PARTICULAR RUN
Y1=0.5017
Y2=0.4983
TC1=305.4
VC1=148.0
ZC1=0.285
T=(T+459.63)/1.8
TOC=43.6
POC=20.2
VOC=51.5
CX=21.8
C2=44.2
C3=-9.91
S=2.01594
TIC=TOC/(1.+CX/(S*T))
VCE=VOC/(1.+(C3/(S*T)))
PIC=POC/(1.+C2/(S*T))
WT=0.1064
W2=0.0
WM=Y1*W1+Y2*W2
A10=0.343258-0.127521*WM-0.509131*WM*WM
B10=0.113747+0.127349*WM-0.243280*WM*WM
A1=0.0235866+0.290284*WM-0.295413*WM*WM
B1=0.0275404+0.131009*WM-0.134924*WM*WM
C10=0.098224+0.401236*WM-0.0397267*WM*WM
C1=0.035694+0.185297*WM-0.230125*WM*WM
D1=0.0000875
GAM=0.052058-0.09064*WM+0.10506*WM*WM
AL1=D1/A1
TCM=Y1*TC1+Y2*TIC
VCM=Y1*VC1+Y2*VCE
R=82.06
ZC=0.291
ZCM=Y1*ZC1+Y2*ZC
PCM=R*TCM*ZCM/VCM
2 PT=P(I)/14.6960
1 DEN=PT/(ZR(I)*R*T)
0 ALP=T/TCM
9 RHO=DEN*R*TCM/PCM
8 ST=ALP*RHO
7 Q=(B10*ALP-A10-C10/(ALP*ALP))*RHO*RHO
6 W=(B1*ALP-A1)*RHO**3
5 V=(A1*AL1)*RHO**6
4 Z=(C1*RHO**3/(ALP**2))*(1.+GAM*RHO**2)*EXP(-GAM*RHO*RHO)
3 P1=ST+Q+W+V+Z
2 PZ=PCM*P1
1 PX=PZ*14.6960
DEV=((P(I)-PX)/P(I))*100.0
1 PUNCH,P(I),PX,DEV
END

```

```

DIMENSION P(6),ZR(6)
DO 1 I=1,6
READ,P(I),ZR(I)
T= TEMPERATURE FOR THE PARTICULAR RUN
Y1=0.2010
Y2=0.7990
TC1=305.4
VC1=148.0
ZC1=0.285
T=(T+459.63)/1.8
TOC=43.6
POC=20.2
VOC=51.5
CX=21.8
C2=44.2
C3=-9.91
S=2.01594
TIC=TOC/(1.+CX/(S*T))
VC=VOC/(1.+(C3/(S*T)))
PIC=POC/(1.+C2/(S*T))
WI=0.1064
W2=0.0
WM=Y1*WI+Y2*W2
A10=0.343258-0.127521*WM-0.509131*WM*WM
B10=0.113747+0.127349*WM-0.243280*WM*WM
A1=0.0235866+0.290284*WM-0.295413*WM*WM
B1=0.0275404+0.131009*WM-0.134924*WM*WM
C10=0.098224+0.401236*WM-0.0397267*WM*WM
C1=0.0356947+0.185297*WM-0.230125*WM*WM
D1=0.0000875
GAM=0.052058-0.09064*WM+0.10506*WM*WM
AL1=D1/A1
TCM=Y1*TC1+Y2*TC
VCM=Y1*VC1+Y2*VC
R=82.06
ZC=0.291
ZCM=Y1*ZC1+Y2*ZC
PCM=R*TCM*ZCM/VCM
12 PT=PT(I)/14.6960
11 DEN=PT/(ZR(I)*R*T)
ALP=ETZTCM
10 RHO=DEN*R*TCM/PCM
9 ST=ALP*RHO
Q=(B10*ALP-A10-C10/(ALP*ALP))*RHO*RHO
W=(B1*ALP-A1)*RHO**3
8 V=(A1*AL1)*RHO**6
Z=(C1*RHO**3/(ALP**2))*T*(1.+GAM*RHO**2)*EXP(-GAM*RHO*RHO)
7 P1=ST+Q+W+V+Z
PZ=PCM*P1
6 PX=PZ*14.6960
5 1 PUNCH,P(I),PX,DEV
END

```

```

DIMENSION P(6),ZR(6)
DO 1 I=1,6
READ,P(I),ZR(I)
T= TEMPERATURE FOR THE PARTICULAR RUN
Y1=0.8996
Y2=0.1004
TC1=305.4
VC1=148.0
ZC1=0.285
T=(T+459.63)/1.8
TOC=43.6
POC=20.2
VOC=51.5
CX=21.8
C2=44.2
C3=-9.91
S=2.01504
SS=30.07
TIC=TOC/(1.+CX/(S*T))
VC=VOC/(1.+(C3/(S*T)))
PIC=POC/(1.+C2/(S*T))
W1=0.1064
W2=0.0
WM=Y1*W1+Y2*W2
A10=0.343258-0.127521*WM-0.509131*WM*WM
B10=0.113747+0.127349*WM-0.243280*WM*WM
A1=0.0235866+0.290284*WM-0.295413*WM*WM
B1=0.0275404+0.131009*WM-0.134924*WM*WM
C10=0.098224+0.401236*WM-0.0397267*WM*WM
C1=0.035694+0.185297*WM-0.230125*WM*WM
D1=0.0000875
GAM=0.052058-0.09064*WM+0.10506*WM*WM
AL1=D1/A1
HAB=(Y1/SQRT(SS)+Y2/SQRT(S))*2
SM=1./HAB
TCM=(Y1*TC1+Y2*TOC)/(1.+CX/(SM*T))
R=82.06
ZC=0.291
12 A=R*(Y1*ZC1+Y2*ZC)*(Y1*TC1+Y2*TOC)
11 B=(Y1*VC1+Y2*VOC)*(1.+C2/(SM*T))
PCM=A/B
10 PT=P(I)/14.6960
9 DEN=PT/(ZR(I)*R*T)
ALP=T/TCM
RHO=DEN*R*TCM/PCM
8 ST=ALP*RHO
Q=(B10*ALP-A10-C10/(ALP*ALP))*RHO*RHO
7 W=(B1*ALP-A1)*RHO**3
V=(A1*AL1)*RHO**6
6 Z=(C1*RHO**3/(ALP**2))*(1.+GAM*RHO**2)*EXP(-GAM*RHO*RHO)
5 P1=ST+Q+W+V+Z
PX=PZ*14.6960
4 DEV=((P(I)-PX)/P(I))*100.0
3 PUNCH,P(I),PX,DEV
END

```

```

DIMENSION P(6),ZR(6)
DO 1 I=1,6
READ,P(I),ZR(I)
T= TEMPERATURE FOR THE PARTICULAR RUN
Y1=0.7997
Y2=0.2003
TC1=305.4
VC1=148.0
ZC1=0.285
T=(T+459.63)/1.8
TOC=43.6
POC=20.2
VOC=51.5
CX=21.8
C2=44.2
C3=-9.91
S=2.01594
SS=30.07
TIC=TOC/(1.+CX/(S*T))
VC=VOC/(1.+(C3/(S*T)))
PIC=POC/(1.+C2/(S*T))
W1=0.1064
W2=0.0
WM=Y1*W1+Y2*W2
A10=0.343258-0.127521*WM-0.509131*WM*WM
R10=0.113747+0.127349*WM-0.243280*WM*WM
A1=0.0235866+0.200282*WM-0.205413*WM*WM
R1=0.0275404+0.131009*WM-0.134924*WM*WM
C10=0.0982224+0.401236*WM-0.0397267*WM*WM
C1=0.035694+0.185297*WM-0.230125*WM*WM
D1=0.0000875
GAM=0.052058-0.09064*WM+0.10506*WM*WM
AL1=DI7AI
HAB=(Y1/SQRT(SS)+Y2/SQRT(S))**2
SM=I.7HAB
TCM=(Y1*TC1+Y2*TOC)/(1.+CX/(SM*T))
R=82.06
ZC=0.291
A=P*(Y1*ZC1+Y2*ZC)*(Y1*TC1+Y2*TOC)
B=(Y1*VC1+Y2*VOC)*(1.+C2/(SM*T))
PCM=A/B
PT=P(I)/14.6960
DEN=PT/(ZR(I)*R*T)
ALP=T/TCM
RHO=DEN*P*TCM/PCM
ST=ALP*RHO
Q=(R10*ALP-A10-C10)/(ALP*ALPT)*RHO*RHO
W=(R1*ALP-A1)*RHO**3
V=(A1*AL1)*RHO**6
Z=(C1*RHO**3/(ALP**2))*(1.+GAM*RHO**2)*EXP(-GAM*RHO*RHO)
P1=ST+Q+W+V+Z
PZ=PCM*P1
PX=PZ*I4.6960
DEV=((P(I)-PX)/P(I))*100.0
I PUNCH,P(I),PX,DEV
END

```

```

DIMENSION P(6),ZR(6)
DO 1 I=1,6
READ,6(I),ZR(I)
T= TEMPERATURE FOR THE PARTICULAR RUN
Y1=0.5017
Y2=0.4983
TC1=305.4
VC1=148.0
ZC1=0.285
T=(T+459.63)/1.8
TOC=43.6
POC=20.2
VOC=51.5
CX=21.8
C2=44.2
C3=-9.91
S=2.01594
SS=30.07
TIC=TOC/(1.+CX/(S*T))
VC=VOC/(1.+(C3/(S*T)))
PIC=POC/(1.+C2/(S*T))
W1=0.1064
W2=0.0
WM=Y1*W1+Y2*W2
A10=0.343258-0.127521*WM-0.509131*WM*WM
B10=0.113747+0.127348*WM-0.243280*WM*WM
A1=0.0235866+0.290284*WM-0.295413*WM*WM
B1=0.0275404+0.131009*WM-0.134924*WM*WM
C10=0.0982224+0.401236*WM-0.0397267*WM*WM
C1=0.035694+0.185297*WM-0.230125*WM*WM
D1=0.0000875
GAM=0.052058-0.09064*WM+0.10506*WM*WM
AL1=D1/A1
HAB=(Y1/SQRT(SS)+Y2/SQRT(S))**2
SM=1./HAB
TCM=(Y1*TC1+Y2*TOC)/(1.+CX/(SM*T))
R=82.06
ZC=0.291
12 A=R*(Y1*ZC1+Y2*ZC)*(Y1*TC1+Y2*TOC)
11 B=(Y1*VC1+Y2*VOC)*(1.+C2/(SM*T))
PCM=A/B
10 PT=P(I)/14.6960
9 DEN=PT/(ZR(I)*R*T)
8 ALP=T/TCM
7 RHO=DEN*R*TCM/PCM
6 ST=ALP*RHO
5 Q=(B10*ALP-A10-C10/(ALP*ALP))*RHO*RHO
4 W=(B1*ALP-A1)*RHO**3
3 V=(A1*AL1)*RHO**6
2 Z=(C1*RHO**3/(ALP**2))*(1.+GAM*RHO**2)*EXP(-GAM*RHO*RHO)
1 P1=ST+Q+W+V+Z
PZ=PCM*P1
PX=PZ*14.6960
DEV=((P(I)-PX)/P(I))*100.0
1 PUNCH,P(I),PX,DEV
END

```

```

DIMENSION P(6),ZR(6)
DO 1 I=1,6
READ,P(I),ZR(I)
T= TEMPERATURE FOR THE PARTICULAR RUN
Y1=0.2010
Y2=0.7990
TC1=305.4
VC1=148.0
ZC1=0.285
T=(T+459.63)/1.8
TOC=43.6
POC=20.2
VOC=51.5
CX=21.8
C2=44.2
C3=-9.91
S=2.01594
SS=30.07
T1C=TOC/(1.+CX/(S*T))
VC=VOC/(1.+(C3/(S*T)))
P1C=POC/(1.+C2/(S*T))
W1=0.1064
W2=0.0
WM=Y1*W1+Y2*W2
A10=0.343258-0.127521*WM-0.509131*WM*WM
B10=0.113747+0.127349*WM-0.243280*WM*WM
A1=0.0235866+0.290284*WM-0.295413*WM*WM
B1=0.0275404+0.131009*WM-0.134924*WM*WM
C10=0.098224+0.401236*WM-0.0397267*WM*WM
C1=0.035694+0.185297*WM-0.230125*WM*WM
D1=0.0000875
GAM=0.052058-0.09064*WM+0.10506*WM*WM
AL1=D1/A1
HAB=(Y1/SQRT(SS)+Y2/SQRT(S))**2
SM=1./HAB
TCM=(Y1*TC1+Y2*TOC)/(1.+CX/(SM*T))
R=82.06
ZC=0.291
12 A=R*(Y1*ZC1+Y2*ZC)*(Y1*TC1+Y2*TOC)
11 B=(Y1*VC1+Y2*VOC)*(1.+C2/(SM*T))
PCM=A/B
10 PT=P(I)/14.6960
9 DEN=PT/(ZR(I)*R*T)
ALP=T/TCM
RHO=DEN*R*TCM/PCM
8 ST=ALP*RHO
Q=(B10*ALP-A10-C10)/(ALP*ALP)*RHO*RHO
7 W=(B1*ALP-A1)*RHO**3
V=(A1*AL1)*RHO**6
6 Z=(C1*RHO**3/(ALP**2))*(1.+GAM*RHO**2)*EXP(-GAM*RHO*RHO)
5 P1=ST+Q+W+V+Z
PX=PZ*P1
4 DEV=((P(I)-PX)/P(I))*100.0
1 PUNCH,P(I),PX,DEV
END

```

```

DIMENSION P(8),PV(8)
DO 1 I=1,8
READ,P(I),PV(I)
T= TEMPERATURE FOR THE PARTICULAR RUN
Y1=0.1256
Y2=0.8744
POVO=22425.0
TC1=126.2
VCT=90.0
ZC1=0.291
T=T+273.16
TOC=43.6
POC=20.2
VOC=51.5
CX=21.8
C2=44.2
C3=-9.91
S=2.01594
TIC=TOC/(1.+CX/(S*T))
VC=VOC/(1.+(C3/(S*T)))
PIC=POC/(1.+C2/(S*T))
W1=0.040
W2=0.0
WM=Y1*W1+Y2*W2
A10=0.343258+0.127521*WM-0.509131*WM*WM
B10=0.113747+0.127349*WM-0.243280*WM*WM
A1=0.0235866+0.290284*WM-0.295413*WM*WM
B1=0.0275404+0.131009*WM-0.134924*WM*WM
C10=0.098224+0.401236*WM-0.0397267*WM*WM
C1=0.035694+0.185297*WM-0.230125*WM*WM
D1=0.0000875
GAM=0.052058-0.09064*WM+0.10506*WM*WM
AL1=D1/A1
TCM=Y1*TC1+Y2*TIC
VCM=Y1*VCT+Y2*VC
R=82.06
ZC=0.291
ZCM=Y1*ZC1+Y2*ZC
PCM=R*TCM*ZCM/VCM
DEN=P(I)/(POVO*PV(I))
ALP=T/TCM
RHO=DEN*R*TCM/PCM
ST=ALP*RHO
Q=(B10*ALP-A10-C10/(ALP*ALP))*RHO*RHO
W=(B1*ALP-A1)*RHO**3
V=(A1*AL1)*RHO**6
Z=(C1*RHO**3/(ALP**2))*(1.+GAM*RHO**2)*EXP(-GAM*RHO*RHO)
P1=ST+Q+W+V+Z
PX=PCM*0.1
DEV=((P(I)-PX)/P(I))*100.0
1 PUNCH,P(I),PX,DEV
END

```



```

DIMENSION P(8),PV(8)
DO 1 I=1,8
READ,P(I),PV(I)
T= TEMPERATURE FOR THE PARTICULAR RUN
Y1=0.2744
Y2=0.7556
POVO=22422.1
TC1=126.2
VCI=90.0
ZC1=0.291
T=T+273.16
TOC=43.6
POC=20.2
VOC=51.5
CX=21.8
C2=44.2
C3=-9.91
S=2.01594
TTC=TOC/(1.+CX/(S*T))
VC=VOC/(1.+(C3/(S*T)))
PIC=POC/(1.+C2/(S*T))
W1=0.040
W2=0.0
WM=Y1*W1+Y2*W2
A10=0.343258-0.127521*WM-0.509131*WM*WM
B10=0.113747+0.127349*WM-0.243280*WM*WM
A1=0.0235866+0.290284*WM-0.295413*WM*WM
B1=0.0275404+0.131009*WM-0.134924*WM*WM
C10=0.098224+0.401236*WM-0.0397267*WM*WM
C1=0.035694+0.185297*WM-0.230125*WM*WM
D1=0.0000875
GAM=0.052058-0.09064*WM+0.10506*WM*WM
AL1=D1/A1
TCM=Y1*TC1+Y2*T1C
VCM=Y1*VCI+Y2*VC
R=82.06
ZC=0.291
ZCM=Y1*ZC1+Y2*ZC
PCM=R*TCM*ZCM/VCM
DEN=P(I)/(POVO*PV(I))
ALP=T/TCM
RHO=DEN*R*TCM/PCM
ST=ALP*RHO
Q=(B10*ALP-A10-C10/(ALP*ALP))*RHO*RHO
W=(B1*ALP-A1)*RHO**3
V=(A1*AL1)*RHO**6
Z=(C1*RHO**3/(ALP**2))*(1.+GAM*RHO**2)*EXP(-GAM*RHO*RHO)
P1=ST+Q+W+V+Z
PX=PCM*P1
DEV=((P(I)-PX)/P(I))*100.0
1 PUNCH,P(I),PX,DEV
END

```

```

DIMENSION P(8),PV(8)
DO 1 I=1,8
READ,P(I),PV(I)
T= TEMPERATURE FOR THE PARTICULAR RUN
Y1=0.4825
Y2=0.5174
POVO=22415.5
TC1=126.2
VCI=90.0
ZC1=0.291
T=T+273.15
TOC=43.6
POC=20.2
VOC=51.5
CX=21.8
C2=44.2
C3=9.91
S=2.01594
TTC=TOC/(1.+CX/(S*T))
VC=VOC/(1.+(C3/(S*T)))
PTC=POC/(1.+C2/(S*T))
W1=0.040
W2=0.0
WM=Y1*W1+Y2*W2
A10=0.343258+0.127521*WM-0.509131*WM*WM
B10=0.113747+0.127349*WM-0.243280*WM*WM
A1=0.0235866+0.290284*WM-0.295413*WM*WM
B1=0.0275404+0.131009*WM-0.134924*WM*WM
C10=0.098224+0.401236*WM-0.0397267*WM*WM
C1=0.035694+0.185297*WM-0.230125*WM*WM
DI=0.0000875
GAM=C.052058-0.09064*WM+C.10506*WM*WM
ALP=DI/A1
TCM=Y1*TC1+Y2*TTC
VCM=Y1*VCI+Y2*VC
R=82.06
ZC=0.291
ZCM=Y1*ZC1+Y2*ZC
PCM=R*TCM*ZCM/VCM
DEN=P(I)/(POVO*PV(I))
ALP=ET/TCM
RHO=DEN*R*TCM/PCM
ST=ALP*RHO
Q=(B10*ALP-A10-C10/(ALP*ALP))*RHO*RHO
W=(B1*ALP-A1)*RHO**3
V=(A1*AL1)*RHO**6
Z=(C1*RHO**3/(ALP**2))*(1.+GAM*RHO**2)*EXP(-GAM*RHO*RHO)
P1=ST+Q+W+V+Z
PX=PCM*P1
DEV=((P(I)-PX)/P(I))*100.0
1 PUNCH,P(I),PX,DEV
END

```

```

DIMENSION P(8),PV(8)
DO 1 I=1,8
READ,P(I),PV(I)
T= TEMPERATURE FOR THE PARTICULAR RUN
Y1=0.7388
Y2=0.2612
POVO=22410.3
TC1=126.2
VCI=90.0
ZC1=0.291
TET=273.15
TOC=43.6
POC=20.2
VOC=51.5
CX=21.8
C2=44.2
C3=-9.91
S=2.01594
TTC=TOC/(1.+(CX/(S*T)))
VC=VOC/(1.+(C3/(S*T)))
PIC=POC/(1.+(C2/(S*T)))
W1=0.040
W2=0.0
WM=Y1*W1+Y2*W2
A10=0.343258-0.127521*WM-0.509131*WM*WM
B10=0.113747+0.127349*WM-0.243280*WM*WM
A1=0.0235865+0.290284*WM-0.295413*WM*WM
B1=0.0275404+0.131009*WM-0.134924*WM*WM
C10=0.098224+0.401236*WM-0.0397267*WM*WM
C1=0.035694+0.185297*WM-0.230125*WM*WM
D1=0.0006875
GAM=0.052058-0.09064*WM+0.10506*WM*WM
AL1=D1/A1
TCM=Y1*TC1+Y2*T1C
VCM=Y1*VCI+Y2*VC
R=82.06
ZC=0.291
ZCM=Y1*ZC1+Y2*ZC
PCM=R*TCM*ZCM/VCM
DEN=P(I)/(POVO*PV(I))
ALP=T/TCM
RHO=DEN*R*TCM/PCM
ST=ALP*RHO
Q=(B10*ALP-A10-C10/(ALP*ALP))*RHO*RHO
W=(B1*ALP-A1)*RHO**3
V=(A1*AL1)*RHO**6
Z=(TC1*RHO**3/(ALP**2))*(1.+GAM*RHO**2)*EXP(-GAM*RHO*RHO)
P1=ST+Q+W+V+Z
PX=PCV*P1
DEV=((P(I)-PX)/P(I))*100.0
1 PUNCH,P(I),PX,DEV
END

```

```

DIMENSION P(8),PV(8)
DO 1 I=1,8
READ,P(I),PV(I)
T= TEMPERATURE FOR THE PARTICULAR RUN
Y1=0.1256
Y2=0.8744
POVO=22425.0
TC1=126.2
VC1=90.0
ZC1=0.291
T=T+273.16
TOC=43.6
POC=20.2
VOC=51.5
CX=21.8
C2=44.2
C3=-9.91
S=2.01594
SS=28.02
TTC=TOC/(1.+CX/(S*T))
VVC=VOC/(1.+(C3/(S*T)))
PIC=POC/(1.+C2/(S*T))
W1=0.040
W2=0.0
WM=Y1*W1+Y2*W2
A10=0.343258-0.127521*WM-0.509131*WM*WM
B10=0.113747+0.127349*WM-0.243280*WM*WM
A1=0.0235866+0.290284*WM-0.295413*WM*WM
B1=0.0275404+0.131009*WM-0.134924*WM*WM
C10=0.098224+0.401236*WM-0.0397267*WM*WM
C1=0.035694+0.185297*WM-0.230125*WM*WM
D1=0.0000875
GAM=0.052058-0.09064*WM+0.10506*WM*WM
AL1=D1/A1
HAB=(Y1/SQRT(SS)+Y2/SQRT(S))**2
SM=1./HAB
TCM=(Y1*TC1+Y2*TOC)/(1.+CX/(SM*T))
R=82.06
ZC=0.291
A=R*(Y1*ZC1+Y2*ZC)*(Y1*TC1+Y2*TOC)
B=(Y1*VC1+Y2*VOC)*(1.+C2/(SM*T))
PCM=A/B
DEN=PT/(POVO*PV(I))
ALP=T/TCM
RHO=DEN*R*TCM/PCM
ST=ALP*RHO
Q=(B10*ALP-A10-C10/(ALP*ALP))*RHO*RHO
W=(B1*ALP-A1)*RHO**3
V=(A1*AL1)*RHO**6
Z=(C1*RHO**3/(ALP**2))*(1.+GAM*RHO**2)*EXP(-GAM*RHO*RHO)
PI=ST+Q+W+V+Z
PX=PCM*PI
DEV=((P(I)-PX)/P(I))*100.0
1 PUNCH,P(I),PX,DEV
END

```

```

DIMENSION P(8),PV(8)
DO 1 I=1,8
READ,P(I),PV(I)
T= TEMPERATURE FOR THE PARTICULAR RUN
Y1=0.2444
Y2=0.7556
POVO=22422.1
TC1=126.2
VCI=90.0
ZC1=0.291
T=T+273.16
TOC=43.6
POC=20.2
VOC=51.5
CX=21.8
C2=44.2
C3=-9.91
S=2.01594
SS=28.02
T1C=TOC/(1.+CX/(S*T))
VC=VOC/(1.+(C3/(S*T)))
P1C=POC/(1.+C2/(S*T))
W1=0.040
W2=0.0
WM=Y1*W1+Y2*W2
A10=0.343258-0.127521*WM-0.509131*WM*WM
B10=0.113747+0.127349*WM-0.243280*WM*WM
A1=0.0235866+0.290234*WM-0.295413*WM*WM
B1=0.0275404+0.131009*WM-0.134924*WM*WM
C10=0.098224+0.401236*WM-0.0397267*WM*WM
C1=0.035694+0.185297*WM-0.230125*WM*WM
D1=0.0006875
GAM=0.052058-0.09064*WM+0.10506*WM*WM
AL1=D1/A1
HAB=(Y1/SQRT(SS)+Y2/SQRT(S))*2
SM=1./HAB
TCM=(Y1*TC1+Y2*TOC)/(1.+CX/(SM*T))
R=82.06
ZC=C2/ZC1
A=R*(Y1*ZC1+Y2*ZC)*(Y1*TC1+Y2*TOC)
B=(Y1*VCI+Y2*VOC)*(1.+C2/(SM*T))
PCM=A/B
DEN=P(I)/(POVO*PV(I))
ALP=T/TCM
RHO=DEN*R*TCM/PCM
ST=ALP*RHO
Q=(B10*ALP-A10-C10/(ALP*ALP))*RHO*RHO
W=(B1*ALP-A1)*RHO**3
V=(A1*AL1)*RHO**6
Z=(C1*RHO**3/(ALP**2))*(1.+GAM*RHO**2)*EXP(-GAM*RHO*RHO)
P1=ST+Q+W+V+Z
PX=PCM*P1
DEV=((P(I)-PX)/P(I))*100.0
1 PUNCH,P(I),PX,DEV
END

```

```

DIMENSION P(8),PV(8)
DO 1 I=1,8
READ,P(I),PV(I)
T= TEMPERATURE FOR THE PARTICULAR RUN
Y1=0.4826
Y2=0.5174
POVO=224T6.5
TC1=126.2
VCI=90.0
ZC1=0.291
T=T+273.16
TOC=43.6
POC=20.2
VOC=51.5
CX=21.8
C2=44.2
C3=-9.91
S=2.01594
SS=28.02
T1C=TOC/(1.+CX/(S*T))
VC=VOC/(1.+(C3/(S*T)))
P1C=POC/(1.+C2/(S*T))
WT=0.040
W2=0.0
WM=Y1*W1+Y2*W2
A10=0.343258-0.127521*WM-0.509131*WM*WM
B10=0.113747+0.127349*WM-0.243280*WM*WM
A1=0.0235866+0.290284*WM-0.295413*WM*WM
B1=0.0275404+0.131009*WM-0.134924*WM*WM
C10=0.098224+0.401236*WM-0.0397267*WM*WM
C1=0.035694+0.185297*WM-0.230125*WM*WM
D1=0.0000875
GAM=0.052058-0.09064*WM+0.10506*WM*WM
AL1=D1/A1
HAR=(Y1/SQRT(SS)+Y2/SQRT(S))**2
SM=1./HAR
TCM=(Y1*TC1+Y2*TOC)/(1.+CX/(SM*T))
R=82.06
ZC=0.291
A=R*(Y1*ZC1+Y2*ZC)*(Y1*TC1+Y2*TOC)
B=(Y1*VCI+Y2*VOC)*(1.+C2/(SM*T))
PCM=A/B
DEN=P(I)/(POVO*PV(I))
ALP=T/TCM
RHO=DEN*R*TCM/PCM
ST=ALP*RHO
Q=(B10*ALP-A10-C10/(ALP*ALP))*RHO*RHO
W=(B1*ALP-A1)*RHO**3
V=(A1*AL1)*RHO**6
Z=(C1*RHO**3/(ALP**2))*(1.+GAM*RHO**2)*EXP(-GAM*RHO*RHO)
P1=ST+Q+W+V+Z
PX=PCM*P1
DEV=((P(I)-PX)/P(I))*100.0
1 PUNCH,P(I),PX,DEV
END

```

```

DIMENSION P(8),PV(8)
DO 1 I=1,8
READ,P(I),PV(I)
T= TEMPERATURE FOR THE PARTICULAR RUN
Y1=0.7388
Y2=0.2612
POVO=22410.3
TC1=126.2
VCI=90.0
ZC1=0.291
T=T+273.16
TOC=43.6
POC=20.2
VOC=51.5
CX=21.8
C2=44.2
C3=-9.91
S=2.01594
SS=28.02
T1C=TOC/(1.+CX/(S*T))
VC=VOC/(1.+(C3/(S*T)))
P1C=POC/(1.+C2/(S*T))
WT=0.040
W2=0.0
WM=Y1*W1+Y2*W2
A10=0.343258-0.127521*WM-0.509131*WM*WM
B10=0.113747+0.127349*WM-0.243230*WM*WM
A1=0.0235866+0.290284*WM-0.295413*WM*WM
B1=0.0275404+0.131009*WM-0.134924*WM*WM
C10=0.098224+0.401236*WM-0.0397267*WM*WM
C1=0.035694+0.185297*WM-0.230125*WM*WM
D1=0.0000875
GAM=0.052058+0.09064*WM+0.10506*WM*WM
AL1=D1/A1
HAR=(Y1/SQRT(SS)+Y2/SQRT(SS))**2
SM=1./HAR
TCM=(Y1*TC1+Y2*TOC)/(1.+CX/(SM*T))
P=82.06
ZC=0.291
A=R*(Y1*ZC1+Y2*ZC)*(Y1*TC1+Y2*TOC)
B=(Y1*VCI+Y2*VOC)*(1.+C2/(SM*T))
PCM=A/B
DEN=P(I)/(POVO*PV(I))
ALP=T/TCM
RHO=DEN*R*TCM/PCM
ST=ALP*RHO
Q=(B10*ALP-A10-C10/(ALP*ALP))*RHO*RHO
W=(B1*ALP-A1)*RHO**3
V=(A1*A1)*RHO**6
Z=(C1*RHO**3/(ALP**2))*(1.+GAM*RHO**2)*EXP(-GAM*RHO*RHO)
PI=ST+Q+W+V+Z
PX=PCM*PI
DEV=((P(I)-PX)/P(I))*100.0
1 PUNCH,P(I),PX,DEV
END

```

NOTATION

PROGRAMS:3,4,5,6,7,8

T	Temperature in degrees K
Y1	Mole fraction of other gas
Y2	Mole fraction of hydrogen
TC1	Critical temperature of other gas
VC1	Critical volume of other gas
ZC1	Critical compressibility factor of other gas
TOC	Classical critical temperature of hydrogen
POC	Classical critical pressure of hydrogen
VOC	Classical critical volume of hydrogen
CX,C2,C3	Effective critical constants
S	Molecular weight of hydrogen
T1C	Critical temperature of hydrogen (effective)
VC	Critical volume of hydrogen (effective)
P1C	Critical pressure of hydrogen (effective)
W1	Acentric factor of other gas
W2	Acentric factor of hydrogen
WM	Acentric factor for the mixture
A10,B10,A1,B1	
C10,C1,D1,GAM	Constants of the Generalized B-W-R Equation
TCM	Pseudo-critical temperature for the mixture
VCM	Pseudo-critical volume for the mixture
R	Gas constant
ZC	Critical compressibility factor of hydrogen
ZCM	Pseudo-critical compressibility factor for the mixture

SM	Molecular weight of the mixture
DEN	Density gm. mole/cc/
ALP	Reduced temperature
RHO	Reduced density
ST,Q,W,V,Z	The five terms of the equation of state
P1	Reduced pressure
DEV	Deviation from observed value

PROGRAM 3(A)

T	Temperature in degrees F
PT	Pressure in atm.
PZ	Pressure in atm.
PX	Pressure in psi.

PROGRAM 4(A)

T	Temperature in degrees F
SS	Molecular weight of methane
PT	Pressure in atm.
PZ	Pressure in atm.
PX	Pressure in psi.

PROGRAM 5(A-D)

T	Temperature in degrees F
PT	Pressure in atm.
PZ	Pressure in atm.
PX	Pressure in psi.

PROGRAM 6(A-D)

T Temperature in degrees F
SS Molecular weight of ethane
PT Pressure in atm.
PZ Pressure in atm.
PX Pressure in psi.

PROGRAM 7(A-D)

T Temperature in degrees C
PV Pressure-volume value for nitrogen
PX Pressure in atm.

PROGRAM 8(A-D)

T Temperature in degrees C
PV Pressure-volume value for nitrogen
SS Molecular weight of nitrogen
PX Pressure in atm.

APPENDIX B

HYDROGEN

TABLE 1(A)*

No. of Points	Temp. °K	Press. Range (atm.)	Ave. %	Max. %	Ave. %	Max. %
			Dev. (Original)	Dev.	Dev. (Generalized)	Dev.
17	30.0	1-100	104.00	252.57	57.70	119.19
20	35.0	1-100	48.10	208.99	28.50	69.77
23	38.0	1-100	46.90	200.46	15.50	47.58
27	42.0	1-100	35.50	99.03	7.47	29.23
28	46.0	1-100	23.25	54.69	2.65	15.39
28	50.0	1-100	14.50	32.73	1.43	10.92
28	55.0	1-100	9.10	23.21	1.19	7.56
28	60.0	1-100	5.65	10.61	0.89	1.48
28	65.0	1-100	3.35	6.92	1.13	5.25
28	70.0	1-100	2.28	4.08	0.97	1.63
28	75.0	1-100	1.46	3.65	0.94	2.66
28	80.0	1-100	0.92	1.67	0.92	1.56
28	85.0	1-100	0.62	1.57	0.87	2.07
28	90.0	1-100	0.38	0.64	0.82	1.34
28	95.0	1-100	0.23	0.41	0.78	1.30
28	100.0	1-100	0.13	0.21	0.75	1.21
28	105.0	1-100	0.079	0.16	0.71	1.19
28	110.0	1-100	0.040	0.14	0.69	1.16
28	115.0	1-100	0.023	0.12	0.66	1.13
28	120.0	1-100	0.020	0.039	0.63	1.06
28	125.0	1-100	0.026	0.055	0.60	0.99
28	130.0	1-100	0.039	0.080	0.57	0.94
28	135.0	1-100	0.046	0.090	0.54	0.90
28	140.0	1-100	0.045	0.078	0.52	0.87
28	145.0	1-100	0.035	0.062	0.51	0.85
28	150.0	1-100	0.022	0.037	0.50	0.85
28	155.0	1-100	0.019	0.031	0.49	0.82
28	160.0	1-100	0.015	0.024	0.47	0.80
28	165.0	1-100	0.011	0.017	0.46	0.77
28	170.0	1-100	0.009	0.025	0.44	0.75

TABLE 1(A)
(CONTINUATION)

28	175.0	1-100	0.008	0.032	0.43	0.72
28	180.0	1-100	0.009	0.034	0.41	0.70
28	185.0	1-100	0.010	0.031	0.40	0.68
28	190.0	1-100	0.010	0.037	0.39	0.65
28	195.0	1-100	0.011	0.029	0.37	0.63
28	200.0	1-100	0.011	0.031	0.36	0.61
28	205.0	1-100	0.012	0.031	0.35	0.59
28	210.0	1-100	0.012	0.024	0.34	0.57
28	215.0	1-100	0.012	0.024	0.32	0.55
28	220.0	1-100	0.013	0.025	0.31	0.53
28	225.0	1-100	0.012	0.022	0.31	0.52
28	230.0	1-100	0.012	0.023	0.30	0.50
28	235.0	1-100	0.011	0.022	0.29	0.49
28	240.0	1-100	0.010	0.021	0.28	0.47
28	245.0	1-100	0.009	0.015	0.27	0.45
28	250.0	1-100	0.008	0.0147	0.25	0.44
28	255.0	1-100	0.007	0.018	0.24	0.42
28	260.0	1-100	0.008	0.024	0.23	0.40
28	265.0	1-100	0.012	0.030	0.22	0.39
28	270.0	1-100	0.016	0.037	0.21	0.38
28	275.0	1-100	0.020	0.041	0.20	0.36
28	280.0	1-100	0.022	0.043	0.20	0.35
28	285.0	1-100	0.023	0.041	0.19	0.34
28	290.0	1-100	0.021	0.035	0.18	0.33
28	295.0	1-100	0.020	0.034	0.18	0.31
28	300.0	1-100	0.019	0.044	0.17	0.30
7	310.0	1-100	0.010	0.025	0.14	0.29
7	320.0	1-100	0.017	0.050	0.13	0.26
7	330.0	1-100	0.016	0.059	0.13	0.26
7	340.0	1-100	0.027	0.073	0.10	0.22
7	350.0	1-100	0.029	0.080	0.093	0.20
7	360.0	1-100	0.032	0.091	0.086	0.17

TABLE 1(A)
(CONTINUATION)

7	370.0	1-100	0.031	0.096	0.082	0.18
7	380.0	1-100	0.032	0.10	0.076	0.16
7	390.0	1-100	0.035	0.11	0.070	0.14
7	400.0	1-100	0.037	0.12	0.065	0.13
7	410.0	1-100	0.040	0.13	0.061	0.12
7	420.0	1-100	0.044	0.14	0.051	0.10
7	430.0	1-100	0.039	0.14	0.056	0.12
7	440.0	1-100	0.047	0.15	0.043	0.11
7	450.0	1-100	0.051	0.16	0.033	0.096
7	460.0	1-100	0.056	0.16	0.027	0.081
7	470.0	1-100	0.058	0.17	0.024	0.066
7	480.0	1-100	0.062	0.17	0.022	0.060
7	490.0	1-100	0.066	0.18	0.019	0.043
7	500.0	1-100	0.059	0.18	0.025	0.056
7	510.0	1-100	0.056	0.20	0.031	0.068
7	520.0	1-100	0.049	0.20	0.029	0.063
7	530.0	1-100	0.065	0.21	0.025	0.073
7	540.0	1-100	0.070	0.21	0.021	0.076
7	550.0	1-100	0.073	0.21	0.020	0.079
7	560.0	1-100	0.069	0.21	0.024	0.085
7	570.0	1-100	0.066	0.22	0.025	0.092
7	580.0	1-100	0.075	0.23	0.023	0.10
7	590.0	1-100	0.074	0.23	0.025	0.11
7	600.0	1-100	0.077	0.23	0.025	0.11

* Data taken from References(6,7).

TABLE 1(B)*

No. of Points	Temp. °K	Press. Range (atm.)	Ave. % Dev. (Original)	Max. % Dev.	Ave. % Dev. (Generalized)	Max. % Dev.
11	198.16	100-1200	3.45	11.98	4.77	9.20
11	223.16	100-1200	1.81	7.73	4.87	10.02
11	248.16	100-1200	1.26	5.17	4.95	10.76
11	273.16	100-1200	0.85	3.65	5.00	11.34
11	298.16	100-1200	0.63	2.77	5.04	11.75
11	323.16	100-1200	0.53	2.29	4.89	12.02
11	373.16	100-1200	0.56	1.95	4.85	12.21
11	473.16	100-1200	0.78	2.17	4.44	11.77
11	573.16	100-1200	0.97	2.55	3.98	10.92
11	673.16	100-1200	1.07	2.77	3.56	9.92
11	773.16	100-1200	1.11	2.90	3.18	9.01

* Data taken from Reference(8).

TABLE 2*

SYSTEM: NITROGEN-HYDROGEN

N₂-12.56 MOLE %H₂-87.44 MOLE %

No. of Points	Temp. (°C)	Press. Range (atm.)	Ave. % Dev. (Gunn-Chueh- Prausnitz)	Max. % Dev.	Ave. % Dev. (Prausnitz- Gunn)	Max. % Dev.
8	0.0	25-1000	3.12	8.56	3.09	8.54
8	25.0	25-1000	3.19	8.99	3.17	8.99
7	50.0	50-1000	3.74	9.43	3.72	9.44
7	100.0	50-1000	3.63	9.54	3.64	9.56
7	200.0	50-1000	3.63	9.74	3.65	9.77
7	300.0	50-1000	3.48	9.32	3.64	9.35

N₂-24.44 MOLE %H₂-75.56 MOLE %

7	0.0	50-1000	3.07	7.35	3.03	7.29
7	25.0	50-1000	3.25	7.95	3.22	7.91
7	50.0	50-1000	3.39	8.47	3.37	8.45
7	100.0	50-1000	3.34	8.63	3.34	8.63
7	200.0	50-1000	3.29	8.91	3.30	8.93
7	300.0	50-1000	3.28	8.90	3.29	8.92

N₂-48.26 MOLE %H₂-51.74 MOLE %

8	0.0	25-1000	1.84	4.66	1.78	4.57
8	25.0	25-1000	2.07	5.31	2.05	5.25
8	50.0	25-1000	2.19	5.81	2.16	5.76
8	100.0	25-1000	2.35	6.56	2.34	6.54
7	200.0	50-1000	2.80	7.58	2.80	7.59
7	300.0	50-1000	2.82	7.72	2.82	7.74

N₂-73.88 MOLE %H₂-26.12 MOLE %

8	0.0	25-1000	0.77	1.49	0.70	1.30
8	25.0	25-1000	1.04	2.17	0.98	2.01
7	50.0	50-1000	1.45	2.91	1.39	2.78
7	100.0	50-1000	1.78	3.82	1.75	3.73
7	200.0	50-1000	2.22	5.43	2.20	5.38
6	300.0	50-1000	2.59	6.13	2.21	6.11

*Data taken from Reference(9).

TABLE 3*

SYSTEM: METHANE-HYDROGEN

CH₄-9.03 MOLE %H₂-90.97 MOLE %

No. of Points	Temp. (°F)	Press. Range (psi)	Ave. %		Max. %	
			Dev. (Gunn-Cheuh- Prausnitz)	Dev	Dev. (Prausnitz- Gunn)	Dev.
6	-210.0	172.7-1160.9	0.54	1.37	0.71	1.69
6	-180.0	200.0-1331.4	0.45	1.14	0.59	1.39
7	-150.0	214.9-1770.5	0.59	0.99	0.72	1.16
7	-120.0	235.0-1968.3	0.33	0.63	0.43	0.79
7	- 90.0	257.0-2162.9	0.35	0.56	0.44	0.64
7	- 60.0	278.0-2358.5	0.38	0.61	0.45	0.70
7	- 30.0	300.0-2548.2	0.29	0.46	0.34	0.52
7	0.0	319.0-2739.8	0.25	0.44	0.30	0.50
7	30.0	340.0-2937.5	0.15	0.44	0.19	0.47
7	60.0	360.4-3126.1	0.12	0.20	0.15	0.23
7	90.0	381.2-3313.2	0.11	0.23	0.12	0.26
6	120.0	401.7-2909.0	0.12	0.21	0.13	0.23
6	150.0	422.3-3063.3	0.14	0.20	0.14	0.21
6	180.0	442.7-3214.8	0.16	0.36	0.15	0.32
5	210.0	461.0-2732.9	0.11	0.18	0.12	0.15
5	240.0	482.9-2853.6	0.11	0.32	0.11	0.30
5	270.0	502.0-2976.5	0.14	0.37	0.14	0.35
5	300.0	523.4-3095.6	0.14	0.49	0.13	0.47

*Data taken from Reference(10).

TABLE 4*

SYSTEM: ETHANE-HYDROGEN

 C_2H_6 -89.96 MOLE % H_2 -10.04 MOLE %

No. of Points.	Temp. (°F)	Press. Range (psi)	Ave. % Dev. (Gunn-Chueh-Prausnitz)	Max. % Dev.	Ave. % Dev. (Prausnitz-Gunn)	Max. % Dev.
6	90.0	350-1049	5.72	8.56	5.19	7.76
6	120.0	377-1298	4.14	6.01	3.72	5.38
6	150.0	402-1547	3.25	4.59	2.92	4.08
6	180.0	428-1794	2.56	3.54	2.28	3.12
6	210.0	453-2039	2.13	2.90	1.88	2.53
6	240.0	479-2282	1.81	2.59	1.59	2.27
6	270.0	503-2524	1.63	2.41	1.43	2.13
6	300.0	527-2764	1.49	2.25	1.33	1.99

 C_2H_6 -79.97 MOLE % H_2 -20.03 MOLE %

6	90.0	387-1395	5.02	6.82	4.49	6.02
6	120.0	415-1637	4.17	5.43	3.75	4.64
6	150.0	442-1878	3.56	4.63	3.16	3.97
6	180.0	469-2118	3.01	3.98	2.68	3.42
6	210.0	496-2355	2.61	3.62	2.33	3.14
6	240.0	522-2589	2.41	3.43	2.16	3.00
6	270.0	548-2822	2.19	3.31	1.98	2.93
6	300.0	575-3055	2.03	3.20	1.84	2.86

C_2H_6 -50.17 MOLE %

H_2 -49.83 MOLE %

6	70.0	512-2153	4.14	5.96	3.65	5.17
6	90.0	534-2302	3.75	5.48	3.32	4.82
6	120.0	568-2520	3.25	5.03	2.88	4.41
6	150.0	603-2739	2.85	4.58	2.52	4.04
6	180.0	635-2956	2.54	4.22	2.25	3.74
6	210.0	669-3168	2.32	4.04	2.07	3.62
6	240.0	701-3379	2.17	3.91	1.95	3.54
6	270.0	734-3586	2.03	3.80	1.85	3.47
6	300.0	766-3793	1.93	3.79	1.76	3.49

C_2H_6 -20.10 MOLE %

H_2 -79.90 MOLE %

6	70.0	214-2347	1.71	3.11	1.56	2.83
6	90.0	222-2451	1.61	3.01	1.47	2.76
6	120.0	235-2606	1.51	2.93	1.39	2.70
6	150.0	246-2760	1.47	2.89	1.36	2.69
6	180.0	259-2916	1.36	2.74	1.27	2.56
6	210.0	271-3071	1.29	2.63	1.21	2.47
6	240.0	283-3220	1.29	2.70	1.22	2.56
6	270.0	295-3368	1.28	2.80	1.21	2.66
6	300.0	307-3514	1.26	2.91	1.21	2.79

*Data taken from Reference(10).

APPENDIX C

RESULTS OF INDIVIDUAL RUNS

HYDROGEN

GENERALIZED B-W-R
EQUATION OF STATE

T=30.

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99899271	.10073000
2.0000000	1.9957784	.21108000
3.0000000	2.9905690	.31436666
4.0000000	3.9839969	.40007750
5.0000000	4.9764734	.47053200
6.0000000	5.9715137	.47477166
7.0000000	6.9747958	.36006000
8.0000000	7.9983049	2.1188750E-02
60.000000	123.41151	-105.68585
65.000000	134.04271	-106.21955
70.000000	144.07180	-105.81685
75.000000	152.34467	-103.12622
80.000000	163.88234	-104.85292
85.000000	174.38867	-105.16314
90.000000	189.90971	-111.01078
95.000000	204.57348	-115.34050
100.00000	219.19865	-119.19865

T=35.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99932226	6.7780000E-02
2.0000000	1.9970847	.14576500
3.0000000	2.9932817	.22394333
4.0000000	3.9877550	.30612500
5.0000000	4.9808456	.38308800
6.0000000	5.9728918	.45180333
7.0000000	6.9635553	.52063857
8.0000000	7.9609444	.48819500
9.0000000	8.9603483	.44057444
10.000000	9.9194896	.80511000
15.000000	16.599154	-10.661026
60.000000	90.807757	-51.346261
65.000000	101.44192	-56.064492
70.000000	110.24933	-57.499042
75.000000	120.12543	-60.167240
80.000000	130.10048	-62.625600
85.000000	141.18680	-66.102117
90.000000	152.15887	-69.065411
95.000000	161.29018	-69.779136
100.00000	164.23830	-64.238300

T=38.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99946931	5.3070000E-02
2.0000000	1.9975508	.12246000
3.0000000	2.9942776	.19074666
4.0000000	3.9896482	.25879500
5.0000000	4.9836143	.32771400
6.0000000	5.9765244	.39126000
7.0000000	6.9684165	.45119285

8.0000000	7.9596359	.50455125
9.0000000	8.9494889	.56123444
10.0000000	9.9393780	.60622000
15.0000000	14.915540	.56306666
20.0000000	20.278420	-1.3921000
25.0000000	26.554919	-6.2196760
30.0000000	32.761739	-9.2057966
60.0000000	74.560036	-24.266726
65.0000000	83.717208	-28.795704
70.0000000	91.862268	-31.231811
75.0000000	100.74658	-34.328773
80.0000000	110.32712	-37.908900
85.0000000	120.52837	-41.798082
90.0000000	130.76571	-45.295233
95.0000000	140.20206	-47.581115
100.0000000	144.46727	-44.467270

T=42.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99955518	4.4490000E-02
2.0000000	1.9979247	.10376500
3.0000000	2.9951036	.16321333
4.0000000	3.9910900	.22275000
5.0000000	4.9858304	.28339200
6.0000000	5.9793709	.34381833
7.0000000	6.9716943	.40436714
8.0000000	7.9629633	.46295875
9.0000000	8.9532267	.51970333
10.0000000	9.9423196	.57681000
15.0000000	14.880342	.79772000
20.0000000	19.844346	.77827000
25.0000000	24.947826	.20869600
30.0000000	30.282866	-.94288666
35.0000000	35.809993	-2.3142657
40.0000000	41.297214	-3.2430350
45.0000000	50.954860	-13.233022
55.0000000	71.081151	-29.238456
60.0000000	63.806371	-6.3439516
65.0000000	70.849265	-8.9988692
70.0000000	77.632512	-10.903588
75.0000000	84.440521	-12.587361
80.0000000	92.591929	-15.739911
85.0000000	100.96715	-18.784882
90.0000000	109.74039	-21.933766
95.0000000	119.00088	-25.264084
100.0000000	126.78084	-26.780840

T=46.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99960445	3.9560000E-02
2.0000000	1.9980981	9.5095000E-02
3.0000000	2.9954352	.15216000
4.0000000	3.9916827	.20793250
5.0000000	4.9867810	.26438000

6.0000000	5.9807253	.32124500
7.0000000	6.9736356	.37663428
8.0000000	7.9653783	.43277125
9.0000000	8.9561145	.48761666
10.0000000	9.9454722	.54528000
15.0000000	14.879320	.80453333
20.0000000	19.801262	.99369000
25.0000000	24.745878	1.0164880
30.0000000	29.750896	.83034666
35.0000000	34.811724	.53793142
40.0000000	39.913615	.21596250
45.0000000	45.112659	-.25035333
50.0000000	50.326927	-.65385400
55.0000000	55.640867	-1.1652127
60.0000000	65.574535	-9.2908916
65.0000000	66.073356	-1.6513169
70.0000000	71.710084	-2.4429771
75.0000000	72.427830	3.4295600
80.0000000	84.029035	-5.0362937
85.0000000	90.692072	-6.6965552
90.0000000	98.185900	-9.0954444
95.0000000	106.56472	-12.173389
100.0000000	115.39232	-15.392320

T=50.0

	PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
	1.0000000	.99962615	3.7390000E-02
	2.0000000	1.9981769	9.1155000E-02
	3.0000000	2.9956701	.14433000
	4.0000000	3.9921122	.19719500
	5.0000000	4.9874565	.25087000
	6.0000000	5.9816097	.30650500
	7.0000000	6.9747468	.36076000
	8.0000000	7.9670209	.41223875
	9.0000000	8.9579028	.46774666
	10.0000000	9.9479552	.52045000
12	15.0000000	14.882438	.78374666
	20.0000000	19.797229	1.0138550
	25.0000000	24.710135	1.1594600
11	30.0000000	29.644248	1.1858400
	35.0000000	34.605308	1.1276914
10	40.0000000	39.577447	1.0563825
	45.0000000	44.513034	1.0821466
9	50.0000000	49.490900	1.0182000
	55.0000000	54.532320	.85032727
8	60.0000000	59.621416	.63097333
	65.0000000	64.883892	.17862769
7	70.0000000	70.191780	-.27397142
	75.0000000	74.663098	.44920266
6	80.0000000	80.541160	-.67645000
	85.0000000	86.278606	-1.5042423
5	90.0000000	99.833893	-10.926547
	95.0000000	99.833893	-5.0883084
4	100.0000000	108.17592	-8.1759200

T=55.0

2

1

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99963690	3.6310000E-02
2.0000000	1.9982555	8.7225000E-02
3.0000000	2.9958974	.13675333
4.0000000	3.9926141	.18464750
5.0000000	4.9883343	.23331400
6.0000000	5.9830539	.28243500
7.0000000	6.9769025	.32996428
8.0000000	7.9703851	.37018625
9.0000000	8.9642242	.39750888
10.000000	9.9593801	.40620000
15.000000	15.741002	-4.9400133
20.000000	19.685649	1.5717550
25.000000	24.608311	1.5667560
30.000000	29.825268	.58244000
35.000000	34.534284	1.3306171
40.000000	39.404836	1.4879100
45.000000	44.392186	1.3506977
50.000000	49.339516	1.3209680
55.000000	54.584242	.75592363
60.000000	55.463952	7.5600800
65.000000	64.524888	.73094153
70.000000	69.810336	.27094857
75.000000	73.939099	1.4145346
80.000000	79.165841	1.0426987
85.000000	84.331096	.78694588
90.000000	89.804953	.21671888
95.000000	95.825326	-.86876421
100.00000	102.90973	-2.9097300

T=60.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99964092	3.5910000E-02
2.0000000	1.9982589	8.7055000E-02
3.0000000	2.9958522	.13826000
4.0000000	3.9924416	.18896000
5.0000000	4.9880747	.23850600
6.0000000	5.9827247	.28792166
7.0000000	6.9762676	.33903428
8.0000000	7.9690310	.38711250
9.0000000	8.9606879	.43680111
10.000000	9.9516188	.48382000
15.000000	14.893198	.71201333
20.000000	19.816654	.91673000
25.000000	24.727741	1.0890360
30.000000	29.631107	1.2296433
35.000000	34.538945	1.3173000
40.000000	39.445289	1.3867775
45.000000	44.361331	1.4192644
50.000000	49.290645	1.4187100
55.000000	54.203897	1.4474600
60.000000	59.133981	1.4433650
65.000000	64.036537	1.4822507
70.000000	68.961057	1.4842042

2

1

75.000000	73.895808	1.4722560
80.000000	78.870141	1.4123237
85.000000	83.878606	1.3192870
90.000000	88.971985	1.1422388
95.000000	94.046243	1.0039547
100.000000	99.247904	.75210000

T=65.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99965521	3.4480000E-02
2.0000000	1.9983078	8.4610000E-02
3.0000000	2.9959546	.13484666
4.0000000	3.9926746	.18313500
5.0000000	4.9884565	.23087000
6.0000000	5.9833290	.27785000
7.0000000	6.9775061	.32134142
8.0000000	7.9709560	.36305000
9.0000000	8.9637445	.40283888
10.000000	9.9563228	.43678000
15.000000	14.923919	.50720666
20.000000	20.005166	-2.5830000E-02
25.000000	24.917417	.33033200
30.000000	29.366062	2.1131266
35.000000	34.548524	1.2899314
40.000000	39.501464	1.2463400
45.000000	44.358243	1.4261266
50.000000	49.267169	1.4656620
55.000000	53.966914	1.8783381
60.000000	63.150281	-5.2504683
65.000000	63.811575	1.8283461
70.000000	68.555443	2.0636528
75.000000	73.991371	1.3448386
80.000000	78.832641	1.4591987
85.000000	83.810295	1.3996529
90.000000	88.720774	1.4213622
95.000000	93.454599	1.6267378
100.00000	97.526837	2.4731700

T=70.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99965752	3.4250000E-02
2.0000000	1.9983446	8.2770000E-02
3.0000000	2.9960479	.13173666
4.0000000	3.9928569	.17857750
5.0000000	4.9887151	.22569800
6.0000000	5.9836876	.27187333
7.0000000	6.9777572	.31775428
8.0000000	7.9709995	.36250625
9.0000000	8.9633614	.40709555
10.000000	9.9547550	.45245000
15.000000	14.901646	.65569333
20.000000	19.831705	.84147500
25.000000	24.748138	1.0074480
30.000000	29.657527	1.1415766

35.000000	34.561637	1.2524657
40.000000	39.465276	1.3368100
45.000000	44.370323	1.3992822
50.000000	49.277844	1.4443120
55.000000	54.171546	1.5062800
60.000000	59.066066	1.5565566
65.000000	63.973780	1.5788000
70.000000	68.870597	1.6134328
75.000000	73.777231	1.6303586
80.000000	78.695216	1.6309800
85.000000	83.621795	1.6214176
90.000000	88.529021	1.6344211
95.000000	93.454627	1.6267084
100.000000	98.404035	1.5959700

T=75.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99967698	3.2310000E-02
2.0000000	1.9984038	7.9810000E-02
3.0000000	2.9962408	.12530666
4.0000000	3.9931450	.17137500
5.0000000	4.9892033	.21593400
6.0000000	5.9844635	.25894166
7.0000000	6.9787268	.30390285
8.0000000	7.9723836	.34520500
9.0000000	8.9651966	.38670444
10.000000	9.9572965	.42704000
15.000000	14.909441	.60372666
20.000000	19.856345	.71827500
25.000000	24.801203	.79518800
30.000000	29.716430	.94523333
35.000000	34.581077	1.1969228
40.000000	39.438914	1.4027150
45.000000	44.394954	1.3445466
50.000000	49.302767	1.3944660
55.000000	54.402873	1.0856854
60.000000	58.400272	2.6662133
65.000000	64.151985	1.3046384
70.000000	69.195229	1.1496728
75.000000	73.690983	1.7453560
80.000000	78.669148	1.6635650
85.000000	83.547162	1.7092211
90.000000	88.458369	1.7129233
95.000000	93.522475	1.5552894
100.00000	98.992093	1.0079100

T=80.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99968984	3.1020000E-02
2.0000000	1.9984601	7.6995000E-02
3.0000000	2.9963314	.12228666
4.0000000	3.9933506	.16623500
5.0000000	4.9894684	.21063200
6.0000000	5.9847836	.25360666

7.0000000	6.9793644	.29479428
8.0000000	7.9730960	.33630000
9.0000000	8.9661404	.37621777
10.0000000	9.9583628	.41638000
15.0000000	14.909214	.60524000
20.0000000	19.845570	.77215000
25.0000000	24.772224	.91110400
30.0000000	29.690372	1.0320933
35.0000000	34.600470	1.1415142
40.0000000	39.508674	1.2283150
45.0000000	44.416654	1.2963244
50.0000000	49.321601	1.3567980
55.0000000	54.227233	1.4050309
60.0000000	59.133895	1.4435083
65.0000000	64.042875	1.4725000
70.0000000	68.947999	1.5028585
75.0000000	73.863888	1.5148160
80.0000000	78.771747	1.5353162
85.0000000	83.692678	1.5380258
90.0000000	88.619828	1.5335244
95.0000000	93.513479	1.5647589
100.0000000	98.452204	1.5478000

T=85.0

	PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
	1.0000000	.99971073	2.8930000E-02
	2.0000000	1.9985358	7.3210000E-02
	3.0000000	2.9965203	.11599000
	4.0000000	3.9936280	.15930000
	5.0000000	4.9899893	.20021400
	6.0000000	5.9854704	.24216000
	7.0000000	6.9801837	.28309000
	8.0000000	7.9742317	.32210375
	9.0000000	8.9675966	.36003777
	10.0000000	9.9603409	.39660000
	15.0000000	14.915067	.56622000
	20.0000000	19.857078	.71461000
12	25.0000000	24.790570	.83772000
	30.0000000	29.716046	.94651333
11	35.0000000	34.632570	1.0498000
	40.0000000	39.537061	1.1573475
10	45.0000000	44.446371	1.2302866
	50.0000000	49.351458	1.2970840
9	55.0000000	54.264479	1.3373109
	60.0000000	59.244974	1.2583766
8	65.0000000	64.082862	1.4109815
	70.0000000	68.988534	1.4449514
7	75.0000000	74.042229	1.2770280
	80.0000000	78.918454	1.3519325
6	85.0000000	83.863207	1.3374035
	90.0000000	88.784846	1.3501711
5	95.0000000	93.540480	1.5363368
4	100.0000000	97.923013	2.0769900

T=90.0

	PRESSURE	PRESSURE	PER-CENT
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2
1

(LITERATURE) (ATM.)	(CALCULATED) (ATM.)	DEVIATION
1.0000000	.99972455	2.7550000E-02
2.0000000	1.9985948	7.0260000E-02
3.0000000	2.9966422	.11192666
4.0000000	3.9939218	.15195500
5.0000000	4.9903871	.19225800
6.0000000	5.9860802	.23199666
7.0000000	6.9810390	.27087142
8.0000000	7.9752259	.30967625
9.0000000	8.9688636	.34596000
10.000000	9.9617862	.38214000
15.000000	14.917072	.55285333
20.000000	19.859474	.70263000
25.000000	24.791462	.83415200
30.000000	29.714789	.95070333
35.000000	34.636119	1.0396600
40.000000	39.553552	1.1161200
45.000000	44.470504	1.1766577
50.000000	49.386747	1.2265060
55.000000	54.306018	1.2617854
60.000000	59.229320	1.2844666
65.000000	64.149685	1.3081769
70.000000	69.072849	1.3245014
75.000000	73.991222	1.3450373
80.000000	78.936254	1.3296825
85.000000	83.860145	1.3410058
90.000000	88.799047	1.3343922
95.000000	93.737207	1.3292557
100.00000	98.678443	1.3215600

T=95.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99974333	2.5670000E-02
2.0000000	1.9986725	6.6375000E-02
3.0000000	2.9968313	.10562333
4.0000000	3.9942012	.14497000
5.0000000	4.9908313	.18337400
6.0000000	5.9867506	.22082333
7.0000000	6.9819706	.25756285
8.0000000	7.9763289	.29588875
9.0000000	8.9698482	.33502000
10.000000	9.9628912	.37109000
15.000000	14.917854	.54764000
20.000000	19.865008	.67496000
25.000000	24.802587	.78965200
30.000000	29.731388	.89537333
35.000000	34.654932	.98590857
40.000000	39.577849	1.0553775
45.000000	44.495922	1.1201733
50.000000	49.413058	1.1738840
55.000000	54.332934	1.2128472
60.000000	59.256672	1.2388800
65.000000	64.184878	1.2540338
70.000000	69.113867	1.2659042
75.000000	74.023999	1.3013346

2

1

80.000000	78.980892	1.2738850
85.000000	83.921808	1.2684611
90.000000	88.874033	1.2510744
95.000000	93.839616	1.2214568
100.000000	98.848938	1.1510700

T=100.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99976081	2.3920000E-02
2.0000000	1.9987449	6.2755000E-02
3.0000000	2.9969832	.10056000
4.0000000	3.9944592	.13852000
5.0000000	4.9913017	.17396600
6.0000000	5.9873669	.21055166
7.0000000	6.9827054	.24706571
8.0000000	7.9771856	.28518000
9.0000000	8.9703633	.32929666
10.0000000	9.9629395	.37061000
15.0000000	14.914799	.56800666
20.0000000	19.867278	.66361000
25.0000000	24.808560	.76576000
30.0000000	29.738702	.87099333
35.0000000	34.665151	.95671142
40.0000000	39.588089	1.0297775
45.0000000	44.510588	1.0875822
50.0000000	49.434941	1.1301180
55.0000000	54.357846	1.1675527
60.0000000	59.285740	1.1904333
65.0000000	64.215575	1.2068076
70.0000000	69.154851	1.2073557
75.0000000	74.093072	1.2092373
80.0000000	79.024067	1.2199162
85.0000000	83.969597	1.2122388
90.0000000	88.920114	1.1998733
95.0000000	93.892882	1.1653873
100.0000000	98.835356	1.1646500

T=105.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99978497	2.1510000E-02
2.0000000	1.9988341	5.8295000E-02
3.0000000	2.9971539	9.4870000E-02
4.0000000	3.9947879	.13030250
5.0000000	4.9917593	.16481400
6.0000000	5.9880550	.19908333
7.0000000	6.9836622	.23339714
8.0000000	7.9780450	.27443750
9.0000000	8.9713132	.31874222
10.0000000	9.9633485	.36652000
15.0000000	14.913403	.57731333
20.0000000	19.871829	.64085500
25.0000000	24.820945	.71622000
30.0000000	29.753610	.82130000
35.0000000	34.683399	.90457428

40.000000	39.609967	.97508250
45.000000	44.536311	1.0304200
50.000000	49.459990	1.0800200
55.000000	54.388821	1.1112345
60.000000	59.316162	1.1397300
65.000000	64.241294	1.1672400
70.000000	69.181464	1.1693371
75.000000	74.106865	1.1908466
80.000000	79.059227	1.1759662
85.000000	83.996277	1.1808505
90.000000	88.949333	1.1674077
95.000000	93.933689	1.1224326
100.00000	98.898115	1.1018900

T=110.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99980851	1.9150000E-02
2.0000000	1.9989122	5.4390000E-02
3.0000000	2.9973228	8.9240000E-02
4.0000000	3.9950764	.12309000
5.0000000	4.9922150	.15570000
6.0000000	5.9887358	.18773666
7.0000000	6.9846087	.21987571
8.0000000	7.9792093	.25988375
9.0000000	8.9724829	.30574555
10.000000	9.9643215	.35679000
15.000000	14.914008	.57328000
20.000000	19.877604	.61198000
25.000000	24.830763	.67694800
30.000000	29.767349	.77550333
35.000000	34.703381	.84748285
40.000000	39.631369	.92157750
45.000000	44.557982	.98226222
50.000000	49.481827	1.0363460
55.000000	54.417350	1.0593636
60.000000	59.346183	1.0896950
65.000000	64.269799	1.1233861
70.000000	69.203218	1.1382600
75.000000	74.132743	1.1563426
80.000000	79.065691	1.1678862
85.000000	84.029130	1.1422000
90.000000	88.990031	1.1221877
95.000000	93.970298	1.0838968
100.00000	98.936043	1.0639600

T=115.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99982913	1.7090000E-02
2.0000000	1.9989804	5.0980000E-02
3.0000000	2.9974692	8.4360000E-02
4.0000000	3.9953257	.11685750
5.0000000	4.9926089	.14782200
6.0000000	5.9893270	.17788333
7.0000000	6.9853272	.20961142

8.000000	7.9802204	.24724500
9.000000	8.9738302	.29077555
10.000000	9.9659805	.34020000
15.000000	14.917745	.54836666
20.000000	19.884374	.57813000
25.000000	24.839546	.64181600
30.000000	29.779859	.73380333
35.000000	34.719320	.80194285
40.000000	39.651796	.87051000
45.000000	44.579580	.93426666
50.000000	49.510276	.97944800
55.000000	54.441898	1.0147309
60.000000	59.373217	1.0446383
65.000000	64.297127	1.0813430
70.000000	69.226673	1.1047528
75.000000	74.162853	1.1161960
80.000000	79.095869	1.1301637
85.000000	84.057648	1.1086494
90.000000	89.010907	1.0989922
95.000000	93.989207	1.0639926
100.00000	98.980783	1.0192200

T=120.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99983641	1.6360000E-02
2.0000000	1.9990208	4.8960000E-02
3.0000000	2.9975721	8.0930000E-02
4.0000000	3.9954995	.11251250
5.0000000	4.9928854	.14229200
6.0000000	5.9896738	.17210333
7.0000000	6.9859213	.20112428
8.0000000	7.9811942	.23507250
9.0000000	8.9754559	.27271222
10.000000	9.9681893	.31811000
15.000000	14.925481	.49679333
20.000000	19.890998	.54501000
25.000000	24.844555	.62178000
30.000000	29.787120	.70960000
35.000000	34.728485	.77575714
40.000000	39.663789	.84052750
45.000000	44.595523	.89883777
50.000000	49.527164	.94567200
55.000000	54.460366	.98115272
60.000000	59.394289	1.0095183
65.000000	64.327850	1.0340769
70.000000	69.266514	1.0478371
75.000000	74.201639	1.0644813
80.000000	79.151714	1.0603575
85.000000	84.102905	1.0554058
90.000000	89.071237	1.0319588
95.000000	94.055484	.99422736
100.00000	99.036513	.96349000

T=125.0

PRESSURE (LITERATURE)	PRESSURE (CALCULATED)	PER-CENT DEVIATION
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(ATM.)	(ATM.)	
1.0000000	.99983308	1.6700000E-02
2.0000000	1.9990261	4.8695000E-02
3.0000000	2.9976129	7.9570000E-02
4.0000000	3.9955944	.11014000
5.0000000	4.9929897	.14020600
6.0000000	5.9898485	.16919166
7.0000000	6.9861765	.19747857
8.0000000	7.9819617	.22547875
9.0000000	8.9772666	.25259333
10.000000	9.9708063	.29194000
15.000000	14.935257	.43162000
20.000000	19.896402	.51799000
25.000000	24.845738	.61704800
30.000000	29.789033	.70322333
35.000000	34.728260	.77640000
40.000000	39.666965	.83258750
45.000000	44.600664	.88741333
50.000000	49.536386	.92722800
55.000000	54.476363	.95206727
60.000000	59.413347	.97775500
65.000000	64.356729	.98964769
70.000000	69.305042	.99279714
75.000000	74.252082	.99722400
80.000000	79.208655	.98918125
85.000000	84.167201	.97976352
90.000000	89.137785	.95801666
95.000000	94.112670	.93403157
100.00000	99.085989	.91402000

T=130.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99985159	1.4850000E-02
2.0000000	1.9990871	4.5645000E-02
3.0000000	2.9977427	7.5243333E-02
4.0000000	3.9958166	.10458500
5.0000000	4.9933434	.13313200
6.0000000	5.9903123	.16146166
7.0000000	6.9868243	.18822428
8.0000000	7.9829688	.21289000
9.0000000	8.9788595	.23489444
10.000000	9.9731294	.26871000
15.000000	14.942832	.38112000
20.000000	19.903353	.48323500
25.000000	24.853499	.58600400
30.000000	29.800531	.66489666
35.000000	34.741504	.73856000
40.000000	39.681739	.79565250
45.000000	44.620775	.84272222
50.000000	49.564367	.87126600
55.000000	54.503866	.90206181
60.000000	59.446823	.92196166
65.000000	64.394854	.93099384
70.000000	69.336234	.94823714
75.000000	74.294651	.94046533
80.000000	79.245583	.94302125

85.000000	84.210206	.92916941
90.000000	89.182369	.90847888
95.000000	94.148366	.89645684
100.000000	99.114561	.88544000

T=135.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99986846	1.3160000E-02
2.0000000	1.9991495	4.2525000E-02
3.0000000	2.9978776	7.0746666E-02
4.0000000	3.9960474	9.8815000E-02
5.0000000	4.9936652	.12669600
6.0000000	5.9907342	.15443000
7.0000000	6.9874142	.17979714
8.0000000	7.9838901	.20137375
9.0000000	8.9801748	.22028000
10.000000	9.9750843	.24916000
15.000000	14.948620	.34253333
20.000000	19.909090	.45455000
25.000000	24.859663	.56134800
30.000000	29.808194	.63935333
35.000000	34.754295	.70201428
40.000000	39.696330	.75917500
45.000000	44.640850	.79811111
50.000000	49.583360	.83328000
55.000000	54.526913	.86015818
60.000000	59.468936	.88510666
65.000000	64.420351	.89176769
70.000000	69.372434	.89652285
75.000000	74.322693	.90307600
80.000000	79.279613	.90048375
85.000000	84.250932	.88125647
90.000000	89.210860	.87682222
95.000000	94.185329	.85754842
100.000000	99.146883	.85312000

T=140.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99987921	1.2080000E-02
2.0000000	1.9991954	4.0230000E-02
3.0000000	2.9979742	6.7526666E-02
4.0000000	3.9962120	9.4700000E-02
5.0000000	4.9939306	.12138800
6.0000000	5.9911426	.14762333
7.0000000	6.9878994	.17286571
8.0000000	7.9845515	.19310625
9.0000000	8.9810125	.21097222
10.000000	9.9764262	.23574000
15.000000	14.951376	.32416000
20.000000	19.912599	.43700500
25.000000	24.864778	.54088800
30.000000	29.816090	.61303333
35.000000	34.763109	.67683142
40.000000	39.708857	.72785750

45.000000	44.651358	.77476000
50.000000	49.595628	.80874400
55.000000	54.542186	.83238909
60.000000	59.488933	.85177833
65.000000	64.436507	.86691230
70.000000	69.389275	.87246428
75.000000	74.340099	.87986800
80.000000	79.302157	.87230375
85.000000	84.266507	.86293294
90.000000	89.242263	.84193000
95.000000	94.210091	.83148315
100.000000	99.185438	.81457000

T=145.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99988507	1.1500000E-02
2.0000000	1.9992282	3.8590000E-02
3.0000000	2.9980572	6.4760000E-02
4.0000000	3.9963534	9.1165000E-02
5.0000000	4.9941582	.11683600
6.0000000	5.9914948	.14175333
7.0000000	6.9883138	.16694571
8.0000000	7.9849040	.18870000
9.0000000	8.9813221	.20753222
10.000000	9.9769297	.23071000
15.000000	14.951527	.32315333
20.000000	19.914293	.42853500
25.000000	24.869254	.52298400
30.000000	29.821603	.59465666
35.000000	34.768925	.66021428
40.000000	39.714858	.71285500
45.000000	44.661010	.75331111
50.000000	49.607140	.78572000
55.000000	54.551724	.81504727
60.000000	59.496251	.83958166
65.000000	64.445890	.85247692
70.000000	69.398884	.85873714
75.000000	74.359505	.85399333
80.000000	79.316514	.85435750
85.000000	84.286642	.83924470
90.000000	89.250741	.83251000
95.000000	94.226422	.81429263
100.000000	99.214759	.78525000

T=150.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99988683	1.1320000E-02
2.0000000	1.9992503	3.7485000E-02
3.0000000	2.9981171	6.2763333E-02
4.0000000	3.9964795	8.8012500E-02
5.0000000	4.9943629	.11274200
6.0000000	5.9917539	.13743500
7.0000000	6.9886860	.16162857
8.0000000	7.9852150	.18481250

9.000000	8.9813262	.20748666
10.000000	9.9770481	.22952000
15.000000	14.949794	.33470666
20.000000	19.914534	.42733000
25.000000	24.872393	.51042800
30.000000	29.825327	.58224333
35.000000	34.774506	.64426857
40.000000	39.720798	.69800500
45.000000	44.664022	.74661777
50.000000	49.610700	.77860000
55.000000	54.557121	.80523454
60.000000	59.505108	.82482000
65.000000	64.450481	.84541384
70.000000	69.403443	.85222428
75.000000	74.363758	.84832266
80.000000	79.325231	.84346125
85.000000	84.300728	.82267294
90.000000	89.267528	.81385777
95.000000	94.252286	.78706736
100.00000	99.237983	.76202000

T=155.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99989970	1.0030000E-02
2.0000000	1.9992969	3.5155000E-02
3.0000000	2.9982155	5.9483333E-02
4.0000000	3.9966489	8.3777500E-02
5.0000000	4.9945954	.10809200
6.0000000	5.9921122	.13146333
7.0000000	6.9891922	.15439714
8.0000000	7.9858151	.17731125
9.0000000	8.9819760	.20026666
10.000000	9.9779606	.22040000
15.000000	14.951402	.32398666
20.000000	19.917369	.41315500
25.000000	24.877483	.49006800
30.000000	29.831972	.56009333
35.000000	34.782194	.62230285
40.000000	39.729687	.67578250
45.000000	44.677596	.71645333
50.000000	49.623565	.75287000
55.000000	54.569172	.78332363
60.000000	59.516324	.80612666
65.000000	64.471916	.81243692
70.000000	69.428007	.81713285
75.000000	74.382546	.82327200
80.000000	79.350714	.81160750
85.000000	84.310941	.81065764
90.000000	89.293413	.78509666
95.000000	94.273931	.76428315
100.00000	99.257553	.74245000

T=160.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
4		
3		
2		
1		

1.0000000	.99990895	9.1100000E-03
2.0000000	1.9993355	3.3225000E-02
3.0000000	2.9982840	5.7200000E-02
4.0000000	3.9967884	8.0290000E-02
5.0000000	4.9948218	.10356400
6.0000000	5.9924054	.12657666
7.0000000	6.9896107	.14841857
8.0000000	7.9863030	.17121250
9.0000000	8.9826170	.19314444
10.000000	9.9787010	.21299000
15.000000	14.952667	.31555333
20.000000	19.920228	.39886000
25.000000	24.881654	.47338400
30.000000	29.837390	.54203333
35.000000	34.790240	.59931428
40.000000	39.739222	.65194500
45.000000	44.688882	.69137333
50.000000	49.634008	.73198400
55.000000	54.583324	.75759272
60.000000	59.535981	.77336500
65.000000	64.483583	.79448769
70.000000	69.441535	.79780714
75.000000	74.398258	.80232266
80.000000	79.362935	.79633125
85.000000	84.341290	.77495294
90.000000	89.316358	.75960222
95.000000	94.293270	.74392631
100.00000	99.290997	.70901000

T=165.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99991657	8.3500000E-03
2.0000000	1.9993621	3.1895000E-02
3.0000000	2.9983531	5.4896666E-02
4.0000000	3.9969055	7.7362500E-02
5.0000000	4.9950127	9.9746000E-02
6.0000000	5.9927031	.12161500
7.0000000	6.9899618	.14340285
8.0000000	7.9868018	.16497750
9.0000000	8.9832695	.18589444
10.000000	9.9794603	.20540000
15.000000	14.954676	.30216000
20.000000	19.922619	.38690500
25.000000	24.885142	.45943200
30.000000	29.843232	.52256000
35.000000	34.797080	.57977142
40.000000	39.747331	.63167250
45.000000	44.698510	.66997777
50.000000	49.646456	.70708800
55.000000	54.595501	.73545272
60.000000	59.547960	.75340000
65.000000	64.499719	.76966307
70.000000	69.460506	.77070571
75.000000	74.420515	.77264666
80.000000	79.383301	.77087375
85.000000	84.358553	.75464352

2

1

90.000000	89.325680	.74924444
95.000000	94.311812	.72440842
100.000000	99.308165	.69184000

T=170.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99991888	8.1200000E-03
2.0000000	1.9993844	3.0780000E-02
3.0000000	2.9983988	5.3373333E-02
4.0000000	3.9969815	7.5462500E-02
5.0000000	4.9951754	9.6492000E-02
6.0000000	5.9929083	.11819500
7.0000000	6.9902599	.13914428
8.0000000	7.9872305	.15961875
9.0000000	8.9838350	.17961111
10.000000	9.9801143	.19886000
15.000000	14.956439	.29040666
20.000000	19.925807	.37096500
25.000000	24.889023	.44390800
30.000000	29.847060	.50980000
35.000000	34.803051	.56271142
40.000000	39.754425	.61393750
45.000000	44.706995	.65112222
50.000000	49.657572	.68485600
55.000000	54.606386	.71566181
60.000000	59.558707	.73548833
65.000000	64.514475	.74696153
70.000000	69.471026	.75567714
75.000000	74.433267	.75564400
80.000000	79.402701	.74662375
85.000000	84.375353	.73487882
90.000000	89.347244	.72528444
95.000000	94.330729	.70449578
100.000000	99.311724	.68828000

T=175.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99992902	7.1000000E-03
2.0000000	1.9994148	2.9260000E-02
3.0000000	2.9984758	5.0806666E-02
4.0000000	3.9971132	7.2170000E-02
5.0000000	4.9953527	9.2946000E-02
6.0000000	5.9931865	.11355833
7.0000000	6.9906573	.13346714
8.0000000	7.9877878	.15265250
9.0000000	8.9845604	.17155111
10.000000	9.9808294	.19171000
15.000000	14.958019	.27987333
20.000000	19.928122	.35939000
25.000000	24.892496	.43001600
30.000000	29.852945	.49018333
35.000000	34.808426	.54735428
40.000000	39.763074	.59231500
45.000000	44.714731	.63393111

50.000000	49.667841	.66431800
55.000000	54.620728	.68958545
60.000000	59.573865	.71022500
65.000000	64.534455	.71622307
70.000000	69.495053	.72135285
75.000000	74.453830	.72822666
80.000000	79.421958	.72255250
85.000000	84.392562	.71463294
90.000000	89.369399	.70066777
95.000000	94.350939	.68322210
100.000000	99.332308	.66770000

T=180.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99993814	6.1900000E-03
2.0000000	1.9994478	2.7610000E-02
3.0000000	2.9985461	4.8463333E-02
4.0000000	3.9972336	6.9160000E-02
5.0000000	4.9955476	8.9048000E-02
6.0000000	5.9934390	.10935000
7.0000000	6.9910193	.12829571
8.0000000	7.9882090	.14738750
9.0000000	8.9851143	.16539666
10.0000000	9.9814820	.18518000
15.0000000	14.959462	.27025333
20.0000000	19.930781	.34609500
25.0000000	24.896540	.41384000
30.0000000	29.857199	.47600333
35.0000000	34.815078	.52834857
40.0000000	39.771195	.57201250
45.0000000	44.724803	.61154888
50.0000000	49.681034	.63793200
55.0000000	54.634511	.66452545
60.0000000	59.588587	.68568833
65.0000000	64.548198	.69508000
70.0000000	69.511955	.69720714
75.0000000	74.474469	.70070800
80.0000000	79.441746	.69781750
85.0000000	84.410866	.69309882
90.0000000	89.392868	.67459111
95.0000000	94.373135	.65985789
100.0000000	99.355491	.64451000

T=185.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99994535	5.4700000E-03
2.0000000	1.9994787	2.6065000E-02
3.0000000	2.9986110	4.6300000E-02
4.0000000	3.9973446	6.6385000E-02
5.0000000	4.9957282	8.5436000E-02
6.0000000	5.9937212	.10464666
7.0000000	6.9913554	.12349428
8.0000000	7.9886860	.14142500
9.0000000	8.9856294	.15967323

10.000000	9.9822189	.17782000
15.000000	14.960811	.26126000
20.000000	19.933281	.33359500
25.000000	24.900361	.39855600
30.000000	29.862425	.45858333
35.000000	34.821440	.51017142
40.000000	39.779020	.55245000
45.000000	44.734571	.58984222
50.000000	49.690591	.61881800
55.000000	54.648104	.63981090
60.000000	59.603278	.66120333
65.000000	64.562232	.67348923
70.000000	69.522795	.68172142
75.000000	74.488234	.68235466
80.000000	79.462588	.67176500
85.000000	84.430804	.66964235
90.000000	89.407410	.65843333
95.000000	94.397897	.63379263
100.000000	99.381852	.61815000

T=190.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99995352	4.6500000E-03
2.0000000	1.9995072	2.4640000E-02
3.0000000	2.9986725	4.4250000E-02
4.0000000	3.9974499	6.3752500E-02
5.0000000	4.9958662	8.2676000E-02
6.0000000	5.9939417	.10097166
7.0000000	6.9916746	.11893428
8.0000000	7.9890548	.13681500
9.0000000	8.9861173	.15425222
10.0000000	9.9827898	.17211000
15.0000000	14.962388	.25074666
20.0000000	19.935675	.32162500
25.0000000	24.903238	.38704800
30.0000000	29.867490	.44170000
35.0000000	34.827654	.49241714
40.0000000	39.786721	.53319750
45.0000000	44.744252	.56832888
50.0000000	49.700245	.59951000
55.0000000	54.657890	.62201818
60.0000000	59.618262	.63623000
65.0000000	64.576886	.65094461
70.0000000	69.541086	.65559142
75.0000000	74.510655	.65246000
80.0000000	79.476612	.65423500
85.0000000	84.452755	.64381764
90.0000000	89.435363	.62737444
95.0000000	94.413901	.61694631
100.0000000	99.398781	.60122000

T=195.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99995876	4.1300000E-03

2.0000000	1.9995300	2.3500000E-02
3.0000000	2.9987313	4.2290000E-02
4.0000000	3.9975506	6.1235000E-02
5.0000000	4.9960317	7.9366000E-02
6.0000000	5.9941541	9.7431666E-02
7.0000000	6.9919814	.11455142
8.0000000	7.9894107	.13236625
9.0000000	8.9865902	.14899777
10.000000	9.9834682	.16532000
15.000000	14.963632	.24245333
20.000000	19.937512	.31244000
25.000000	24.906865	.37254000
30.000000	29.871364	.42878666
35.000000	34.833843	.47473428
40.000000	39.792448	.51888000
45.000000	44.751491	.55224222
50.000000	49.710191	.57961800
55.000000	54.668213	.60324909
60.000000	59.629266	.61789000
65.000000	64.592429	.62703230
70.000000	69.554307	.63670428
75.000000	74.527286	.63028533
80.000000	79.492848	.63394000
85.000000	84.467930	.62596470
90.000000	89.455695	.60478333
95.000000	94.433798	.59600210
100.00000	99.432968	.56704000

T=200.0

	PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
	1.0000000	.99996379	3.6300000E-03
	2.0000000	1.9995521	2.2395000E-02
	3.0000000	2.9987779	4.0736666E-02
	4.0000000	3.9976490	5.8775000E-02
	5.0000000	4.9961928	7.6144000E-02
	6.0000000	5.9943624	9.3960000E-02
	7.0000000	6.9922216	.11112000
12	8.0000000	7.9897611	.12798625
	9.0000000	8.9870556	.14382666
11	10.000000	9.9840106	.15990000
	15.000000	14.964589	.23607333
10	20.000000	19.939354	.30323000
	25.000000	24.909716	.36113600
9	30.000000	29.875302	.41566000
	35.000000	34.838609	.46111714
8	40.000000	39.800379	.49905250
	45.000000	44.759084	.53536888
7	50.000000	49.720584	.55883200
	55.000000	54.679228	.58322181
6	60.000000	59.641247	.59792166
	65.000000	64.603898	.60938769
5	70.000000	69.569141	.61551285
	75.000000	74.538915	.61478000
4	80.000000	79.511513	.61060875
	85.000000	84.486139	.60454235
3	90.000000	89.469440	.58951111
2			
1			

95.000000	94.457784	.57075368
100.000000	99.446509	.55350000

T=205.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99997625	2.3800000E-03
2.0000000	1.9995883	2.0585000E-02
3.0000000	2.9988566	3.8113333E-02
4.0000000	3.9977659	5.5852500E-02
5.0000000	4.9963522	7.2956000E-02
6.0000000	5.9946128	8.9786666E-02
7.0000000	6.9925796	.10600571
8.0000000	7.9901878	.12265250
9.0000000	8.9875176	.13869333
10.000000	9.9846727	.15328000
15.000000	14.966101	.22599333
20.000000	19.941705	.29147500
25.000000	24.912636	.34945600
30.000000	29.879360	.40213333
35.000000	34.843602	.44685142
40.000000	39.806645	.48338750
45.000000	44.767144	.51745777
50.000000	49.728577	.54284600
55.000000	54.691069	.56169272
60.000000	59.654331	.57611500
65.000000	64.616881	.58941384
70.000000	69.585744	.59179428
75.000000	74.552932	.59609066
80.000000	79.532750	.58406250
85.000000	84.507519	.57938941
90.000000	89.487200	.56977777
95.000000	94.475115	.55251052
100.000000	99.465528	.53448000

T=210.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99998700	1.3000000E-03
2.0000000	1.9996197	1.9015000E-02
3.0000000	2.9989235	3.5883333E-02
4.0000000	3.9978822	5.2945000E-02
5.0000000	4.9965117	6.9766000E-02
6.0000000	5.9948624	8.5626666E-02
7.0000000	6.9928803	.10171000
8.0000000	7.9906151	.11731125
9.0000000	8.9879851	.13349888
10.000000	9.9852191	.14781000
15.000000	14.967095	.21936666
20.000000	19.943627	.28186500
25.000000	24.915658	.33736800
30.000000	29.883590	.38803333
35.000000	34.848875	.43178571
40.000000	39.811456	.47136000
45.000000	44.775748	.49833777
50.000000	49.737371	.52525800

2
1

55.000000	54.700321	.54487090
60.000000	59.664443	.55926166
65.000000	64.631471	.56696769
70.000000	69.598509	.57355857
75.000000	74.569447	.57407066
80.000000	79.541691	.57288625
85.000000	84.523700	.56035294
90.000000	89.509050	.54550000
95.000000	94.497264	.52919578
100.000000	99.490017	.50999000

T=215.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99999428	5.8000000E-04
2.0000000	1.9996460	1.7700000E-02
3.0000000	2.9989703	3.4323333E-02
4.0000000	3.9979802	5.0495000E-02
5.0000000	4.9966734	6.6532000E-02
6.0000000	5.9950725	8.2125000E-02
7.0000000	6.9931280	9.8171428E-02
8.0000000	7.9908995	.11375625
9.0000000	8.9884614	.12820666
10.000000	9.9857784	.14222000
15.000000	14.968388	.21074666
20.000000	19.945170	.27415000
25.000000	24.918091	.32763600
30.000000	29.887005	.37665000
35.000000	34.853072	.41979428
40.000000	39.818628	.45343000
45.000000	44.782655	.48298888
50.000000	49.744209	.51158200
55.000000	54.710738	.52593090
60.000000	59.676043	.53992833
65.000000	64.642936	.54932923
70.000000	69.613493	.55215285
75.000000	74.582097	.55720400
80.000000	79.561404	.54824500
85.000000	84.535342	.54665647
90.000000	89.525728	.52696888
95.000000	94.513840	.51174736
100.000000	99.508492	.49151000

T=220.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99999823	1.8000000E-04
2.0000000	1.9996640	1.6800000E-02
3.0000000	2.9990182	3.2726666E-02
4.0000000	3.9980628	4.8430000E-02
5.0000000	4.9967814	6.4372000E-02
6.0000000	5.9952478	7.9203333E-02
7.0000000	6.9933852	9.4497142E-02
8.0000000	7.9912697	.10912875
9.0000000	8.9888595	.12378333
10.000000	9.9862438	.13757000

15.000000	14.969221	.20519333
20.000000	19.947267	.26366500
25.000000	24.920713	.31714800
30.000000	29.890704	.36432000
35.000000	34.857698	.40657714
40.000000	39.824522	.43869500
45.000000	44.788081	.47093111
50.000000	49.752085	.49583000
55.000000	54.719018	.51087636
60.000000	59.685177	.52470500
65.000000	64.651663	.53590307
70.000000	69.625292	.53529714
75.000000	74.597611	.53651866
80.000000	79.569937	.53757875
85.000000	84.551081	.52814000
90.000000	89.537867	.51348111
95.000000	94.525557	.49941368
100.00000	99.521658	.47835000

T=225.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99999809	2.0000000E-04
2.0000000	1.9996743	1.6285000E-02
3.0000000	2.9990487	3.1710000E-02
4.0000000	3.9981137	4.7157500E-02
5.0000000	4.9968966	6.2068000E-02
6.0000000	5.9953923	7.6795000E-02
7.0000000	6.9935996	9.1434285E-02
8.0000000	7.9915133	.10608375
9.0000000	8.9891888	.12012444
10.000000	9.9866249	.13376000
15.000000	14.970369	.19754000
20.000000	19.948600	.25700000
25.000000	24.922853	.30858800
30.000000	29.893726	.35424666
35.000000	34.862763	.39210571
40.000000	39.829288	.42678000
45.000000	44.794389	.45691333
50.000000	49.761040	.47792000
55.000000	54.728688	.49329454
60.000000	59.696049	.50658500
65.000000	64.662561	.51913692
70.000000	69.634261	.52248428
75.000000	74.609873	.52016933
80.000000	79.589201	.51349875
85.000000	84.570849	.50488352
90.000000	89.554872	.49458666
95.000000	94.542875	.48118421
100.00000	99.541133	.45887000

T=230.0

5 PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99999523	4.8000000E-04
2.0000000	1.9996816	1.5920000E-02

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3.0000000	2.9990727	3.0910000E-02
4.0000000	3.9981702	4.5745000E-02
5.0000000	4.9969644	6.0712000E-02
6.0000000	5.9955097	7.4838333E-02
7.0000000	6.9937772	8.8897142E-02
8.0000000	7.9917766	.10279250
9.0000000	8.9895434	.11618444
10.000000	9.9870393	.12961000
15.000000	14.971103	.19264666
20.000000	19.950508	.24746000
25.000000	24.925232	.29907200
30.000000	29.897104	.34298666
35.000000	34.866991	.38002571
40.000000	39.834755	.41311250
45.000000	44.801594	.44090222
50.000000	49.768432	.46313600
55.000000	54.736548	.47900363
60.000000	59.704834	.49194333
65.000000	64.675646	.49900615
70.000000	69.645964	.50576571
75.000000	74.619256	.50765866
80.000000	79.598189	.50226375
85.000000	84.579157	.49510941
90.000000	89.567984	.48001777
95.000000	94.556008	.46736000
100.00000	99.556035	.44397000

T=235.0

	PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
	1.0000000	.99998462	1.5400000E-03
	2.0000000	1.9996697	1.6515000E-02
	3.0000000	2.9990617	3.1276666E-02
	4.0000000	3.9981827	4.5432500E-02
	5.0000000	4.9970171	5.9658000E-02
	6.0000000	5.9956027	7.3288333E-02
	7.0000000	6.9939194	8.6865714E-02
12	8.0000000	7.9919290	.10088750
	9.0000000	8.9897563	.11381888
11	10.000000	9.9873836	.12617000
	15.000000	14.971924	.18717333
	20.000000	19.951717	.24141500
10	25.000000	24.927856	.28857600
	30.000000	29.900845	.33051666
9	35.000000	34.870469	.37008857
	40.000000	39.839269	.40182750
8	45.000000	44.807606	.42754222
	50.000000	49.777030	.44594000
7	55.000000	54.742802	.46763272
	60.000000	59.711770	.48038333
6	65.000000	64.686468	.48235692
	70.000000	69.655246	.49250571
5	75.000000	74.631940	.49074666
	80.000000	79.611084	.48614500
4	85.000000	84.592025	.47997058
	90.000000	89.577640	.46928888
3	95.000000	94.574877	.44749789

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100.00000 99.566875 .43313000

T=240.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99998115	1.8900000E-03
2.0000000	1.9996690	1.6550000E-02
3.0000000	2.9990841	3.0530000E-02
4.0000000	3.9982183	4.4542500E-02
5.0000000	4.9970804	5.8392000E-02
6.0000000	5.9957113	7.1478333E-02
7.0000000	6.9940834	8.4522857E-02
8.0000000	7.9921747	9.7816250E-02
9.0000000	8.9900040	.11106666
10.000000	9.9877667	.12234000
15.000000	14.972834	.18110666
20.000000	19.953510	.23245000
25.000000	24.930093	.27962800
30.000000	29.904043	.31985666
35.000000	34.875775	.35492857
40.000000	39.844561	.38859750
45.000000	44.814603	.41199333
50.000000	49.784286	.43142800
55.000000	54.753798	.44764000
60.000000	59.724395	.45934166
65.000000	64.695291	.46878307
70.000000	69.667392	.47515428
75.000000	74.647876	.46949866
80.000000	79.627789	.46526375
85.000000	84.609329	.45961294
90.000000	89.592528	.45274666
95.000000	94.590058	.43151789
100.00000	99.584397	.41561000

T=245.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99999135	8.7000000E-04
2.0000000	1.9996982	1.5090000E-02
3.0000000	2.9991382	2.8726666E-02
4.0000000	3.9983105	4.2237500E-02
5.0000000	4.9972299	5.5402000E-02
6.0000000	5.9959074	6.8210000E-02
7.0000000	6.9943168	8.1188571E-02
8.0000000	7.9925095	9.3631250E-02
9.0000000	8.9904491	.10612111
10.000000	9.9881927	.11808000
15.000000	14.973836	.17442666
20.000000	19.955062	.22469000
25.000000	24.932606	.26957600
30.000000	29.906750	.31083333
35.000000	34.879170	.34522857
40.000000	39.850620	.37345000
45.000000	44.820563	.39874888
50.000000	49.790336	.41932800
55.000000	54.760246	.43591636

60.000000	59.731657	.44723833
65.000000	64.706544	.45147076
70.000000	69.682308	.45384571
75.000000	74.655709	.45905466
80.000000	79.641786	.44776750
85.000000	84.623693	.44271411
90.000000	89.612506	.43054888
95.000000	94.601946	.41900421
100.000000	99.598312	.40169000

T=250.0

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PRESSURE	PRESSURE	PER-CENT
(LITERATURE)	(CALCULATED)	DEVIATION
(ATM.)	(ATM.)	
1.0000000	1.0000193	-1.9300000E-03
2.0000000	1.9997602	1.1990000E-02
3.0000000	2.9992386	2.5380000E-02
4.0000000	3.9984548	3.8630000E-02
5.0000000	4.9974367	5.1266000E-02
6.0000000	5.9961510	6.4150000E-02
7.0000000	6.9946645	7.6221428E-02
8.0000000	7.9928688	8.9140000E-02
9.0000000	8.9909227	.10085888
10.000000	9.9887547	.11246000
15.000000	14.974929	.16714000
20.000000	19.956789	.21605500
25.000000	24.935395	.25842000
30.000000	29.910775	.29741666
35.000000	34.884382	.33033714
40.000000	39.855879	.36030250
45.000000	44.827579	.38315777
50.000000	49.797752	.40449600
55.000000	54.768409	.42107454
60.000000	59.741017	.43163833
65.000000	64.716034	.43687076
70.000000	69.690344	.44236571
75.000000	74.672597	.43653733
80.000000	79.653368	.43329000
85.000000	84.635431	.42890470
90.000000	89.629416	.41176000
95.000000	94.619801	.40020947
100.000000	99.618869	.38114000

T=255.0

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PRESSURE	PRESSURE	PER-CENT
(LITERATURE)	(CALCULATED)	DEVIATION
(ATM.)	(ATM.)	
1.0000000	1.0000642	-6.4200000E-03
2.0000000	1.9998562	7.1900000E-03
3.0000000	2.9993923	2.0256666E-02
4.0000000	3.9986640	3.3400000E-02
5.0000000	4.9977224	4.5552000E-02
6.0000000	5.9965105	5.8158333E-02
7.0000000	6.9950741	7.0370000E-02
8.0000000	7.9934356	8.2055000E-02
9.0000000	8.9915031	9.4410000E-02
10.000000	9.9893556	.10645000
15.000000	14.976114	.15924000

20.000000	19.958690	.20655000
25.000000	24.937858	.24856800
30.000000	29.914339	.28553666
35.000000	34.888990	.31717142
40.000000	39.861947	.34513250
45.000000	44.833673	.36961555
50.000000	49.806514	.38697200
55.000000	54.778251	.40318000
60.000000	59.752410	.41265000
65.000000	64.727990	.41847692
70.000000	69.701394	.42658000
75.000000	74.681865	.42418000
80.000000	79.662772	.42153500
85.000000	84.651762	.40969176
90.000000	89.643576	.39602666
95.000000	94.634676	.38455157
100.000000	99.636139	.36387000

T=260.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0001250	-1.2500000E-02
2.0000000	1.9999814	9.3000000E-04
3.0000000	2.9995880	1.3733333E-02
4.0000000	3.9989352	2.6620000E-02
5.0000000	4.9980585	3.8830000E-02
6.0000000	5.9969451	5.0915000E-02
7.0000000	6.9955906	6.2991428E-02
8.0000000	7.9940187	7.4766250E-02
9.0000000	8.9922625	8.5972222E-02
10.0000000	9.9900864	9.9140000E-02
15.0000000	14.977391	.15072666
20.0000000	19.960764	.19618000
25.0000000	24.940613	.23754800
30.0000000	29.917487	.27504333
35.0000000	34.893040	.30560000
40.0000000	39.867306	.33173500
45.0000000	44.838943	.35790444
50.0000000	49.811864	.37627200
55.0000000	54.786867	.38751454
60.0000000	59.762368	.39605333
65.0000000	64.738370	.40250769
70.0000000	69.715364	.40662285
75.0000000	74.694651	.40713200
80.0000000	79.676265	.40466875
85.0000000	84.665711	.39328117
90.0000000	89.655280	.38302222
95.0000000	94.655430	.36270526
100.0000000	99.650469	.34954000

T=265.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0001924	-1.9240000E-02
2.0000000	2.0001193	-5.9650000E-03
3.0000000	2.9997987	6.7100000E-03

4.0000000	3.9992357	1.9107500E-02
5.0000000	4.9984667	3.0666000E-02
6.0000000	5.9974182	4.3030000E-02
7.0000000	6.9961615	5.4835714E-02
8.0000000	7.9946774	6.6532500E-02
9.0000000	8.9929667	7.8147777E-02
10.000000	9.9908505	9.1500000E-02
15.000000	14.978756	.14162666
20.000000	19.962638	.18681000
25.000000	24.943081	.22767600
30.000000	29.921085	.26305000
35.000000	34.896593	.29544857
40.000000	39.872025	.31993750
45.000000	44.845344	.34368000
50.000000	49.818671	.36265800
55.000000	54.794389	.37383818
60.000000	59.771062	.38156333
65.000000	64.747318	.38874153
70.000000	69.727646	.38907714
75.000000	74.705647	.39247066
80.000000	79.693712	.38286000
85.000000	84.677517	.37939176
90.000000	89.672271	.36414333
95.000000	94.665065	.35256315
100.00000	99.671454	.32855000

T=270.0

	PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
	1.0000000	1.0002570	-2.5700000E-02
	2.0000000	2.0002543	-1.2715000E-02
	3.0000000	3.0000067	-2.2333333E-04
	4.0000000	3.9995202	1.1995000E-02
	5.0000000	4.9988076	2.3848000E-02
	6.0000000	5.9978637	3.5605000E-02
	7.0000000	6.9966970	4.7185714E-02
	8.0000000	7.9952925	5.8843750E-02
	9.0000000	8.9936955	7.0050000E-02
12	10.000000	9.9917378	8.2630000E-02
	15.000000	14.980008	.13328000
11	20.000000	19.964329	.17835500
	25.000000	24.945853	.21658800
10	30.000000	29.924312	.25229333
	35.000000	34.900813	.28339142
9	40.000000	39.876158	.30960500
	45.000000	44.851005	.33110000
8	50.000000	49.826882	.34623600
	55.000000	54.800901	.36199818
7	60.000000	59.778599	.36900166
	65.000000	64.754978	.37695692
6	70.000000	69.733920	.38011428
	75.000000	74.720107	.37319066
5	80.000000	79.703320	.37085000
	85.000000	84.693943	.36006705
4	90.000000	89.686969	.34781222
	95.000000	94.680763	.33603894
3	100.00000	99.680566	.31944000

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T=275.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0003055	-3.0550000E-02
2.0000000	2.0003581	-1.7905000E-02
3.0000000	3.0001646	-5.4866666E-03
4.0000000	3.9997465	6.3375000E-03
5.0000000	4.9990834	1.8332000E-02
6.0000000	5.9982181	2.9698333E-02
7.0000000	6.9971563	4.0624285E-02
8.0000000	7.9958111	5.2361250E-02
9.0000000	8.9943753	6.2496666E-02
10.000000	9.9924782	7.5220000E-02
15.000000	14.981352	.12432000
20.000000	19.966213	.16893500
25.000000	24.948364	.20654400
30.000000	29.927194	.24268666
35.000000	34.904574	.27264571
40.000000	39.881183	.29704250
45.000000	44.855988	.32002666
50.000000	49.832000	.33600000
55.000000	54.809206	.34689818
60.000000	59.785078	.35820333
65.000000	64.765227	.36118923
70.000000	69.743317	.36669000
75.000000	74.727885	.36282000
80.000000	79.711322	.36084750
85.000000	84.701918	.35068470
90.000000	89.699605	.33377222
95.000000	94.694209	.32188526
100.00000	99.696482	.30352000

T=280.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0003267	-3.2670000E-02
2.0000000	2.0004084	-2.0420000E-02
3.0000000	3.0002512	-8.3733333E-03
4.0000000	3.9998766	3.0850000E-03
5.0000000	4.9992556	1.4888000E-02
6.0000000	5.9984569	2.5718333E-02
7.0000000	6.9974142	3.6940000E-02
8.0000000	7.9961826	4.7717500E-02
9.0000000	8.9947979	5.7801111E-02
10.000000	9.9931661	6.8340000E-02
15.000000	14.982398	.11734666
20.000000	19.967932	.16034000
25.000000	24.950092	.19963200
30.000000	29.929772	.23409333
35.000000	34.907928	.26306285
40.000000	39.885681	.28579750
45.000000	44.862131	.30637555
50.000000	49.838602	.32279600
55.000000	54.813954	.33826545
60.000000	59.793747	.34375500

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65.000000	64.770583	.35294923
70.000000	69.751442	.35508285
75.000000	74.739269	.34764133
80.000000	79.723468	.34566500
85.000000	84.714650	.33570588
90.000000	89.703245	.32972777
95.000000	94.705627	.30986631
100.000000	99.701340	.29866000

T=285.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0003106	-3.1060000E-02
2.0000000	2.0003869	-1.9345000E-02
3.0000000	3.0002316	-7.7200000E-03
4.0000000	3.9998609	3.4775000E-03
5.0000000	4.9992870	1.4260000E-02
6.0000000	5.9984912	2.5146666E-02
7.0000000	6.9974829	3.5958571E-02
8.0000000	7.9963064	4.6170000E-02
9.0000000	8.9949074	5.6584444E-02
10.000000	9.9935485	6.4520000E-02
15.000000	14.983162	.11225333
20.000000	19.969160	.15420000
25.000000	24.951624	.19350400
30.000000	29.932061	.22646333
35.000000	34.910911	.25454000
40.000000	39.888319	.27920250
45.000000	44.865911	.29797555
50.000000	49.842329	.31534200
55.000000	54.820551	.32627090
60.000000	59.798354	.33607666
65.000000	64.778609	.34060153
70.000000	69.762615	.33912142
75.000000	74.744420	.34077333
80.000000	79.734104	.33237000
85.000000	84.725728	.32267294
90.000000	89.719399	.31177888
95.000000	94.715174	.29981684
100.000000	99.713085	.28692000

T=290.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0002542	-2.5420000E-02
2.0000000	2.0002870	-1.4350000E-02
3.0000000	3.0000966	-3.2200000E-03
4.0000000	3.9997063	7.3425000E-03
5.0000000	4.9990992	1.8016000E-02
6.0000000	5.9983038	2.8270000E-02
7.0000000	6.9973312	3.8125714E-02
8.0000000	7.9961397	4.8253750E-02
9.0000000	8.9947890	5.7900000E-02
10.000000	9.9935567	6.4440000E-02
15.000000	14.983472	.11018666
20.000000	19.969584	.15208000

25.000000	24.952975	.18810000
30.000000	29.934095	.21968333
35.000000	34.913546	.24701142
40.000000	39.891915	.27021250
45.000000	44.869184	.29070222
50.000000	49.847583	.30483400
55.000000	54.826382	.31566909
60.000000	59.805210	.32465000
65.000000	64.785642	.32978153
70.000000	69.768460	.33077142
75.000000	74.753238	.32901600
80.000000	79.743324	.32084500
85.000000	84.735281	.31143411
90.000000	89.726891	.30345444
95.000000	94.723040	.29153684
100.000000	99.722958	.27705000

T=295.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0001619	-1.6190000E-02
2.0000000	2.0001166	-5.8300000E-03
3.0000000	2.9998665	4.4500000E-03
4.0000000	3.9994202	1.4495000E-02
5.0000000	4.9987671	2.4658000E-02
6.0000000	5.9979352	3.4413333E-02
7.0000000	6.9969297	4.3861428E-02
8.0000000	7.9957525	5.3093750E-02
9.0000000	8.9943896	6.2337777E-02
10.000000	9.9931287	6.8720000E-02
15.000000	14.983164	.11224000
20.000000	19.969913	.15043500
25.000000	24.953645	.18542000
30.000000	29.935142	.21619333
35.000000	34.915871	.24036857
40.000000	39.895100	.26225000
45.000000	44.873675	.28072222
50.000000	49.852242	.29551600
55.000000	54.831514	.30633818
60.000000	59.811254	.31457666
65.000000	64.795274	.31496307
70.000000	69.777408	.31798857
75.000000	74.765568	.31257600
80.000000	79.751292	.31088500
85.000000	84.743460	.30181176
90.000000	89.739711	.28921000
95.000000	94.736908	.27693894
100.00000	99.739473	.26053000

T=300.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0000513	-5.1300000E-03
2.0000000	1.9999084	4.5800000E-03
3.0000000	2.9995766	1.4113333E-02
4.0000000	3.9990619	2.3452500E-02

5.0000000	4.9983598	3.2804000E-02
6.0000000	5.9974840	4.1933333E-02
7.0000000	6.9964514	5.0694285E-02
8.0000000	7.9952095	5.9881250E-02
9.0000000	8.9938541	6.8287777E-02
10.000000	9.9923686	7.6320000E-02
15.000000	14.982640	.11573333
20.000000	19.969510	.15245000
25.000000	24.954178	.18328800
30.000000	29.936737	.21087666
35.000000	34.917917	.23452285
40.000000	39.897919	.25520250
45.000000	44.877689	.27180222
50.000000	49.858385	.28323000
55.000000	54.838475	.29368181
60.000000	59.819486	.30085666
65.000000	64.803958	.30160307
70.000000	69.789344	.30093714
75.000000	74.776694	.29774133
80.000000	79.763343	.29582125
85.000000	84.756301	.28670470
90.000000	89.751027	.27663666
95.000000	94.756525	.25628947
100.00000	99.754143	.24586000

T=310.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99988248	1.1760000E-02
4.0000000	3.9981711	4.5722500E-02
7.0000000	6.9952510	6.7842857E-02
10.000000	9.9911826	8.8180000E-02
40.000000	39.896766	.25808500
70.000000	69.791943	.29722428
100.00000	99.750081	.24992000

T=320.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99987690	1.2310000E-02
4.0000000	3.9980786	4.8035000E-02
7.0000000	6.9949557	7.2061428E-02
10.000000	9.9915596	8.4410000E-02
40.000000	39.903683	.24079250
70.000000	69.813609	.26627285
100.00000	99.786873	.21313000

T=330.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99987105	1.2900000E-02
4.0000000	3.9983819	4.0452500E-02
7.0000000	6.9953504	6.6422857E-02
10.000000	9.9919182	8.0820000E-02
40.000000	39.906649	.23337750

70.000000	69.815201	.26399857
100.000000	99.806818	.19319000

T=340.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99996516	3.4900000E-03
4.0000000	3.9990824	2.2940000E-02
7.0000000	6.9971386	4.0877142E-02
10.000000	9.9932668	6.7340000E-02
40.000000	39.925662	.18584500
70.000000	69.845726	.22039142
100.000000	99.829987	.17002000

T=350.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99995903	4.1000000E-03
4.0000000	3.9993824	1.5440000E-02
7.0000000	6.9975238	3.5374285E-02
10.000000	9.9936111	6.3890000E-02
40.000000	39.928864	.17784000
70.000000	69.856348	.20521714
100.000000	99.846339	.15367000

T=360.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99995291	4.7100000E-03
4.0000000	3.9992819	1.7952500E-02
7.0000000	6.9972094	3.9865714E-02
10.000000	9.9939520	6.0480000E-02
40.000000	39.932248	.16938000
70.000000	69.875034	.17852285
100.000000	99.865875	.13413000

T=370.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99994672	5.3300000E-03
4.0000000	3.9991816	2.0460000E-02
7.0000000	6.9975945	3.4364285E-02
10.000000	9.9942977	5.7030000E-02
40.000000	39.935842	.16039500
70.000000	69.873863	.18019571
100.000000	99.878511	.12149000

T=380.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99994052	5.9500000E-03
4.0000000	3.9990810	2.2975000E-02

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7.0000000	6.9972815	3.8835714E-02
10.000000	9.9946461	5.3540000E-02
40.000000	39.939658	.15085500
70.000000	69.887799	.16028714
100.00000	99.894182	.10582000

T=390.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99993440	6.5600000E-03
4.0000000	3.9989813	2.5467500E-02
7.0000000	6.9976707	3.3275714E-02
10.000000	9.9950006	5.0000000E-02
40.000000	39.943721	.14069750
70.000000	69.895862	.14876857
100.00000	99.912833	8.7170000E-02

T=400.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99992841	7.1600000E-03
4.0000000	3.9988826	2.7935000E-02
7.0000000	6.9973632	3.7668571E-02
10.000000	9.9953640	4.6360000E-02
40.000000	39.948030	.12992500
70.000000	69.905042	.13565428
100.00000	99.924326	7.5680000E-02

T=410.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99992235	7.7700000E-03
4.0000000	3.9987854	3.0365000E-02
7.0000000	6.9970604	4.1994285E-02
10.000000	9.9957355	4.2650000E-02
40.000000	39.948606	.12848500
70.000000	69.915317	.12097571
100.00000	99.938622	6.1380000E-02

T=420.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99991650	8.3500000E-03
4.0000000	3.9990893	2.2767500E-02
7.0000000	6.9974605	3.6278571E-02
10.000000	9.9961159	3.8850000E-02
40.000000	39.957431	.10642250
70.000000	69.926673	.10475285
100.00000	99.955600	4.4400000E-02

T=430.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
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1.0000000	.99991058	8.9500000E-03
4.0000000	3.9989942	2.5145000E-02
7.0000000	6.9971665	4.0478571E-02
10.000000	9.9955076	4.4930000E-02
40.000000	39.950535	.12366250
70.000000	69.918086	.11702000
100.00000	99.965167	3.4840000E-02

T=440.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99990480	9.5200000E-03
4.0000000	3.9997005	7.4875000E-03
7.0000000	6.9989765	1.4621428E-02
10.000000	9.9959111	4.0890000E-02
40.000000	39.955887	.11028250
70.000000	69.931518	9.7831428E-02
100.00000	99.977218	2.2790000E-02

T=450.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99999904	1.0000000E-04
4.0000000	4.0000091	-2.2750000E-04
7.0000000	6.9986935	1.8664285E-02
10.000000	9.9963262	3.6740000E-02
40.000000	39.961505	9.6237500E-02
70.000000	69.945958	7.7202857E-02
100.00000	99.991698	8.3100000E-03

T=460.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99999353	6.5000000E-04
4.0000000	3.9999195	2.0125000E-03
7.0000000	6.9991154	1.2637142E-02
10.000000	9.9967508	3.2500000E-02
40.000000	39.967371	8.1572500E-02
70.000000	69.954368	6.5188571E-02
100.00000	99.998482	1.5200000E-03

T=470.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99998809	1.2000000E-03
4.0000000	3.9998312	4.2200000E-03
7.0000000	6.9988425	1.6535714E-02
10.000000	9.9971897	2.8110000E-02
40.000000	39.973492	6.6270000E-02
70.000000	69.963718	5.1831428E-02
100.00000	100.00747	-7.4700000E-03

T=480.0

PRESSURE	PRESSURE	PER-CENT
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(LITERATURE) (ATM.)	(CALCULATED) (ATM.)	DEVIATION
1.0000000	.99998271	1.7300000E-03
4.0000000	3.9997451	6.3725000E-03
7.0000000	6.9992759	1.0344285E-02
10.000000	9.9976381	2.3620000E-02
40.000000	39.975865	6.0337500E-02
70.000000	69.973986	3.7162857E-02
100.00000	100.01862	-1.8620000E-02

T=490.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99997754	2.2500000E-03
4.0000000	3.9996607	8.4825000E-03
7.0000000	6.9990146	1.4077142E-02
10.000000	9.9981001	1.9000000E-02
40.000000	39.982478	4.3805000E-02
70.000000	69.985145	2.1221428E-02
100.00000	100.03183	-3.1830000E-02

T=500.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99997237	2.7700000E-03
4.0000000	3.9995778	1.0555000E-02
7.0000000	6.9987595	1.7721428E-02
10.000000	9.9975734	2.4270000E-02
40.000000	39.977332	5.6670000E-02
70.000000	69.976129	3.4101428E-02
100.00000	100.03701	-3.7010000E-02

T=510.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99996747	3.2600000E-03
4.0000000	3.9994969	1.2577500E-02
7.0000000	6.9985091	2.1298571E-02
10.000000	9.9970583	2.9420000E-02
40.000000	39.972422	6.8945000E-02
70.000000	69.974965	3.5764285E-02
100.00000	100.05411	-5.4110000E-02

T=520.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99996250	3.7500000E-03
4.0000000	3.9994180	1.4550000E-02
7.0000000	6.9982641	2.4798571E-02
10.000000	9.9975557	2.4450000E-02
40.000000	39.979720	5.0700000E-02
70.000000	69.981600	2.6285714E-02
100.00000	100.06303	-6.3030000E-02

T=530.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99995774	4.2300000E-03
4.0000000	3.9993404	1.6490000E-02
7.0000000	6.9987255	1.8207142E-02
10.000000	9.9980634	1.9370000E-02
40.000000	39.983242	4.1895000E-02
70.000000	69.996012	5.6971428E-03
100.00000	100.07371	-7.3710000E-02

T=540.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99995298	4.7100000E-03
4.0000000	3.9992646	1.8385000E-02
7.0000000	6.9991909	1.1558571E-02
10.000000	9.9985812	1.4190000E-02
40.000000	39.990978	2.2555000E-02
70.000000	70.004150	-5.9285714E-03
100.00000	100.07603	-7.6030000E-02

T=550.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99994848	5.1600000E-03
4.0000000	3.9995900	1.0250000E-02
7.0000000	6.9989623	1.4824285E-02
10.000000	9.9991106	8.9000000E-03
40.000000	39.994921	1.2697500E-02
70.000000	70.013017	-1.8595714E-02
100.00000	100.07999	-7.9990000E-02

T=560.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99994386	5.6200000E-03
4.0000000	3.9995176	1.2060000E-02
7.0000000	6.9987384	1.8022857E-02
10.000000	9.9986499	1.3510000E-02
40.000000	39.991060	2.2350000E-02
70.000000	70.008553	-1.2218571E-02
100.00000	100.08550	-8.5500000E-02

T=570.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99993943	6.0600000E-03
4.0000000	3.9994465	1.3837500E-02
7.0000000	6.9992195	1.1150000E-02
10.000000	9.9982015	1.7990000E-02
40.000000	39.987391	3.1522500E-02

70.000000	70.004756	-6.7942857E-03
100.000000	100.09254	-9.2540000E-02

T=580.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0000352	-3.5200000E-03
4.0000000	4.0001773	-4.4325000E-03
7.0000000	6.9997053	4.2100000E-03
10.000000	9.9987615	1.2390000E-02
40.000000	39.991914	2.0215000E-02
70.000000	70.015636	-2.2337142E-02
100.000000	100.10101	-0.10101000

T=590.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0000309	-3.0900000E-03
4.0000000	4.0001100	-2.7500000E-03
7.0000000	7.0001966	-2.8085714E-03
10.000000	9.9983308	1.6700000E-02
40.000000	39.988619	2.8452500E-02
70.000000	70.013119	-1.8741428E-02
100.000000	100.11089	-0.11089000

T=600.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0000268	-2.6800000E-03
4.0000000	4.0004431	-1.1077500E-02
7.0000000	6.9999931	9.8571428E-05
10.000000	9.9989112	1.0890000E-02
40.000000	39.993496	1.6260000E-02
70.000000	70.018202	-2.6002857E-02
100.000000	100.11205	-0.11205000

T=198.16

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
100.00000	99.553064	0.44694000
150.00000	149.85155	9.8966666E-02
200.00000	201.11156	-0.55578000
300.00000	306.20744	-2.0691466
400.00000	413.93416	-3.4835400
500.00000	524.05960	-4.8119200
600.00000	635.33924	-5.8898733
800.00000	863.07778	-7.8847225
1000.0000	1089.5813	-8.9581300
1100.0000	1201.2303	-9.2027545
1200.0000	1310.0463	-9.1705250

T=223.16

PRESSURE (LITERATURE)	PRESSURE (CALCULATED)	PER-CENT DEVIATION
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(ATM.)	(ATM.)	
100.00000	99.570819	.42919000
150.00000	149.79746	.13502666
200.00000	200.94653	-.47326500
300.00000	305.51075	-1.8369166
400.00000	413.16718	-3.2917950
500.00000	523.28741	-4.6574820
600.00000	635.01072	-5.8351200
800.00000	862.91174	-7.8639675
1000.0000	1092.3085	-9.2308500
1100.0000	1206.6490	-9.6953636
1200.0000	1320.2855	-10.023791

T=248.16

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
100.00000	99.594355	.40565000
150.00000	149.92986	4.6760000E-02
200.00000	200.83851	-.41925500
300.00000	305.02067	-1.6735566
400.00000	412.57799	-3.1444975
500.00000	522.64055	-4.5281100
600.00000	634.55945	-5.7599083
800.00000	863.23917	-7.9048962
1000.0000	1095.5060	-9.5506000
1100.0000	1212.6134	-10.237581
1200.0000	1329.1834	-10.765283

T=273.16

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
100.00000	99.688599	.31141000
150.00000	149.92771	4.8193333E-02
200.00000	200.76840	-.38420000
300.00000	304.62233	-1.5407766
400.00000	411.95404	-2.9885100
500.00000	521.87211	-4.3744220
600.00000	633.98832	-5.6647200
800.00000	863.29402	-7.9117525
1000.0000	1097.8932	-9.7893200
1100.0000	1216.9133	-10.628481
1200.0000	1336.1281	-11.344008

T=298.16

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
100.00000	99.726114	.27389000
150.00000	149.94282	3.8120000E-02
200.00000	200.76078	-.38039000
300.00000	304.26845	-1.4228166
400.00000	411.37430	-2.8435750
500.00000	520.96857	-4.1937140
600.00000	633.20624	-5.5343733
800.00000	863.07492	-7.8843650
1000.0000	1099.4115	-9.9411500

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1100.0000	1220.1675	-10.924318
1200.0000	1341.1001	-11.758341

T=323.16

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
100.00000	99.804311	.19569000
150.00000	149.98661	8.9266666E-03
200.00000	200.66919	-.33459500
300.00000	304.16686	-1.3889533
400.00000	410.75275	-2.6881875
500.00000	520.02847	-4.0056940
600.00000	632.17410	-5.3623500
800.00000	862.38348	-7.7979350
1000.0000	1100.1768	-10.017680
1100.0000	1221.9196	-11.083600
1200.0000	1344.3090	-12.025750

T=373.16

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
100.00000	99.873510	.12649000
150.00000	150.02495	-1.6633333E-02
200.00000	200.62542	-.31271000
300.00000	303.62371	-1.2079033
400.00000	409.57099	-2.3927475
500.00000	518.35804	-3.6716080
600.00000	630.06218	-5.0103633
800.00000	860.17096	-7.5213700
1000.0000	1099.3133	-9.9313300
1100.0000	1222.4736	-11.133963
1200.0000	1346.5468	-12.212233

T=473.16

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
100.00000	99.985192	1.4810000E-02
150.00000	150.15572	-.10381333
200.00000	200.54545	-.27272500
300.00000	302.71809	-.90603000
400.00000	407.73868	-1.9346700
500.00000	515.12991	-3.0259820
600.00000	625.59657	-4.2660950
800.00000	854.00513	-6.7506412
1000.0000	1093.0057	-9.3005700
1100.0000	1216.2616	-10.569236
1200.0000	1341.3568	-11.779733

T=573.16

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
100.00000	100.03016	-3.0160000E-02
150.00000	150.20194	-.13462666
200.00000	200.53996	-.26998000

300.00000	302.31134	-.77044666
400.00000	406.20575	-1.5514375
500.00000	512.77080	-2.5541600
600.00000	621.76528	-3.6275466
800.00000	847.82069	-5.9775862
1000.0000	1084.3533	-8.4353300
1100.0000	1206.4060	-9.6732727
1200.0000	1331.1301	-10.927508

T=673.16

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
100.00000	100.06440	-6.4400000E-02
150.00000	150.21054	-.14036000
200.00000	200.50765	-.25382500
300.00000	301.99711	-.66570333
400.00000	405.40441	-1.3511025
500.00000	510.48918	-2.0978360
600.00000	618.96900	-3.1615000
800.00000	842.19665	-5.2745812
1000.0000	1075.9956	-7.5995600
1100.0000	1196.3429	-8.7584454
1200.0000	1319.1490	-9.9290833

T=773.16

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
100.00000	100.08744	-8.7440000E-02
150.00000	150.21757	-.14504666
200.00000	200.42906	-.21453000
300.00000	301.66107	-.55369000
400.00000	404.63745	-1.1593625
500.00000	509.35784	-1.8715680
600.00000	615.98793	-2.6646550
800.00000	837.47007	-4.6837587
1000.0000	1068.3443	-6.8344300
1100.0000	1187.0031	-7.9093727
1200.0000	1308.1776	-9.0148000

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HYDROGEN

ORIGINAL B-W-R
EQUATION OF STATE

T=30.

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.93993998	6.0060100
2.0000000	1.7427693	12.861535
3.0000000	2.3762866	20.790446
4.0000000	2.7942422	30.143945
5.0000000	2.9257645	41.484710
6.0000000	2.6528047	55.786588
7.0000000	1.7477886	75.031591
8.0000000	-.33705981	104.21324
60.000000	-91.544644	252.57440
65.000000	-79.460132	222.24635
70.000000	-67.805865	196.86551
75.000000	-58.031348	177.37512
80.000000	-44.186890	155.23361
85.000000	-31.391190	136.93081
90.000000	-12.204104	113.56011
95.000000	6.1910417	93.483114
100.00000	24.759646	75.240360

T=35.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.97034737	2.9652700
2.0000000	1.8762315	6.1884250
3.0000000	2.7090519	9.6982700
4.0000000	3.4581791	13.545522
5.0000000	4.1108151	17.783698
6.0000000	4.6505975	22.490041
7.0000000	5.0560248	27.771074
8.0000000	5.3003956	33.745055
9.0000000	5.3409181	40.656465
10.000000	5.1363765	48.636240
15.000000	-16.349268	208.99512
60.000000	-16.343499	127.23916
65.000000	-2.4429368	103.75836
70.000000	9.4300891	86.528444
75.000000	23.050932	69.265424
80.000000	37.076030	53.654962
85.000000	52.921044	37.739948
90.000000	68.821903	23.531218
95.000000	82.194590	13.479378
100.00000	86.535900	13.464100

T=38.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.97979096	2.0209100
2.0000000	1.9162876	4.1856200
3.0000000	2.8052580	6.4914000
4.0000000	3.6417581	8.9560475
5.0000000	4.4199865	11.600270
6.0000000	5.1334201	14.442998
7.0000000	5.7740048	17.514217

8.000000	6.3322755	20.846556
9.000000	6.7962480	24.486133
10.000000	7.1524020	28.475980
15.000000	6.5171115	56.552593
20.000000	-2.8545488	114.27274
25.000000	-21.301260	185.20504
30.000000	-30.138539	200.46179
60.000000	-.93478973	101.55798
65.000000	10.906433	83.220872
70.000000	21.993177	68.581175
75.000000	34.532794	53.956274
80.000000	48.457950	39.427562
85.000000	63.642382	25.126609
90.000000	79.171849	12.031278
95.000000	93.693651	1.3751042
100.00000	100.31284	-.31284000

T=42.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.000000	.98740997	1.2590100
2.000000	1.9482330	2.5883500
3.000000	2.8806739	3.9775366
4.000000	3.7827587	5.4310325
5.000000	4.6522642	6.9547160
6.000000	5.4868277	8.5528716
7.000000	6.2837747	10.231790
8.000000	7.0402817	11.996478
9.000000	7.7531022	13.854420
10.000000	8.4184866	15.815140
15.000000	10.882585	27.449433
20.000000	11.379203	43.103985
25.000000	9.1768732	63.292508
30.000000	4.9461785	83.512740
35.000000	1.4302565	95.913554
40.000000	.38662152	99.033447
45.000000	3.9000782	91.333160
55.000000	23.479201	57.310543
60.000000	15.168094	74.719843
65.000000	23.199035	64.309176
70.000000	31.732252	54.668211
75.000000	40.884483	45.487356
80.000000	52.430235	34.462206
85.000000	64.802770	23.761447
90.000000	78.188234	13.124184
95.000000	92.683737	2.4381715
100.00000	105.09355	-5.0935500

T=46.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.000000	.99189956	.81005000
2.000000	1.9667783	1.6610850
3.000000	2.9238060	2.5398000
4.000000	3.8622120	3.4447000
5.000000	4.7810540	4.3789200

6.0000000	5.6793875	5.3435416
7.0000000	6.5563245	6.3382214
8.0000000	7.4106886	7.3663925
9.0000000	8.2415112	8.4276533
10.000000	9.0473142	9.5268600
15.000000	12.662694	15.582040
20.000000	15.469869	22.650655
25.000000	17.341596	30.633616
30.000000	18.308540	38.971533
35.000000	18.735225	46.470785
40.000000	19.257632	51.855920
45.000000	20.464471	54.523397
50.000000	22.651835	54.696330
55.000000	25.929420	52.855600
60.000000	34.521803	42.463661
65.000000	35.024927	46.115496
70.000000	41.102536	41.282091
75.000000	41.923973	44.101369
80.000000	56.401570	29.498037
85.000000	65.536730	22.897964
90.000000	76.344011	15.173321
95.000000	88.956287	6.3618031
100.00000	102.71932	-2.7193200

T=50.0

	PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
	1.0000000	.99465208	.53480000
	2.0000000	1.9780519	1.0974050
	3.0000000	2.9498641	1.6711966
	4.0000000	3.9097310	2.2567250
	5.0000000	4.8572320	2.8553600
	6.0000000	5.7918962	3.4683966
	7.0000000	6.7134930	4.0929571
	8.0000000	7.6217562	4.7280475
	9.0000000	8.5157934	5.3800733
	10.000000	9.3956995	6.0430100
	15.000000	13.565728	9.5618133
12	20.000000	17.323556	13.382220
	25.000000	20.649772	17.400912
11	30.000000	23.568967	21.436776
	35.000000	26.167649	25.235288
10	40.000000	28.604814	28.487965
	45.000000	31.070594	30.954235
9	50.000000	33.807823	32.384354
	55.000000	36.993444	32.739192
8	60.000000	40.724790	32.125350
	65.000000	45.162303	30.519533
7	70.000000	50.220769	28.256044
	75.000000	54.904960	26.793386
6	80.000000	61.592861	23.008923
	85.000000	68.632668	19.255684
5	90.000000	86.891732	3.4536311
	95.000000	86.891732	8.5350189
4	100.00000	99.023502	.97650000

T=55.0

2

1

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99672931	.32707000
2.0000000	1.9865398	.67301000
3.0000000	2.9693436	1.0218800
4.0000000	3.9450611	1.3734725
5.0000000	4.9134938	1.7301240
6.0000000	5.8745084	2.0915266
7.0000000	6.8281035	2.4556642
8.0000000	7.7746284	2.8171450
9.0000000	8.7146332	3.1707422
10.000000	9.6488697	3.5113100
15.000000	14.931141	.45906000
20.000000	18.385790	8.0710500
25.000000	22.522945	9.9082200
30.000000	26.706657	10.977810
35.000000	30.332593	13.335448
40.000000	33.978923	15.052692
45.000000	37.667392	16.294684
50.000000	41.355327	17.289346
55.000000	45.380402	17.490178
60.000000	46.072970	23.211716
65.000000	53.608454	17.525455
70.000000	58.411428	16.555102
75.000000	62.399508	16.800656
80.000000	67.755440	15.305700
85.000000	73.384458	13.665343
90.000000	79.702456	11.441715
95.000000	87.046305	8.3723105
100.00000	96.174727	3.8252800

T=60.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99795624	.20438000
2.0000000	1.9914900	.42550000
3.0000000	2.9805551	.64816333
4.0000000	3.9651298	.87175500
5.0000000	4.9452191	1.0956180
6.0000000	5.9207565	1.3207250
7.0000000	6.8915834	1.5488085
8.0000000	7.8579844	1.7751950
9.0000000	8.8196087	2.0043477
10.000000	9.7767950	2.2320500
15.000000	14.493225	3.3785000
20.000000	19.096450	4.5177500
25.000000	23.593592	5.6256320
30.000000	27.995447	6.6818433
35.000000	32.325132	7.6424800
40.000000	36.595781	8.5105475
45.000000	40.841254	9.2416577
50.000000	45.093231	9.8135380
55.000000	49.357901	10.258361
60.000000	53.696566	10.505723
65.000000	58.101986	10.612329
70.000000	62.648498	10.502145

75.000000	67.353175	10.195766
80.000000	72.268624	9.6642200
85.000000	77.410540	8.9287764
90.000000	82.850006	7.9444377
95.000000	88.486424	6.8563957
100.00000	94.491113	5.5088900

T=65.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99871761	.12824000
2.0000000	1.9945472	.27264000
3.0000000	2.9874724	.41758666
4.0000000	3.9775576	.56106000
5.0000000	4.9647802	.70439600
6.0000000	5.9491565	.84739166
7.0000000	6.9308879	.98731571
8.0000000	7.9099339	1.1258262
9.0000000	8.8863520	1.2627555
10.000000	9.8605770	1.3942300
15.000000	14.706219	1.9585400
20.000000	19.610801	1.9459950
25.000000	24.303731	2.7850760
30.000000	28.515436	4.9485466
35.000000	33.381772	4.6235085
40.000000	38.000668	4.9983300
45.000000	42.510128	5.5330488
50.000000	47.060589	5.8788220
55.000000	51.423238	6.5032036
60.000000	60.018035	-3.0058333E-02
65.000000	60.642730	6.7034923
70.000000	65.155670	6.9204714
75.000000	70.409383	6.1208226
80.000000	75.179382	6.0257725
85.000000	80.188772	5.6602682
90.000000	85.248094	5.2798955
95.000000	90.246257	-5.0039400
100.00000	94.646924	5.3530800

T=70.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99918726	8.1280000E-02
2.0000000	1.9964600	.17700000
3.0000000	2.9918000	.27333333
4.0000000	3.9852917	.36770750
5.0000000	4.9768762	.46247600
6.0000000	5.9666132	.55644666
7.0000000	6.9544835	.65023571
8.0000000	7.9405593	.74300875
9.0000000	8.9247876	.83569333
10.000000	9.9070787	.92922000
15.000000	14.793905	1.3739666
20.000000	19.639898	1.8005100
25.000000	24.449089	2.2036440
30.000000	29.229550	2.5681666

35.000000	33.985534	2.8984742
40.000000	38.725251	3.1868725
45.000000	43.455100	3.4331111
50.000000	48.181778	3.6364440
55.000000	52.896251	3.8249981
60.000000	57.620168	3.9663866
65.000000	62.373928	4.0401107
70.000000	67.143297	4.0810042
75.000000	71.958111	4.0558520
80.000000	76.830144	3.9623200
85.000000	81.767127	3.8033800
90.000000	86.750802	3.6102200
95.000000	91.828926	3.3379726
100.000000	97.016929	2.9830800

T=75.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99950381	4.9620000E-02
2.0000000	1.9977086	.11457000
3.0000000	2.9946707	.17764333
4.0000000	3.9903445	.24138750
5.0000000	4.9848119	.30376200
6.0000000	5.9781181	.36469833
7.0000000	6.9700598	.42771714
8.0000000	7.9610261	.48717375
9.0000000	8.9507777	.54691444
10.000000	9.9394386	.60562000
15.000000	14.868658	.87561333
20.000000	19.782866	1.0856700
25.000000	24.685168	1.2593280
30.000000	29.548551	1.5048300
35.000000	34.353169	1.8480885
40.000000	39.143534	2.1411650
45.000000	44.024729	2.1672688
50.000000	48.854809	2.2903820
55.000000	53.873566	2.0480618
60.000000	57.809418	3.6509700
65.000000	63.481043	2.3368569
70.000000	68.467909	2.1887014
75.000000	72.929382	2.7608240
80.000000	77.892957	2.6338037
85.000000	82.786724	2.6038541
90.000000	87.750455	2.4994944
95.000000	92.914391	2.1953778
100.00000	98.552252	1.4477500

T=80.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99970733	2.9270000E-02
2.0000000	1.9985268	7.3660000E-02
3.0000000	2.9964733	.11755666
4.0000000	3.9935884	.16029000
5.0000000	4.9898171	.20365800
6.0000000	5.9852529	.24578500

7.0000000	6.9799578	.28631714
8.0000000	7.9738119	.32735125
9.0000000	8.9669712	.36698666
10.000000	9.9592950	.40705000
15.000000	14.910248	.59834666
20.000000	19.845496	.77252000
25.000000	24.769145	.92342000
30.000000	29.681822	1.0605933
35.000000	34.583600	1.1897142
40.000000	39.480502	1.2987450
45.000000	44.374405	1.3902111
50.000000	49.263124	1.4737520
55.000000	54.151425	1.5428636
60.000000	59.041196	1.5980066
65.000000	63.935794	1.6372400
70.000000	68.831627	1.6691042
75.000000	73.746379	1.6714946
80.000000	78.664799	1.6690012
85.000000	83.612003	1.6329376
90.000000	88.585540	1.5716222
95.000000	93.549700	1.5266315
100.00000	98.589031	1.4109700

T=85.0

	PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
	1.0000000	.99985077	1.4930000E-02
	2.0000000	1.9990913	4.5435000E-02
	3.0000000	2.9977582	7.4726666E-02
	4.0000000	3.9958080	.10480000
	5.0000000	4.9933629	.13274200
	6.0000000	5.9902808	.16198666
	7.0000000	6.9866657	.19049000
	8.0000000	7.9826129	.21733875
	9.0000000	8.9780947	.24339222
	10.000000	9.9731661	.26834000
	15.000000	14.942359	.38427333
	20.000000	19.902727	.48636500
12	25.000000	24.857321	.57071600
	30.000000	29.805527	.64824333
11	35.000000	34.745371	.72751142
	40.000000	39.672899	.81775250
10	45.000000	44.604408	.87909333
	50.000000	49.530457	.93908600
9	55.000000	54.463249	.97591090
	60.000000	59.462903	.89516166
8	65.000000	64.319316	1.0472061
	70.000000	69.244835	1.0788071
7	75.000000	74.321822	.90423733
	80.000000	79.225272	.96841000
6	85.000000	84.204824	.93550117
	90.000000	89.171012	.92109777
5	95.000000	93.981981	1.0715989
4	100.00000	98.428762	1.5712400

T=90.0

	PRESSURE	PRESSURE	PER-CENT
3			
2			
1			

(LITERATURE) (ATM.)	(CALCULATED) (ATM.)	DEVIATION
1.0000000	.99994270	5.7300000E-03
2.0000000	1.9994610	2.6950000E-02
3.0000000	2.9985768	4.7440000E-02
4.0000000	3.9973342	6.6645000E-02
5.0000000	4.9956773	8.6454000E-02
6.0000000	5.9936372	.10604666
7.0000000	6.9912404	.12513714
8.0000000	7.9884410	.14448750
9.0000000	8.9854497	.16167000
10.000000	9.9820896	.17911000
15.000000	14.960764	.26157333
20.000000	19.933507	.33246500
25.000000	24.901322	.39471200
30.000000	29.864517	.45161000
35.000000	34.828398	.49029142
40.000000	39.789768	.52558000
45.000000	44.750951	.55344222
50.000000	49.710811	.57837800
55.000000	54.672492	.59546909
60.000000	59.636675	.60554166
65.000000	64.596328	.62103384
70.000000	69.557580	.63202857
75.000000	74.513493	.64867600
80.000000	79.496795	.62900625
85.000000	84.460703	.63446705
90.000000	89.443345	.61850555
95.000000	94.430851	.59910421
100.00000	99.429320	.57068000

T=95.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0000102	-1.0200000E-03
2.0000000	1.9997325	1.3375000E-02
3.0000000	2.9991985	2.6716666E-02
4.0000000	3.9983781	4.0547500E-02
5.0000000	4.9973085	5.3830000E-02
6.0000000	5.9960070	6.6550000E-02
7.0000000	6.9944712	7.8982857E-02
8.0000000	7.9925285	9.3393750E-02
9.0000000	8.9901864	.10904000
10.000000	9.9877980	.12202000
15.000000	14.971568	.18954666
20.000000	19.956330	.21835000
25.000000	24.938635	.24546000
30.000000	29.917610	.27463333
35.000000	34.895187	.29946571
40.000000	39.874522	.31369500
45.000000	44.849952	.33344000
50.000000	49.824229	.35154200
55.000000	54.800071	.36350727
60.000000	59.777880	.37020000
65.000000	64.757791	.37262923
70.000000	69.735887	.37730428
75.000000	74.692494	.41000800

2

1

80.000000	79.694222	.38222250
85.000000	84.678483	.37825529
90.000000	89.673761	.36248777
95.000000	94.683403	.33326000
100.00000	99.739602	.26040000

T=100.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0000566	-5.6600000E-03
2.0000000	1.9999197	4.0150000E-03
3.0000000	2.9996073	1.3090000E-02
4.0000000	3.9990894	2.2765000E-02
5.0000000	4.9984820	3.0360000E-02
6.0000000	5.9976275	3.9541666E-02
7.0000000	6.9965636	4.9091428E-02
8.0000000	7.9951428	6.0715000E-02
9.0000000	8.9929069	7.8812222E-02
10.000000	9.9905443	9.4560000E-02
15.000000	14.974330	.17113333
20.000000	19.968623	.15688500
25.000000	24.959735	.16106000
30.000000	29.945921	.18026333
35.000000	34.932977	.19149428
40.000000	39.919423	.20144250
45.000000	44.906848	.20700444
50.000000	49.896178	.20764400
55.000000	54.882890	.21292727
60.000000	59.872508	.21248666
65.000000	64.861188	.21355692
70.000000	69.856008	.20570285
75.000000	74.846080	.20522666
80.000000	79.825183	.21852125
85.000000	84.815534	.21701882
90.000000	89.807995	.21333888
95.000000	94.820651	.18878842
100.00000	99.801517	.19849000

T=105.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0000966	-9.6600000E-03
2.0000000	2.0000714	-3.5700000E-03
3.0000000	2.9999169	2.7700000E-03
4.0000000	3.9996626	8.4350000E-03
5.0000000	4.9993185	1.3630000E-02
6.0000000	5.9988551	1.9081666E-02
7.0000000	6.9982478	2.5031428E-02
8.0000000	7.9969413	3.8233750E-02
9.0000000	8.9950333	5.5185555E-02
10.000000	9.9923870	7.6130000E-02
15.000000	14.975994	.16004000
20.000000	19.978444	.10778000
25.000000	24.980093	7.9628000E-02
30.000000	29.971858	9.3806666E-02
35.000000	34.965666	9.8097142E-02

40.000000	39.959463	.10134250
45.000000	44.954689	.10069111
50.000000	49.947395	.10521000
55.000000	54.944203	.10144909
60.000000	59.937259	.10456833
65.000000	64.924910	.11552307
70.000000	69.923890	.10872857
75.000000	74.903551	.12859866
80.000000	79.905790	.11776250
85.000000	84.887833	.13196117
90.000000	89.881443	.13173000
95.000000	94.902333	.10280736
100.00000	99.899435	.10057000

T=110.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0001268	-1.2680000E-02
2.0000000	2.0001763	-8.8150000E-03
3.0000000	3.0001445	-4.8166666E-03
4.0000000	4.0000541	-1.3525000E-03
5.0000000	4.9999328	1.3440000E-03
6.0000000	5.9997623	3.9616666E-03
7.0000000	6.9994978	7.1742857E-03
8.0000000	7.9984975	1.8781250E-02
9.0000000	8.9966902	3.6775555E-02
10.000000	9.9939507	6.0500000E-02
15.000000	14.977834	.14777333
20.000000	19.986339	6.8305000E-02
25.000000	24.993082	2.7672000E-02
30.000000	29.989982	3.3393333E-02
35.000000	34.991437	2.4465714E-02
40.000000	39.988126	2.9685000E-02
45.000000	44.985193	3.2904444E-02
50.000000	49.979730	4.0540000E-02
55.000000	54.985018	2.7240000E-02
60.000000	59.981233	3.1278333E-02
65.000000	64.968864	4.7901538E-02
70.000000	69.962261	5.3912857E-02
75.000000	74.946937	7.0750666E-02
80.000000	79.929810	8.7737500E-02
85.000000	84.937915	7.3041176E-02
90.000000	89.937785	6.9127777E-02
95.000000	94.951571	5.0977894E-02
100.00000	99.945427	5.4580000E-02

T=115.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0001480	-1.4800000E-02
2.0000000	2.0002468	-1.2340000E-02
3.0000000	3.0002960	-9.8666666E-03
4.0000000	4.0003118	-7.7950000E-03
5.0000000	5.0003386	-6.7720000E-03
6.0000000	6.0003692	-6.1533333E-03
7.0000000	7.0002354	-3.3628571E-03

8.0000000	7.9995304	5.8700000E-03
9.0000000	8.9980634	2.1517777E-02
10.000000	9.9956403	4.3600000E-02
15.000000	14.981607	.12262000
20.000000	19.993146	3.4270000E-02
25.000000	25.001882	-7.5280000E-03
30.000000	30.002510	-8.3666666E-03
35.000000	35.007411	-2.1174285E-02
40.000000	40.008659	-2.1647500E-02
45.000000	45.006971	-1.5491111E-02
50.000000	50.008553	-1.7106000E-02
55.000000	55.010017	-1.8212727E-02
60.000000	60.008890	-1.4816666E-02
65.000000	64.996897	4.7738461E-03
70.000000	69.986336	1.9520000E-02
75.000000	74.977456	3.0058666E-02
80.000000	79.959771	5.0286250E-02
85.000000	84.965078	4.1084705E-02
90.000000	89.955470	4.9477777E-02
95.000000	94.964643	3.7217894E-02
100.00000	99.980763	1.9240000E-02

T=120.0

	PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
	1.0000000	1.0001519	-1.5190000E-02
	2.0000000	2.0002735	-1.3675000E-02
	3.0000000	3.0003681	-1.2270000E-02
	4.0000000	4.0004300	-1.0750000E-02
	5.0000000	5.0005278	-1.0556000E-02
	6.0000000	6.0005907	-9.8450000E-03
	7.0000000	7.0006586	-9.4085714E-03
	8.0000000	8.0002823	-3.5287500E-03
	9.0000000	8.9994093	6.5633333E-03
	10.000000	9.9975040	2.4960000E-02
	15.000000	14.988602	7.5986666E-02
	20.000000	19.998421	7.8950000E-03
12	25.000000	25.004789	-1.9156000E-02
	30.000000	30.006864	-2.2880000E-02
	35.000000	35.012794	-3.6554285E-02
11	40.000000	40.015990	-3.9975000E-02
	45.000000	45.017381	-3.8624444E-02
10	50.000000	50.019019	-3.8038000E-02
	55.000000	55.021218	-3.8578181E-02
9	60.000000	60.021878	-3.6463333E-02
	65.000000	65.018806	-2.8932307E-02
8	70.000000	70.016569	-2.3670000E-02
	75.000000	75.005627	-7.5026666E-03
7	80.000000	80.003967	-4.9587500E-03
	85.000000	84.997121	3.3870588E-03
6	90.000000	90.000823	-9.1444444E-04
	95.000000	95.013534	-1.4246315E-02
5	100.00000	100.01594	-1.5940000E-02

T=125.0

	PRESSURE (LITERATURE)	PRESSURE (CALCULATED)	PER-CENT DEVIATION
4			
3			
2			
1			

(ATM.)	(ATM.)	
1.0000000	1.0001425	-1.4250000E-02
2.0000000	2.0002544	-1.2720000E-02
3.0000000	3.0003540	-1.1800000E-02
4.0000000	4.0004278	-1.0695000E-02
5.0000000	5.0004801	-9.6020000E-03
6.0000000	6.0005469	-9.1150000E-03
7.0000000	7.0006158	-8.7971428E-03
8.0000000	8.0006648	-8.3100000E-03
9.0000000	9.0007396	-8.2177777E-03
10.000000	9.9995332	4.6700000E-03
15.000000	14.997124	1.9173333E-02
20.000000	20.001571	-7.8550000E-03
25.000000	25.002501	-1.0004000E-02
30.000000	30.003971	-1.3236666E-02
35.000000	35.006284	-1.7954285E-02
40.000000	40.011402	-2.8505000E-02
45.000000	45.013243	-2.9428888E-02
50.000000	50.017482	-3.4964000E-02
55.000000	55.025032	-4.5512727E-02
60.000000	60.027324	-4.5540000E-02
65.000000	65.032757	-5.0395384E-02
70.000000	70.038854	-5.5505714E-02
75.000000	75.038493	-5.1324000E-02
80.000000	80.041854	-5.2317500E-02
85.000000	85.040738	-4.7927058E-02
90.000000	90.044787	-4.9763333E-02
95.000000	95.045876	-4.8290526E-02
100.00000	100.03788	-3.7880000E-02

T=130.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0001531	-1.5310000E-02
2.0000000	2.0002841	-1.4205000E-02
3.0000000	3.0004139	-1.3796666E-02
4.0000000	4.0005259	-1.3147500E-02
5.0000000	5.0006409	-1.2818000E-02
6.0000000	6.0007339	-1.2231666E-02
7.0000000	7.0008900	-1.2714285E-02
8.0000000	8.0011867	-1.4833750E-02
9.0000000	9.0017222	-1.9135555E-02
10.000000	10.001109	-1.1090000E-02
15.000000	15.003093	-2.0620000E-02
20.000000	20.005721	-2.8605000E-02
25.000000	25.006024	-2.4096000E-02
30.000000	30.009637	-3.2123333E-02
35.000000	35.011937	-3.4105714E-02
40.000000	40.016731	-4.1827500E-02
45.000000	45.022060	-4.9022222E-02
50.000000	50.032338	-6.4676000E-02
55.000000	55.037501	-6.8183636E-02
60.000000	60.043981	-7.3301666E-02
65.000000	65.052310	-8.0476923E-02
70.000000	70.049625	-7.0892857E-02
75.000000	75.059043	-7.8724000E-02
80.000000	80.055008	-6.8760000E-02

2
1

85.000000	85.058260	-6.8541176E-02
90.000000	90.062057	-6.8952222E-02
95.000000	95.052204	-5.4951578E-02
100.00000	100.03485	-3.4850000E-02

T=135.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0001610	-1.6100000E-02
2.0000000	2.0003111	-1.5555000E-02
3.0000000	3.0004691	-1.5636666E-02
4.0000000	4.0006161	-1.5402500E-02
5.0000000	5.0007444	-1.4888000E-02
6.0000000	6.0008432	-1.4053333E-02
7.0000000	7.0010567	-1.5095714E-02
8.0000000	8.0015582	-1.9477500E-02
9.0000000	9.0023475	-2.6083333E-02
10.000000	10.002219	-2.2190000E-02
15.000000	15.007058	-4.7053333E-02
20.000000	20.008311	-4.1555000E-02
25.000000	25.007444	-2.9776000E-02
30.000000	30.010753	-3.5843333E-02
35.000000	35.016263	-4.6465714E-02
40.000000	40.020798	-5.1995000E-02
45.000000	45.029537	-6.5637777E-02
50.000000	50.036565	-7.3130000E-02
55.000000	55.043701	-7.9456363E-02
60.000000	60.047153	-7.8588333E-02
65.000000	65.056900	-8.7538461E-02
70.000000	70.063105	-9.0150000E-02
75.000000	75.062425	-8.3233333E-02
80.000000	80.062642	-7.8302500E-02
85.000000	85.070869	-8.3375294E-02
90.000000	90.060581	-6.7312222E-02
95.000000	95.057437	-6.0460000E-02
100.00000	100.03349	-3.3490000E-02

T=140.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0001623	-1.6230000E-02
2.0000000	2.0003191	-1.5955000E-02
3.0000000	3.0004810	-1.6033333E-02
4.0000000	4.0006311	-1.5777500E-02
5.0000000	5.0007772	-1.5544000E-02
6.0000000	6.0009184	-1.5306666E-02
7.0000000	7.0010914	-1.5591428E-02
8.0000000	8.0016351	-2.0438750E-02
9.0000000	9.0024496	-2.7217777E-02
10.000000	10.002662	-2.6620000E-02
15.000000	15.007862	-5.2413333E-02
20.000000	20.008470	-4.2350000E-02
25.000000	25.007546	-3.0184000E-02
30.000000	30.011761	-3.9203333E-02
35.000000	35.016119	-4.6054285E-02
40.000000	40.022220	-5.5550000E-02

2
1

45.000000	45.026664	-5.9253333E-02
50.000000	50.033206	-6.6412000E-02
55.000000	55.041142	-7.4803636E-02
60.000000	60.047192	-7.8653333E-02
65.000000	65.050949	-7.8383076E-02
70.000000	70.055851	-7.9787142E-02
75.000000	75.053837	-7.1782666E-02
80.000000	80.057423	-7.1778750E-02
85.000000	85.056906	-6.6948235E-02
90.000000	90.060880	-6.7644444E-02
95.000000	95.049414	-5.2014736E-02
100.000000	100.03763	-3.7630000E-02

T=145.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0001584	-1.5840000E-02
2.0000000	2.0003127	-1.5635000E-02
3.0000000	3.0004771	-1.5903333E-02
4.0000000	4.0006185	-1.5462500E-02
5.0000000	5.0007660	-1.5320000E-02
6.0000000	6.0009291	-1.5485000E-02
7.0000000	7.0010431	-1.4901428E-02
8.0000000	8.0013881	-1.7351250E-02
9.0000000	9.0020059	-2.2287777E-02
10.000000	10.002241	-2.2410000E-02
15.000000	15.006000	-4.0000000E-02
20.000000	20.006739	-3.3695000E-02
25.000000	25.006908	-2.7632000E-02
30.000000	30.010230	-3.4100000E-02
35.000000	35.012785	-3.6528571E-02
40.000000	40.016849	-4.2122500E-02
45.000000	45.022699	-5.0442222E-02
50.000000	50.028826	-5.7652000E-02
55.000000	55.032478	-5.9050909E-02
60.000000	60.034068	-5.6780000E-02
65.000000	65.037783	-5.8127692E-02
70.000000	70.040902	-5.8431428E-02
75.000000	75.046883	-6.2510666E-02
80.000000	80.043590	-5.4487500E-02
85.000000	85.047223	-5.5556470E-02
90.000000	90.037921	-4.2134444E-02
95.000000	95.032866	-3.4595789E-02
100.00000	100.03266	-3.2660000E-02

T=150.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0001503	-1.5030000E-02
2.0000000	2.0002958	-1.4790000E-02
3.0000000	3.0004493	-1.4976666E-02
4.0000000	4.0005901	-1.4752500E-02
5.0000000	5.0007311	-1.4622000E-02
6.0000000	6.0008452	-1.4086666E-02
7.0000000	7.0009526	-1.3608571E-02
8.0000000	8.0010975	-1.3718750E-02

9.0000000	9.0012520	-1.3911111E-02
10.0000000	10.001433	-1.4330000E-02
15.0000000	15.002242	-1.4946666E-02
20.0000000	20.003542	-1.7710000E-02
25.0000000	25.004933	-1.9732000E-02
30.0000000	30.006918	-2.3060000E-02
35.0000000	35.009256	-2.6445714E-02
40.0000000	40.011469	-2.8672500E-02
45.0000000	45.012084	-2.6853333E-02
50.0000000	50.016471	-3.2942000E-02
55.0000000	55.019725	-3.5863636E-02
60.0000000	60.022617	-3.7695000E-02
65.0000000	65.019910	-3.0630769E-02
70.0000000	70.021019	-3.0027142E-02
75.0000000	75.024809	-3.3078666E-02
80.0000000	80.024299	-3.0373750E-02
85.0000000	85.031763	-3.7368235E-02
90.0000000	90.023700	-2.6333333E-02
95.0000000	95.026401	-2.7790526E-02
100.0000000	100.02228	-2.2280000E-02

T=155.0

.....	PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
.....	1.0000000	1.0001535	-1.5350000E-02
.....	2.0000000	2.0003037	-1.5185000E-02
.....	3.0000000	3.0004616	-1.5386666E-02
.....	4.0000000	4.0006071	-1.5177500E-02
.....	5.0000000	5.0007270	-1.4540000E-02
.....	6.0000000	6.0008653	-1.4421666E-02
.....	7.0000000	7.0010029	-1.4327142E-02
.....	8.0000000	8.0011064	-1.3830000E-02
.....	9.0000000	9.0011588	-1.2875555E-02
.....	10.0000000	10.001433	-1.4330000E-02
.....	15.0000000	15.001880	-1.2533333E-02
.....	20.0000000	20.003021	-1.5105000E-02
.....	25.0000000	25.005016	-2.0064000E-02
12	30.0000000	30.006680	-2.2266666E-02
12	35.0000000	35.008021	-2.2917142E-02
.....	40.0000000	40.009286	-2.3215000E-02
11	45.0000000	45.012412	-2.7582222E-02
.....	50.0000000	50.013844	-2.7688000E-02
10	55.0000000	55.014058	-2.5560000E-02
.....	60.0000000	60.013948	-2.3246666E-02
9	65.0000000	65.019509	-3.0013846E-02
.....	70.0000000	70.021801	-3.1144285E-02
8	75.0000000	75.017970	-2.3960000E-02
.....	80.0000000	80.022529	-2.8161250E-02
7	85.0000000	85.013098	-1.5409411E-02
.....	90.0000000	90.019420	-2.1577777E-02
6	95.0000000	95.016616	-1.7490526E-02
.....	100.0000000	100.00932	-9.3200000E-03

T=160.0

4	PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
3			
2			
1			

1.0000000	1.0001531	-1.5310000E-02
2.0000000	2.0003045	-1.5225000E-02
3.0000000	3.0004454	-1.4846666E-02
4.0000000	4.0005978	-1.4945000E-02
5.0000000	5.0007223	-1.4446000E-02
6.0000000	6.0008284	-1.3806666E-02
7.0000000	7.0009750	-1.3928571E-02
8.0000000	8.0010159	-1.2698750E-02
9.0000000	9.0010730	-1.1922222E-02
10.000000	10.001286	-1.2860000E-02
15.000000	15.001224	-8.1600000E-03
20.000000	20.002614	-1.3070000E-02
25.000000	25.004309	-1.7236000E-02
30.000000	30.005400	-1.8000000E-02
35.000000	35.007402	-2.1148571E-02
40.000000	40.008077	-2.0192500E-02
45.000000	45.010813	-2.4028888E-02
50.000000	50.009218	-1.8436000E-02
55.000000	55.011038	-2.0069090E-02
60.000000	60.014400	-2.4000000E-02
65.000000	65.009894	-1.5221538E-02
70.000000	70.012193	-1.7418571E-02
75.000000	75.008818	-1.1757333E-02
80.000000	80.008281	-1.0351250E-02
85.000000	85.015643	-1.8403529E-02
90.000000	90.013248	-1.4720000E-02
95.000000	95.005709	-6.0094736E-03
100.00000	100.01155	-1.1550000E-02

T=165.0

	PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
	1.0000000	1.0001516	-1.5160000E-02
	2.0000000	2.0002943	-1.4715000E-02
	3.0000000	3.0004325	-1.4416666E-02
	4.0000000	4.0005701	-1.4252500E-02
	5.0000000	5.0006888	-1.3776000E-02
	6.0000000	6.0008062	-1.3436666E-02
12	7.0000000	7.0008934	-1.2762857E-02
	8.0000000	8.0009540	-1.1925000E-02
11	9.0000000	9.0010240	-1.1377777E-02
	10.000000	10.001184	-1.1840000E-02
10	15.000000	15.001377	-9.1800000E-03
	20.000000	20.001841	-9.2050000E-03
9	25.000000	25.003079	-1.2316000E-02
	30.000000	30.004780	-1.5933333E-02
8	35.000000	35.005873	-1.6780000E-02
	40.000000	40.005804	-1.4510000E-02
7	45.000000	45.007999	-1.7775555E-02
	50.000000	50.007164	-1.4328000E-02
6	55.000000	55.006643	-1.2078181E-02
	60.000000	60.007803	-1.3005000E-02
5	65.000000	65.005578	-8.5815384E-03
	70.000000	70.008941	-1.2772857E-02
4	75.000000	75.007206	-9.6080000E-03
	80.000000	80.003252	-4.0650000E-03
3	85.000000	85.006137	-7.2200000E-03

2

1

90.000000	89.994590	6.0111111E-03
95.000000	94.995304	4.9431578E-03
100.000000	99.998931	1.0700000E-03

T=170.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0001449	-1.4490000E-02
2.0000000	2.0002813	-1.4065000E-02
3.0000000	3.0003993	-1.3310000E-02
4.0000000	4.0005070	-1.2675000E-02
5.0000000	5.0006358	-1.2716000E-02
6.0000000	6.0007023	-1.1705000E-02
7.0000000	7.0007750	-1.1071428E-02
8.0000000	8.0008430	-1.0537500E-02
9.0000000	9.0009118	-1.0131111E-02
10.000000	10.001009	-1.0090000E-02
15.000000	15.001355	-9.0333333E-03
20.000000	20.001997	-9.9850000E-03
25.000000	25.002427	-9.7080000E-03
30.000000	30.002381	-7.9366666E-03
35.000000	35.003798	-1.0851428E-02
40.000000	40.002929	-7.3225000E-03
45.000000	45.004538	-1.0084444E-02
50.000000	50.004359	-8.7180000E-03
55.000000	55.001626	-2.9563636E-03
60.000000	60.000736	-1.2266666E-03
65.000000	65.000728	-1.1200000E-03
70.000000	69.998101	-2.7128571E-03
75.000000	74.997033	3.9560000E-03
80.000000	79.998346	-2.0675000E-03
85.000000	84.997366	3.0988235E-03
90.000000	89.989507	1.1658888E-02
95.000000	94.986649	1.4053684E-02
100.000000	99.974169	2.5840000E-02

T=175.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0001465	-1.4650000E-02
2.0000000	2.0002778	-1.3890000E-02
3.0000000	3.0004007	-1.3356666E-02
4.0000000	4.0005050	-1.2625000E-02
5.0000000	5.0006058	-1.2116000E-02
6.0000000	6.0006846	-1.1410000E-02
7.0000000	7.0007723	-1.1032857E-02
8.0000000	8.0008832	-1.1040000E-02
9.0000000	9.0009880	-1.0977777E-02
10.000000	10.000928	-9.2800000E-03
15.000000	15.001221	-8.1400000E-03
20.000000	20.001401	-7.0050000E-03
25.000000	25.001568	-6.2720000E-03
30.000000	30.002332	-7.7733333E-03
35.000000	35.001474	-4.2114285E-03
40.000000	40.002063	-5.1575000E-03
45.000000	45.000856	-1.9022222E-03

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50.000000	50.001320	-2.6400000E-03
55.000000	55.000818	-1.4872727E-03
60.000000	59.998920	1.8000000E-03
65.000000	65.002036	-3.1323076E-03
70.000000	70.001850	-2.6428571E-03
75.000000	74.995808	5.5893333E-03
80.000000	79.994461	6.9237500E-03
85.000000	84.990235	1.1488235E-02
90.000000	89.986329	1.5190000E-02
95.000000	94.980675	2.0342105E-02
100.000000	99.967923	3.2080000E-02

T=180.0

11	PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
	1.0000000	1.0001475	-1.4750000E-02
	2.0000000	2.0002783	-1.3915000E-02
	3.0000000	3.0003982	-1.3273333E-02
	4.0000000	4.0004971	-1.2427500E-02
	5.0000000	5.0006022	-1.2044000E-02
	6.0000000	6.0006539	-1.0898333E-02
	7.0000000	7.0007525	-1.0750000E-02
	8.0000000	8.0008097	-1.0121250E-02
	9.0000000	9.0009199	-1.0221111E-02
	10.0000000	10.000820	-8.2000000E-03
	15.0000000	15.001029	-6.8600000E-03
	20.0000000	20.001283	-6.4150000E-03
	25.0000000	25.001475	-5.9000000E-03
	30.0000000	30.000904	-3.0133333E-03
	35.0000000	35.000798	-2.2800000E-03
	40.0000000	40.001109	-2.7725000E-03
	45.0000000	45.000060	-1.3333333E-04
	50.0000000	50.001861	-3.7220000E-03
	55.0000000	55.000162	-2.9454545E-04
	60.0000000	59.997476	4.2066666E-03
	65.0000000	64.997955	3.1461538E-03
	70.0000000	69.999414	8.3714285E-04
	75.0000000	74.995713	5.7160000E-03
12	80.0000000	79.992235	9.7062500E-03
	85.0000000	84.985431	1.7140000E-02
11	90.0000000	89.985785	1.5724444E-02
	95.0000000	94.978089	2.3064210E-02
10	100.0000000	99.965738	3.4270000E-02

T=185.0

9	PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
	1.0000000	1.0001468	-1.4680000E-02
	2.0000000	2.0002778	-1.3890000E-02
8	3.0000000	3.0003938	-1.3126666E-02
	4.0000000	4.0004859	-1.2147500E-02
7	5.0000000	5.0005934	-1.1868000E-02
	6.0000000	6.0006658	-1.1096666E-02
6	7.0000000	7.0007233	-1.0332857E-02
	8.0000000	8.0008138	-1.0172500E-02
5	9.0000000	9.0008424	-9.3600000E-03

10.000000	10.000832	-8.3200000E-03
15.000000	15.000817	-5.4466666E-03
20.000000	20.001134	-5.6700000E-03
25.000000	25.001354	-5.4160000E-03
30.000000	30.000734	-2.4466666E-03
35.000000	35.000179	-5.1142857E-04
40.000000	40.000289	-7.2250000E-04
45.000000	44.999486	1.1422222E-03
50.000000	49.999350	1.3000000E-03
55.000000	55.000021	-3.8181818E-05
60.000000	59.996796	5.3400000E-03
65.000000	64.995049	7.6169230E-03
70.000000	69.991827	1.1675714E-02
75.000000	74.989759	1.3654666E-02
80.000000	79.992201	9.7487500E-03
85.000000	84.983451	1.9469411E-02
90.000000	89.977531	2.4965555E-02
95.000000	94.979416	2.1667368E-02
100.00000	99.968168	3.1840000E-02

T=190.0

12	PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
	1.0000000	1.0001475	-1.4750000E-02
	2.0000000	2.0002770	-1.3850000E-02
	3.0000000	3.0003892	-1.2973333E-02
	4.0000000	4.0004746	-1.1865000E-02
	5.0000000	5.0005514	-1.1028000E-02
	6.0000000	6.0006288	-1.0480000E-02
	7.0000000	7.0006947	-9.9242857E-03
	8.0000000	8.0007321	-9.1512500E-03
	9.0000000	9.0007655	-8.5055555E-03
	10.0000000	10.000711	-7.1100000E-03
	15.0000000	15.000909	-6.0600000E-03
	20.0000000	20.001007	-5.0350000E-03
	25.0000000	25.000472	-1.8880000E-03
	30.0000000	30.000663	-2.2100000E-03
	35.0000000	34.999756	6.9714285E-04
12	40.0000000	39.999777	5.5750000E-04
	45.0000000	44.999342	1.4622222E-03
11	50.0000000	49.997544	4.9120000E-03
	55.0000000	54.996736	5.9345454E-03
10	60.0000000	59.997192	4.6800000E-03
	65.0000000	64.993633	9.7953846E-03
9	70.0000000	69.992712	1.0411428E-02
	75.0000000	74.993528	8.6293333E-03
8	80.0000000	79.986418	1.6977500E-02
	85.0000000	84.984662	1.8044705E-02
7	90.0000000	89.983968	1.7813333E-02
	95.0000000	94.973251	2.8156842E-02
6	100.00000	99.962493	3.7510000E-02

T=195.0

5	PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
4	1.0000000	1.0001456	-1.4560000E-02
3			
2			
1			

2.0000000	2.0002713	-1.3565000E-02
3.0000000	3.0003850	-1.2833333E-02
4.0000000	4.0004645	-1.1612500E-02
5.0000000	5.0005447	-1.0894000E-02
6.0000000	6.0005956	-9.9266666E-03
7.0000000	7.0006709	-9.5842857E-03
8.0000000	8.0006586	-8.2325000E-03
9.0000000	9.0007008	-7.7866666E-03
10.000000	10.000732	-7.3200000E-03
15.000000	15.000738	-4.9200000E-03
20.000000	20.000444	-2.2200000E-03
25.000000	25.000536	-2.1440000E-03
30.000000	29.999646	1.1800000E-03
35.000000	34.999642	1.0228571E-03
40.000000	39.997693	5.7675000E-03
45.000000	44.997233	6.1488888E-03
50.000000	49.996614	6.7720000E-03
55.000000	54.994659	9.7109090E-03
60.000000	59.994331	9.4483333E-03
65.000000	64.993948	9.3107692E-03
70.000000	69.989378	1.5174285E-02
75.000000	74.992453	1.0062666E-02
80.000000	79.983900	2.0125000E-02
85.000000	84.980198	2.3296470E-02
90.000000	89.983948	1.7835555E-02
95.000000	94.972237	2.9224210E-02
100.00000	99.975394	2.4610000E-02

T=200.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0001439	-1.4390000E-02
2.0000000	2.0002666	-1.3330000E-02
3.0000000	3.0003714	-1.2380000E-02
4.0000000	4.0004572	-1.1430000E-02
5.0000000	5.0005420	-1.0840000E-02
6.0000000	6.0005706	-9.5100000E-03
7.0000000	7.0005960	-8.5142857E-03
8.0000000	8.0006022	-7.5275000E-03
9.0000000	9.0006539	-7.2655555E-03
10.000000	10.000649	-6.4900000E-03
15.000000	15.000349	-2.3266666E-03
20.000000	20.000006	-3.0000000E-05
25.000000	24.999995	2.0000000E-05
30.000000	29.998941	3.5300000E-03
35.000000	34.998415	4.5285714E-03
40.000000	39.998222	4.4450000E-03
45.000000	44.995962	8.9733333E-03
50.000000	49.996696	6.6080000E-03
55.000000	54.993920	1.1054545E-02
60.000000	59.993168	1.1386666E-02
65.000000	64.990949	1.3924615E-02
70.000000	69.988547	1.6361428E-02
75.000000	74.987289	1.6948000E-02
80.000000	79.984839	1.8951250E-02
85.000000	84.979838	2.3720000E-02
90.000000	89.978436	2.3960000E-02

95.000000	94.976490	2.4747368E-02
100.000000	99.968862	3.1140000E-02

T=205.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0001498	-1.4980000E-02
2.0000000	2.0002775	-1.3875000E-02
3.0000000	3.0003933	-1.3110000E-02
4.0000000	4.0004739	-1.1847500E-02
5.0000000	5.0005463	-1.0926000E-02
6.0000000	6.0005988	-9.9800000E-03
7.0000000	7.0006552	-9.3600000E-03
8.0000000	8.0006409	-8.0112500E-03
9.0000000	9.0006307	-7.0077777E-03
10.000000	10.000715	-7.1600000E-03
15.000000	15.000585	-3.9000000E-03
20.000000	20.000193	-9.6500000E-04
25.000000	24.999693	1.2280000E-03
30.000000	29.998597	4.6766666E-03
35.000000	34.997717	6.5228571E-03
40.000000	39.997455	6.3625000E-03
45.000000	44.995615	9.7444444E-03
50.000000	49.994885	1.0230000E-02
55.000000	54.994627	9.7690909E-03
60.000000	59.993806	1.0323333E-02
65.000000	64.990234	1.5024615E-02
70.000000	69.990323	1.3824285E-02
75.000000	74.985417	1.9444000E-02
80.000000	79.989303	1.3371250E-02
85.000000	84.983682	1.9197647E-02
90.000000	89.978021	2.4421111E-02
95.000000	94.975190	2.6115789E-02
100.00000	99.968964	3.1040000E-02

T=210.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0001544	-1.5440000E-02
2.0000000	2.0002842	-1.4210000E-02
3.0000000	3.0004060	-1.3533333E-02
4.0000000	4.0004946	-1.2365000E-02
5.0000000	5.0005579	-1.1158000E-02
6.0000000	6.0006377	-1.0628333E-02
7.0000000	7.0006709	-9.5842857E-03
8.0000000	8.0007001	-8.7512500E-03
9.0000000	9.0006362	-7.0688888E-03
10.000000	10.000698	-6.9800000E-03
15.000000	15.000365	-2.4333333E-03
20.000000	20.000059	-2.9500000E-04
25.000000	24.999656	1.3760000E-03
30.000000	29.998649	4.5033333E-03
35.000000	34.997590	6.8857142E-03
40.000000	39.995584	1.1040000E-02
45.000000	44.996250	8.3333333E-03
50.000000	49.994398	1.1204000E-02

55.000000	54.993299	1.2183636E-02
60.000000	59.992100	1.3166666E-02
65.000000	64.991858	1.2526153E-02
70.000000	69.989024	1.5680000E-02
75.000000	74.986908	1.7456000E-02
80.000000	79.982328	2.2090000E-02
85.000000	84.983253	1.9702352E-02
90.000000	89.982709	1.9212222E-02
95.000000	94.979749	2.1316842E-02
100.00000	99.975639	2.4370000E-02

T=215.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0001560	-1.5600000E-02
2.0000000	2.0002877	-1.4385000E-02
3.0000000	3.0004014	-1.3380000E-02
4.0000000	4.0005021	-1.2552500E-02
5.0000000	5.0005791	-1.1582000E-02
6.0000000	6.0006472	-1.0786666E-02
7.0000000	7.0006484	-9.2628571E-03
8.0000000	8.0006348	-7.9350000E-03
9.0000000	9.0006729	-7.4766666E-03
10.000000	10.000720	-7.2000000E-03
15.000000	15.000505	-3.3666666E-03
20.000000	19.999645	1.7750000E-03
25.000000	24.999188	3.2480000E-03
30.000000	29.998092	6.3600000E-03
35.000000	34.996663	9.5342857E-03
40.000000	39.996431	8.9225000E-03
45.000000	44.995589	9.8022222E-03
50.000000	49.992412	1.5176000E-02
55.000000	54.993698	1.1458181E-02
60.000000	59.992511	1.2481666E-02
65.000000	64.991022	1.3812307E-02
70.000000	69.990691	1.3298571E-02
75.000000	74.985308	1.9589333E-02
80.000000	79.987023	1.6221250E-02
85.000000	84.979184	2.4489411E-02
90.000000	89.983158	1.8713333E-02
95.000000	94.979729	2.1337894E-02
100.00000	99.977293	2.2710000E-02

T=220.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0001543	-1.5430000E-02
2.0000000	2.0002838	-1.4190000E-02
3.0000000	3.0004005	-1.3350000E-02
4.0000000	4.0004982	-1.2455000E-02
5.0000000	5.0005536	-1.1072000E-02
6.0000000	6.0006322	-1.0536666E-02
7.0000000	7.0006484	-9.2628571E-03
8.0000000	8.0006709	-8.3862500E-03
9.0000000	9.0006532	-7.2577777E-03
10.000000	10.000674	-6.7400000E-03

15.000000	15.000241	-1.6066666E-03
20.000000	19.999891	5.4500000E-04
25.000000	24.999052	3.7920000E-03
30.000000	29.998021	6.5966666E-03
35.000000	34.996421	1.0225714E-02
40.000000	39.996317	9.2075000E-03
45.000000	44.993816	1.3742222E-02
50.000000	49.991932	1.6136000E-02
55.000000	54.992460	1.3709090E-02
60.000000	59.991016	1.4973333E-02
65.000000	64.988065	1.8361538E-02
70.000000	69.989854	1.4494285E-02
75.000000	74.987350	1.6866666E-02
80.000000	79.981294	2.3382500E-02
85.000000	84.980055	2.3464705E-02
90.000000	89.979946	2.2282222E-02
95.000000	94.975755	2.5521052E-02
100.00000	99.974598	2.5410000E-02

T=225.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0001490	-1.4900000E-02
2.0000000	2.0002731	-1.3655000E-02
3.0000000	3.0003842	-1.2806666E-02
4.0000000	4.0004672	-1.1680000E-02
5.0000000	5.0005415	-1.0830000E-02
6.0000000	6.0005952	-9.9200000E-03
7.0000000	7.0006185	-8.8357142E-03
8.0000000	8.0005988	-7.4850000E-03
9.0000000	9.0005865	-6.5166666E-03
10.000000	10.000569	-5.6900000E-03
15.000000	15.000348	-2.3200000E-03
20.000000	19.999458	2.7100000E-03
25.000000	24.998571	5.7160000E-03
30.000000	29.997457	8.4766666E-03
35.000000	34.996871	8.9400000E-03
40.000000	39.995371	1.1572500E-02
45.000000	44.993301	1.4886666E-02
50.000000	49.992963	1.4074000E-02
55.000000	54.993111	1.2525454E-02
60.000000	59.991820	1.3633333E-02
65.000000	64.987906	1.8606153E-02
70.000000	69.986839	1.8801428E-02
75.000000	74.986812	1.7584000E-02
80.000000	79.987098	1.6127500E-02
85.000000	84.985764	1.6748235E-02
90.000000	89.982430	1.9522222E-02
95.000000	94.978252	2.2892631E-02
100.00000	99.979103	2.0900000E-02

T=230.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0001411	-1.4110000E-02
2.0000000	2.0002606	-1.3030000E-02

3.0000000	3.0003637	-1.2123333E-02
4.0000000	4.0004455	-1.1137500E-02
5.0000000	5.0004889	-9.7780000E-03
6.0000000	6.0005399	-8.9983333E-03
7.0000000	7.0005627	-8.0385714E-03
8.0000000	8.0005613	-7.0162500E-03
9.0000000	9.0005634	-6.2600000E-03
10.000000	10.000522	-5.2200000E-03
15.000000	15.000091	-6.0666666E-04
20.000000	19.999690	1.5500000E-03
25.000000	24.998459	6.1640000E-03
30.000000	29.997431	8.5633333E-03
35.000000	34.996711	9.3971428E-03
40.000000	39.995417	1.1457500E-02
45.000000	44.994034	1.3257777E-02
50.000000	49.992819	1.4362000E-02
55.000000	54.992397	1.3823636E-02
60.000000	59.991036	1.4940000E-02
65.000000	64.990504	1.4609230E-02
70.000000	69.987186	1.8305714E-02
75.000000	74.984063	2.1249333E-02
80.000000	79.983287	2.0891250E-02
85.000000	84.980743	2.2655294E-02
90.000000	89.981804	2.0217777E-02
95.000000	94.977374	2.3816842E-02
100.000000	99.979865	2.0140000E-02

T=235.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0001257	-1.2570000E-02
2.0000000	2.0002299	-1.1495000E-02
3.0000000	3.0003110	-1.0366666E-02
4.0000000	4.0003835	-9.5875000E-03
5.0000000	5.0004262	-8.5240000E-03
6.0000000	6.0004688	-7.8133333E-03
7.0000000	7.0004844	-6.9200000E-03
8.0000000	8.0004273	-5.3412500E-03
9.0000000	9.0004164	-4.6266666E-03
10.000000	10.000428	-4.2800000E-03
15.000000	14.999970	2.0000000E-04
20.000000	19.999303	3.4850000E-03
25.000000	24.998717	5.1320000E-03
30.000000	29.997942	6.8600000E-03
35.000000	34.996012	1.1394285E-02
40.000000	39.994770	1.3075000E-02
45.000000	44.993887	1.3584444E-02
50.000000	49.994268	1.1464000E-02
55.000000	54.990502	1.7269090E-02
60.000000	59.988875	1.8541666E-02
65.000000	64.991365	1.3284615E-02
70.000000	69.985696	2.0434285E-02
75.000000	74.985254	1.9661333E-02
80.000000	79.984063	1.9921250E-02
85.000000	84.980974	2.2383529E-02
90.000000	89.978443	2.3952222E-02
95.000000	94.983002	1.7892631E-02

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100.00000 99.977347 2.2660000E-02

T=240.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
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1.0000000	1.0001176	-1.1760000E-02
2.0000000	2.0002109	-1.0545000E-02
3.0000000	3.0002934	-9.7800000E-03
4.0000000	4.0003488	-8.7200000E-03
5.0000000	5.0003799	-7.5980000E-03
6.0000000	6.0004212	-7.0200000E-03
7.0000000	7.0004375	-6.2500000E-03
8.0000000	8.0004007	-5.0087500E-03
9.0000000	9.0003218	-3.5755555E-03
10.0000000	10.000393	-3.9300000E-03
15.0000000	14.999985	1.0000000E-04
20.0000000	19.999582	2.0900000E-03
25.0000000	24.998700	5.2000000E-03
30.0000000	29.998061	6.4633333E-03
35.0000000	34.997360	7.5428571E-03
40.0000000	39.995164	1.2090000E-02
45.0000000	44.995041	1.1020000E-02
50.0000000	49.994721	1.0558000E-02
55.0000000	54.993779	1.1310909E-02
60.0000000	59.992893	1.1845000E-02
65.0000000	64.990718	1.4280000E-02
70.0000000	69.987608	1.7702857E-02
75.0000000	74.990289	1.2948000E-02
80.0000000	79.989282	1.3397500E-02
85.0000000	84.986309	1.6107058E-02
90.0000000	89.981022	2.1086666E-02
95.0000000	94.985635	1.5121052E-02
100.0000000	99.982246	1.7760000E-02

T=245.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
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12 1.0000000	1.0001236	-1.2360000E-02
11 2.0000000	2.0002230	-1.1150000E-02
10 3.0000000	3.0003085	-1.0283333E-02
9 4.0000000	4.0003732	-9.3300000E-03
8 5.0000000	5.0004254	-8.5080000E-03
7 6.0000000	6.0004682	-7.8033333E-03
6 7.0000000	7.0004701	-6.7157142E-03
5 8.0000000	8.0004763	-5.9537500E-03
4 9.0000000	9.0004422	-4.9133333E-03
3 10.0000000	10.000420	-4.2000000E-03
2 15.0000000	15.000134	-8.9333333E-04
1 20.0000000	19.999690	1.5500000E-03
25.0000000	24.999071	3.7160000E-03
30.0000000	29.997835	7.2166666E-03
35.0000000	34.996978	8.6342857E-03
40.0000000	39.996571	8.5725000E-03
45.0000000	44.995437	1.0140000E-02
50.0000000	49.994295	1.1410000E-02
55.0000000	54.992866	1.2970909E-02

2

1

60.000000	59.991952	1.3413333E-02
65.000000	64.992983	1.0795384E-02
70.000000	69.992827	1.0247142E-02
75.000000	74.987751	1.6332000E-02
80.000000	79.992372	9.5350000E-03
85.000000	84.989330	1.2552941E-02
90.000000	89.989316	1.1871111E-02
95.000000	94.985642	1.5113684E-02
100.00000	99.984213	1.5790000E-02

T=250.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0001475	-1.4750000E-02
2.0000000	2.0002686	-1.3430000E-02
3.0000000	3.0003728	-1.2426666E-02
4.0000000	4.0004537	-1.1342500E-02
5.0000000	5.0005331	-1.0662000E-02
6.0000000	6.0005706	-9.5100000E-03
7.0000000	7.0006267	-8.9528571E-03
8.0000000	8.0005872	-7.3400000E-03
9.0000000	9.0006069	-6.7433333E-03
10.000000	10.000604	-6.0400000E-03
15.000000	15.000415	-2.7666666E-03
20.000000	20.000042	-2.1000000E-04
25.000000	24.999821	7.1600000E-04
30.000000	29.999081	3.0633333E-03
35.000000	34.998602	3.9942857E-03
40.000000	39.997395	6.5125000E-03
45.000000	44.997162	6.3066666E-03
50.000000	49.995564	8.8720000E-03
55.000000	54.994037	1.0841818E-02
60.000000	59.993513	1.0811666E-02
65.000000	64.993920	9.3538461E-03
70.000000	69.991609	1.1987142E-02
75.000000	74.994814	6.9146666E-03
80.000000	79.993576	8.0300000E-03
85.000000	84.990276	1.1440000E-02
90.000000	89.995148	5.3911111E-03
95.000000	94.992235	8.1736842E-03
100.00000	99.993447	6.5600000E-03

T=255.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0001884	-1.8840000E-02
2.0000000	2.0003494	-1.7470000E-02
3.0000000	3.0004920	-1.6400000E-02
4.0000000	4.0006019	-1.5047500E-02
5.0000000	5.0007242	-1.4484000E-02
6.0000000	6.0007955	-1.3258333E-02
7.0000000	7.0008553	-1.2218571E-02
8.0000000	8.0009199	-1.1498750E-02
9.0000000	9.0008920	-9.9111111E-03
10.000000	10.000844	-8.4400000E-03
15.000000	15.000826	-5.5066666E-03

20.000000	20.000636	-3.1800000E-03
25.000000	25.000341	-1.3640000E-03
30.000000	29.999994	2.0000000E-05
35.000000	34.999791	5.9714285E-04
40.000000	39.999246	1.8850000E-03
45.000000	44.998215	3.9666666E-03
50.000000	49.998470	3.0600000E-03
55.000000	54.997231	5.0345454E-03
60.000000	59.997493	4.1783333E-03
65.000000	64.997749	3.4630769E-03
70.000000	69.993875	8.7500000E-03
75.000000	74.994706	7.0586666E-03
80.000000	79.993120	8.6000000E-03
85.000000	84.996379	4.2600000E-03
90.000000	89.998795	1.3388888E-03
95.000000	94.996420	3.7684210E-03
100.00000	99.999986	2.0000000E-05

T=260.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
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1.0000000	1.0002455	-2.4550000E-02
2.0000000	2.0004599	-2.2995000E-02
3.0000000	3.0006547	-2.1823333E-02
4.0000000	4.0008149	-2.0372500E-02
5.0000000	5.0009707	-1.9414000E-02
6.0000000	6.0011015	-1.8358333E-02
7.0000000	7.0011969	-1.7098571E-02
8.0000000	8.0012785	-1.5981250E-02
9.0000000	9.0013704	-1.5226666E-02
10.000000	10.001231	-1.2310000E-02
15.000000	15.001366	-9.1066666E-03
20.000000	20.001463	-7.3150000E-03
25.000000	25.001246	-4.9840000E-03
30.000000	30.000610	-2.0333333E-03
35.000000	35.000581	-1.6600000E-03
40.000000	40.000581	-1.4525000E-03
45.000000	44.998684	2.9244444E-03
50.000000	49.998236	3.5280000E-03
55.000000	54.999511	8.8909090E-04
60.000000	60.000400	-6.6666666E-04
65.000000	65.000386	-5.9384615E-04
70.000000	69.999496	7.2000000E-04
75.000000	74.998591	1.8786666E-03
80.000000	79.997257	3.4287500E-03
85.000000	85.000605	-7.1176470E-04
90.000000	90.000489	-5.4333333E-04
95.000000	95.007029	-7.3989473E-03
100.00000	100.00415	-4.1500000E-03

T=265.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
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1.0000000	1.0003094	-3.0040000E-02
2.0000000	2.0005835	-2.9175000E-02
3.0000000	3.0008336	-2.7786666E-02

4.0000000	4.0010599	-2.6497500E-02
5.0000000	5.0012931	-2.5862000E-02
6.0000000	6.0014523	-2.4205000E-02
7.0000000	7.0016038	-2.2911428E-02
8.0000000	8.0017235	-2.1543750E-02
9.0000000	9.0018079	-2.0087777E-02
10.000000	10.001667	-1.6670000E-02
15.000000	15.002029	-1.3526666E-02
20.000000	20.002148	-1.0740000E-02
25.000000	25.001948	-7.7920000E-03
30.000000	30.001797	-5.9900000E-03
35.000000	35.001028	-2.9371428E-03
40.000000	40.001460	-3.6500000E-03
45.000000	45.000506	-1.1244444E-03
50.000000	49.999721	5.5800000E-04
55.000000	55.000984	-1.7890909E-03
60.000000	60.002356	-3.9266666E-03
65.000000	65.001949	-2.9984615E-03
70.000000	70.003803	-5.4328571E-03
75.000000	75.001088	-1.4506666E-03
80.000000	80.005790	-7.2375000E-03
85.000000	85.003143	-3.6976470E-03
90.000000	90.007981	-8.8677777E-03
95.000000	95.007015	-7.3842105E-03
100.00000	100.01547	-1.5470000E-02

T=270.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0003705	-3.7050000E-02
2.0000000	2.0007051	-3.5255000E-02
3.0000000	3.0010117	-3.3723333E-02
4.0000000	4.0012915	-3.2287500E-02
5.0000000	5.0015513	-3.1026000E-02
6.0000000	6.0017810	-2.9683333E-02
7.0000000	7.0019821	-2.8315714E-02
8.0000000	8.0021352	-2.6690000E-02
9.0000000	9.0022795	-2.5327777E-02
10.000000	10.002243	-2.2430000E-02
15.000000	15.002608	-1.7386666E-02
20.000000	20.002704	-1.3520000E-02
25.000000	25.003037	-1.2148000E-02
30.000000	30.002721	-9.0700000E-03
35.000000	35.002276	-6.5028571E-03
40.000000	40.001931	-4.8275000E-03
45.000000	45.001793	-3.9844444E-03
50.000000	50.002865	-5.7300000E-03
55.000000	55.001731	-3.1472727E-03
60.000000	60.003460	-5.7666666E-03
65.000000	65.002565	-3.9461538E-03
70.000000	70.002476	-3.5371428E-03
75.000000	75.007485	-9.9800000E-03
80.000000	80.006906	-8.6325000E-03
85.000000	85.010751	-1.2648235E-02
90.000000	90.013636	-1.5151111E-02
95.000000	95.013561	-1.4274736E-02
100.00000	100.01541	-1.5410000E-02

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T=275.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0004158	-4.1580000E-02
2.0000000	2.0007961	-3.9805000E-02
3.0000000	3.0011408	-3.8026666E-02
4.0000000	4.0014674	-3.6685000E-02
5.0000000	5.0017493	-3.4986000E-02
6.0000000	6.0020237	-3.3728333E-02
7.0000000	7.0022904	-3.2720000E-02
8.0000000	8.0024584	-3.0730000E-02
9.0000000	9.0027157	-3.0174444E-02
10.000000	10.002684	-2.6840000E-02
15.000000	15.003314	-2.2093333E-02
20.000000	20.003505	-1.7525000E-02
25.000000	25.003939	-1.5756000E-02
30.000000	30.003407	-1.1356666E-02
35.000000	35.003207	-9.1628571E-03
40.000000	40.003467	-8.6675000E-03
45.000000	45.002604	-5.7866666E-03
50.000000	50.003131	-6.2620000E-03
55.000000	55.004542	-8.2581818E-03
60.000000	60.003805	-6.3416666E-03
65.000000	65.006107	-9.3953846E-03
70.000000	70.004627	-6.6100000E-03
75.000000	75.007546	-1.0061333E-02
80.000000	80.006797	-8.4962500E-03
85.000000	85.010329	-1.2151764E-02
90.000000	90.017657	-1.9618888E-02
95.000000	95.018283	-1.9245263E-02
100.00000	100.02261	-2.2610000E-02

T=280.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0004339	-4.3390000E-02
2.0000000	2.0008339	-4.1695000E-02
3.0000000	3.0012001	-4.0003333E-02
4.0000000	4.0015491	-3.8727500E-02
5.0000000	5.0018463	-3.6926000E-02
6.0000000	6.0021550	-3.5916666E-02
7.0000000	7.0024047	-3.4352857E-02
8.0000000	8.0026442	-3.3052500E-02
9.0000000	9.0029041	-3.2267777E-02
10.000000	10.003086	-3.0860000E-02
15.000000	15.003745	-2.4966666E-02
20.000000	20.004188	-2.0940000E-02
25.000000	25.004127	-1.6508000E-02
30.000000	30.003879	-1.2930000E-02
35.000000	35.003852	-1.1005714E-02
40.000000	40.004625	-1.1562500E-02
45.000000	45.004763	-1.0584444E-02
50.000000	50.005106	-1.0212000E-02
55.000000	55.004019	-7.3072727E-03
60.000000	60.006627	-1.1045000E-02

65.000000	65.005041	-7.7553846E-03
70.000000	70.005838	-8.3400000E-03
75.000000	75.011581	-1.5441333E-02
80.000000	80.011213	-1.4016250E-02
85.000000	85.015044	-1.7698823E-02
90.000000	90.013071	-1.4523333E-02
95.000000	95.021386	-2.2511578E-02
100.000000	100.01916	-1.9160000E-02

T=285.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0004148	-4.1480000E-02
2.0000000	2.0008004	-4.0020000E-02
3.0000000	3.0011541	-3.8470000E-02
4.0000000	4.0014868	-3.7170000E-02
5.0000000	5.0018057	-3.6114000E-02
6.0000000	6.0020873	-3.4788333E-02
7.0000000	7.0023346	-3.3351428E-02
8.0000000	8.0025877	-3.2346250E-02
9.0000000	9.0027891	-3.0990000E-02
10.000000	10.003194	-3.1940000E-02
15.000000	15.003923	-2.6153333E-02
20.000000	20.004422	-2.2110000E-02
25.000000	25.004184	-1.6736000E-02
30.000000	30.004160	-1.3866666E-02
35.000000	35.004241	-1.2117142E-02
40.000000	40.004063	-1.0157500E-02
45.000000	45.004729	-1.0508888E-02
50.000000	50.004403	-8.8060000E-03
55.000000	55.005596	-1.0174545E-02
60.000000	60.005626	-9.3766666E-03
65.000000	65.006942	-1.0680000E-02
70.000000	70.010424	-1.4891428E-02
75.000000	75.009689	-1.2918666E-02
80.000000	80.014473	-1.8091250E-02
85.000000	85.018481	-2.1742352E-02
90.000000	90.021420	-2.3800000E-02
95.000000	95.023026	-2.4237894E-02
100.000000	100.02301	-2.3010000E-02

T=290.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0003555	-3.5550000E-02
2.0000000	2.0006893	-3.4465000E-02
3.0000000	3.0009937	-3.3123333E-02
4.0000000	4.0012876	-3.2190000E-02
5.0000000	5.0015490	-3.0980000E-02
6.0000000	6.0018014	-3.0023333E-02
7.0000000	7.0020502	-2.9288571E-02
8.0000000	8.0022495	-2.8118750E-02
9.0000000	9.0024557	-2.7285555E-02
10.000000	10.002940	-2.9400000E-02
15.000000	15.003669	-2.4460000E-02
20.000000	20.003895	-1.9475000E-02

25.000000	25.004126	-1.6504000E-02
30.000000	30.004267	-1.4223333E-02
35.000000	35.004401	-1.2574285E-02
40.000000	40.004598	-1.1495000E-02
45.000000	45.004350	-9.6666666E-03
50.000000	50.005429	-1.0858000E-02
55.000000	55.006622	-1.2040000E-02
60.000000	60.007137	-1.1895000E-02
65.000000	65.008117	-1.2487692E-02
70.000000	70.009941	-1.4201428E-02
75.000000	75.011792	-1.5722666E-02
80.000000	80.016664	-2.0830000E-02
85.000000	85.020733	-2.4391764E-02
90.000000	90.021434	-2.3815555E-02
95.000000	95.023339	-2.4567368E-02
100.00000	100.02535	-2.5350000E-02

T=295.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0002606	-2.6060000E-02
2.0000000	2.0005079	-2.5395000E-02
3.0000000	3.0007395	-2.4650000E-02
4.0000000	4.0009589	-2.3972500E-02
5.0000000	5.0011511	-2.3022000E-02
6.0000000	6.0013384	-2.2306666E-02
7.0000000	7.0015201	-2.1715714E-02
8.0000000	8.0016984	-2.1230000E-02
9.0000000	9.0018501	-2.0556666E-02
10.000000	10.002260	-2.2600000E-02
15.000000	15.002821	-1.8806666E-02
20.000000	20.003314	-1.6570000E-02
25.000000	25.003441	-1.3764000E-02
30.000000	30.003471	-1.1570000E-02
35.000000	35.004353	-1.2437142E-02
40.000000	40.004859	-1.2147500E-02
45.000000	45.005354	-1.1897777E-02
50.000000	50.006033	-1.2066000E-02
55.000000	55.007152	-1.3003636E-02
60.000000	60.008059	-1.3431666E-02
65.000000	65.012161	-1.8709230E-02
70.000000	70.012847	-1.8352857E-02
75.000000	75.017719	-2.3625333E-02
80.000000	80.017889	-2.2361250E-02
85.000000	85.021937	-2.5808235E-02
90.000000	90.027123	-3.0136666E-02
95.000000	95.030008	-3.1587368E-02
100.00000	100.03468	-3.4680000E-02

T=300.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0001473	-1.4730000E-02
2.0000000	2.0002894	-1.4470000E-02
3.0000000	3.0004261	-1.4203333E-02
4.0000000	4.0005598	-1.3995000E-02

5.0000000	5.0006801	-1.3602000E-02
6.0000000	6.0007966	-1.3276666E-02
7.0000000	7.0009206	-1.3151428E-02
8.0000000	8.0009975	-1.2468750E-02
9.0000000	9.0011166	-1.2406666E-02
10.000000	10.001257	-1.2570000E-02
15.000000	15.001781	-1.1873333E-02
20.000000	20.002034	-1.0170000E-02
25.000000	25.002678	-1.0712000E-02
30.000000	30.003299	-1.0996666E-02
35.000000	35.004121	-1.1774285E-02
40.000000	40.004872	-1.2180000E-02
45.000000	45.006026	-1.3391111E-02
50.000000	50.008302	-1.6604000E-02
55.000000	55.009718	-1.7669000E-02
60.000000	60.011401	-1.9001666E-02
65.000000	65.015491	-2.3832307E-02
70.000000	70.019032	-2.7188571E-02
75.000000	75.022706	-3.0274666E-02
80.000000	80.023509	-2.9386250E-02
85.000000	85.028116	-3.3077647E-02
90.000000	90.031627	-3.5141111E-02
95.000000	95.042746	-4.4995789E-02
100.00000	100.04250	-4.2500000E-02

T=310.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99997359	2.6500000E-03
4.0000000	3.9995918	1.0205000E-02
7.0000000	6.9994903	7.2814285E-03
10.000000	9.9996175	3.8300000E-03
40.000000	39.998431	3.9225000E-03
70.000000	70.010751	-1.5358571E-02
100.00000	100.02564	-2.5640000E-02

T=320.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99996339	3.6700000E-03
4.0000000	3.9994286	1.4285000E-02
7.0000000	6.9989847	1.4504285E-02
10.000000	9.9995787	4.2200000E-03
40.000000	40.000514	-1.2850000E-03
70.000000	70.022482	-3.2117142E-02
100.00000	100.05072	-5.0720000E-02

T=330.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99995332	4.6700000E-03
4.0000000	3.9996669	8.3275000E-03
7.0000000	6.9991875	1.1607142E-02
10.000000	9.9995543	4.4600000E-03
40.000000	39.999006	2.4850000E-03

70.000000	70.014854	-2.1220000E-02
100.000000	100.05992	-5.9920000E-02

T=340.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0000436	-4.3600000E-03
4.0000000	4.0003082	-7.7050000E-03
7.0000000	7.0007988	-1.1411428E-02
10.000000	10.000549	-5.4900000E-03
40.000000	40.013943	-3.4857500E-02
70.000000	70.036969	-5.2812857E-02
100.000000	100.07321	-7.3210000E-02

T=350.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0000338	-3.3800000E-03
4.0000000	4.0005527	-1.3817500E-02
7.0000000	7.0010193	-1.4561428E-02
10.000000	10.000565	-5.6500000E-03
40.000000	40.013317	-3.3292500E-02
70.000000	70.039731	-5.6758571E-02
100.000000	100.08045	-8.0450000E-02

T=360.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0000244	-2.4400000E-03
4.0000000	4.0004006	-1.0015000E-02
7.0000000	7.0005504	-7.8628571E-03
10.000000	10.000604	-6.0400000E-03
40.000000	40.013146	-3.2865000E-02
70.000000	70.051170	-7.3100000E-02
100.000000	100.09155	-9.1550000E-02

T=370.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0000152	-1.5200000E-03
4.0000000	4.0002520	-6.3000000E-03
7.0000000	7.0007920	-1.1314285E-02
10.000000	10.000664	-6.6400000E-03
40.000000	40.013436	-3.3590000E-02
70.000000	70.043195	-6.1707142E-02
100.000000	100.09637	-9.6370000E-02

T=380.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0000061	-6.1000000E-04
4.0000000	4.0001066	-2.6650000E-03
7.0000000	7.0003463	-4.9471428E-03

10.000000	10.000750	-7.5000000E-03
40.000000	40.014175	-3.5437500E-02
70.000000	70.050850	-7.2642857E-02
100.00000	100.10478	-.10478000

T=390.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99999741	2.6000000E-04
4.0000000	3.9999653	8.6750000E-04
7.0000000	7.0006117	-8.7385714E-03
10.000000	10.000859	-8.5900000E-03
40.000000	40.015369	-3.8422500E-02
70.000000	70.053021	-7.5744285E-02
100.00000	100.11668	-.11668000

T=400.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99998884	1.1200000E-03
4.0000000	3.9998277	4.3075000E-03
7.0000000	7.0001884	-2.6914285E-03
10.000000	10.000992	-9.9200000E-03
40.000000	40.016999	-4.2497500E-02
70.000000	70.056702	-8.1002857E-02
100.00000	100.12185	-.12185000

T=410.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99998047	1.9600000E-03
4.0000000	3.9996935	7.6625000E-03
7.0000000	6.9997761	3.1985714E-03
10.000000	10.001148	-1.1480000E-02
40.000000	40.015052	-3.7630000E-02
70.000000	70.061819	-8.8312857E-02
100.00000	100.13025	-.13025000

T=420.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99997237	2.7700000E-03
4.0000000	3.9999633	9.1750000E-04
7.0000000	7.0000762	-1.0885714E-03
10.000000	10.001326	-1.3260000E-02
40.000000	40.021536	-5.3840000E-02
70.000000	70.068365	-9.7664285E-02
100.00000	100.14170	-.14170000

T=430.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99996448	3.5600000E-03

4.0000000	3.9998366	4.0850000E-03
7.0000000	6.9996863	4.4814285E-03
10.000000	10.000529	-5.2900000E-03
40.000000	40.012404	-3.1010000E-02
70.000000	70.055191	-7.8844285E-02
100.00000	100.14607	-0.14607000

T=440.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	0.99995679	4.3300000E-03
4.0000000	4.0005135	-1.2837500E-02
7.0000000	7.0014078	-2.0111428E-02
10.000000	10.000755	-7.5500000E-03
40.000000	40.015679	-3.9197500E-02
70.000000	70.064371	-9.1958571E-02
100.00000	100.15325	-0.15325000

T=450.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0000493	-4.9300000E-03
4.0000000	4.0007935	-1.9837500E-02
7.0000000	7.0010404	-1.4862857E-02
10.000000	10.001002	-1.0020000E-02
40.000000	40.019339	-4.8347500E-02
70.000000	70.074795	-0.10685000
100.00000	100.16313	-0.16313000

T=460.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0000419	-4.1900000E-03
4.0000000	4.0006769	-1.6922500E-02
7.0000000	7.0013813	-1.9732857E-02
10.000000	10.001269	-1.2690000E-02
40.000000	40.023362	-5.8405000E-02
70.000000	70.079402	-0.11343142
100.00000	100.16555	-0.16555000

T=470.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0000349	-3.4900000E-03
4.0000000	4.0005636	-1.4090000E-02
7.0000000	7.0010342	-1.4774285E-02
10.000000	10.001558	-1.5580000E-02
40.000000	40.027746	-6.9365000E-02
70.000000	70.085166	-0.12166571
100.00000	100.17045	-0.17045000

T=480.0

PRESSURE (LITERATURE)	PRESSURE (CALCULATED)	PER-CENT DEVIATION
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(ATM.)	(ATM.)	
1.0000000	1.0000281	-2.8100000E-03
4.0000000	4.0004536	-1.1340000E-02
7.0000000	7.0013962	-1.9945714E-02
10.000000	10.001867	-1.8670000E-02
40.000000	40.028463	-7.1157500E-02
70.000000	70.092045	-0.13149285
100.00000	100.17772	-0.17772000

T=490.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0000213	-2.1300000E-03
4.0000000	4.0003465	-8.6625000E-03
7.0000000	7.0010676	-1.5251428E-02
10.000000	10.002195	-2.1950000E-02
40.000000	40.033515	-8.3787500E-02
70.000000	70.099986	-0.14283714
100.00000	100.18725	-0.18725000

T=500.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0000149	-1.4900000E-03
4.0000000	4.0002423	-6.0575000E-03
7.0000000	7.0007478	-1.0682857E-02
10.000000	10.001541	-1.5410000E-02
40.000000	40.026870	-6.7175000E-02
70.000000	70.087881	-0.12554428
100.00000	100.18890	-0.18890000

T=510.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0000086	-8.6000000E-04
4.0000000	4.0001410	-3.5250000E-03
7.0000000	7.0004368	-6.2400000E-03
10.000000	10.000906	-9.0600000E-03
40.000000	40.020537	-5.1342500E-02
70.000000	70.083798	-0.11971142
100.00000	100.20270	-0.20270000

T=520.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0000025	-2.5000000E-04
4.0000000	4.0000430	-1.0750000E-03
7.0000000	7.0001360	-1.9428571E-03
10.000000	10.001291	-1.2910000E-02
40.000000	40.026507	-6.6267500E-02
70.000000	70.087676	-0.12525142
100.00000	100.20845	-0.20845000

T=530.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0000000	0.0000000E+00
4.0000000	4.0000000	0.0000000E+00
7.0000000	7.0000000	0.0000000E+00
10.000000	10.000000	0.0000000E+00
40.000000	40.000000	0.0000000E+00
70.000000	70.000000	0.0000000E+00
100.00000	100.00000	0.0000000E+00

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99999652	3.5000000E-04
4.0000000	3.9999469	1.3275000E-03
7.0000000	7.0005423	-7.7471428E-03
10.000000	10.001690	-1.6900000E-02
40.000000	40.028758	-7.1895000E-02
70.000000	70.099469	-.14209857
100.00000	100.21611	-.21611000

T=540.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99999067	9.4000000E-04
4.0000000	3.9998537	3.6575000E-03
7.0000000	7.0009560	-1.3657142E-02
10.000000	10.002106	-2.1060000E-02
40.000000	40.035292	-8.8230000E-02
70.000000	70.105103	-.15014714
100.00000	100.21555	-.21555000

T=550.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99998496	1.5100000E-03
4.0000000	4.0001629	-4.0725000E-03
7.0000000	7.0006784	-9.6914285E-03
10.000000	10.002538	-2.5380000E-02
40.000000	40.038085	-9.5212500E-02
70.000000	70.111594	-.15942000
100.00000	100.21674	-.21674000

T=560.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99997951	2.0500000E-03
4.0000000	4.0000747	-1.8675000E-03
7.0000000	7.0004069	-5.8128571E-03
10.000000	10.001983	-1.9830000E-02
40.000000	40.033111	-8.2777500E-02
70.000000	70.104831	-.14975857
100.00000	100.21963	-.21963000

T=570.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	.99997414	2.5900000E-03
4.0000000	3.9999888	2.8000000E-04
7.0000000	7.0008437	-1.2052857E-02
10.000000	10.001445	-1.4450000E-02
40.000000	40.028385	-7.0962500E-02
70.000000	70.098843	-.14120428
100.00000	100.22414	-.22414000

T=580.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0000689	-6.8900000E-03
4.0000000	4.0007055	-1.7637500E-02
7.0000000	7.0012874	-1.8391428E-02
10.0000000	10.001921	-1.9210000E-02
40.0000000	40.031907	-7.9767500E-02
70.0000000	70.107641	-.15377285
100.0000000	100.23020	-.23020000

T=590.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0000638	-6.3800000E-03
4.0000000	4.0006235	-1.5587500E-02
7.0000000	7.0017372	-2.4817142E-02
10.0000000	10.001409	-1.4090000E-02
40.0000000	40.027643	-6.9107500E-02
70.0000000	70.103109	-.14729857
100.0000000	100.23775	-.23775000

T=600.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
1.0000000	1.0000588	-5.8800000E-03
4.0000000	4.0009444	-2.3610000E-02
7.0000000	7.0014949	-2.1355714E-02
10.0000000	10.001912	-1.9120000E-02
40.0000000	40.031609	-7.9022500E-02
70.0000000	70.106280	-.15182857
100.0000000	100.23669	-.23669000

T=198.16

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
100.00000	100.10139	-.10139000
150.00000	150.03293	-2.1953333E-02
200.00000	200.03509	-1.7545000E-02
300.00000	300.03786	-1.2620000E-02
400.00000	400.59344	-.14836000
500.00000	503.52843	-.70568600
600.00000	609.54421	-1.5907016
800.00000	837.85689	-4.7321112
1000.00000	1084.2315	-8.4231500
1100.00000	1213.2842	-10.298563
1200.00000	1343.8713	-11.989275

T=223.16

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
100.00000	100.03279	-3.2790000E-02
150.00000	149.93107	4.5953333E-02

200.00000	199.93277	3.3615000E-02
300.00000	299.56896	.14368000
400.00000	399.47712	.13072000
500.00000	500.46734	-9.3468000E-02
600.00000	603.23336	-.53889333
800.00000	818.67079	-2.3338487
1000.0000	1048.4931	-4.8493100
1100.0000	1168.9412	-6.2673818
1200.0000	1292.7687	-7.7307250

T=248.16

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
100.00000	99.991528	8.4800000E-03
150.00000	150.03677	-2.4513333E-02
200.00000	199.91848	4.0760000E-02
300.00000	299.50289	.16570333
400.00000	399.34677	.16330750
500.00000	499.56756	8.6488000E-02
600.00000	600.71616	-.11936000
800.00000	809.33948	-1.1674350
1000.0000	1029.1378	-2.9137800
1100.0000	1144.2596	-4.0236000
1200.0000	1262.1165	-5.1763750

T=273.16

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
100.00000	100.03629	-3.6290000E-02
150.00000	150.02282	-1.5213333E-02
200.00000	199.94829	2.5855000E-02
300.00000	299.57998	.14000666
400.00000	399.51274	.12181500
500.00000	499.50666	9.8668000E-02
600.00000	600.06922	-1.1536666E-02
800.00000	805.02470	-.62808750
1000.0000	1018.6909	-1.8690900
1100.0000	1129.9874	-2.7261272
1200.0000	1243.9112	-3.6592666

T=298.16

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
100.00000	100.03530	-3.5300000E-02
150.00000	150.03324	-2.2160000E-02
200.00000	200.03600	-1.8000000E-02
300.00000	299.69427	.10191000
400.00000	399.82688	4.3280000E-02
500.00000	499.74741	5.0518000E-02
600.00000	600.23417	-3.9028333E-02
800.00000	803.47298	-.43412250
1000.0000	1013.4363	-1.3436300
1100.0000	1122.4597	-2.0417909
1200.0000	1233.3522	-2.7793500

T=323.16

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
100.00000	100.08295	-8.2950000E-02
150.00000	150.07619	-5.0793333E-02
200.00000	200.03437	-1.7185000E-02
300.00000	300.01935	-6.4500000E-03
400.00000	400.10834	-2.7085000E-02
500.00000	500.11747	-2.3494000E-02
600.00000	600.66423	-.11070500
800.00000	803.23278	-.40409750
1000.0000	1011.2472	-1.1247200
1100.0000	1118.5512	-1.6864727
1200.0000	1227.5116	-2.2926333

T=373.16

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
100.00000	100.10720	-.10720000
150.00000	150.11886	-7.9240000E-02
200.00000	200.14219	-7.1095000E-02
300.00000	300.23343	-7.7810000E-02
400.00000	400.58959	-.14739750
500.00000	501.07267	-.21453400
600.00000	601.96283	-.32713833
800.00000	804.53654	-.56706750
1000.0000	1010.9327	-1.0932700
1100.0000	1116.7113	-1.5192090
1200.0000	1223.4218	-1.9518166

T=473.16

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
100.00000	100.16494	-.16494000
150.00000	150.26201	-.17467333
200.00000	200.27651	-.13825500
300.00000	300.42156	-.14052000
400.00000	401.30637	-.32659250
500.00000	502.25825	-.45165000
600.00000	603.91043	-.65173833
800.00000	808.11152	-1.0139400
1000.0000	1015.2785	-1.5278500
1100.0000	1120.3139	-1.8467181
1200.0000	1226.0547	-2.1712250

T=573.16

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
100.00000	100.17888	-.17888000
150.00000	150.31715	-.21143333
200.00000	200.40356	-.20178000
300.00000	300.71071	-.23690333
400.00000	401.50012	-.37503000
500.00000	503.03933	-.60786600

600.00000	604.97344	-.82890666
800.00000	810.69978	-1.3374725
1000.0000	1019.0521	-1.9052100
1100.0000	1124.3482	-2.2134727
1200.0000	1230.6856	-2.5571333

T=673.16

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
100.00000	100.19285	-.19285000
150.00000	150.33031	-.22020666
200.00000	200.45577	-.22788500
300.00000	300.85936	-.28645333
400.00000	401.87003	-.46750750
500.00000	503.00491	-.60098200
600.00000	605.74827	-.95804500
800.00000	812.04450	-1.5055625
1000.0000	1021.4754	-2.1475400
1100.0000	1127.0038	-2.4548909
1200.0000	1233.3085	-2.7757083

T=773.16

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
100.00000	100.20153	-.20153000
150.00000	150.33883	-.22588666
200.00000	200.43273	-.21636500
300.00000	300.84314	-.28104666
400.00000	401.93534	-.48383500
500.00000	503.46856	-.69371200
600.00000	605.44772	-.90795333
800.00000	812.71686	-1.5896075
1000.0000	1022.6368	-2.2636800
1100.0000	1128.3326	-2.5756909
1200.0000	1234.8882	-2.9073500

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1

NITROGEN-HYDROGEN

(12.56%-87.44%)

PRAUSNITZ-GUNN

METHOD

T=0.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
25.000000	24.941621	.23351600
50.000000	49.777495	.44501000
100.000000	99.542353	.45765000
200.000000	200.49650	-.24825000
400.000000	410.94591	-2.7364775
600.000000	630.52331	-5.0872183
800.000000	856.17393	-7.0217412
1000.0000	1085.4430	-8.5443000

T=25.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
25.000000	24.943976	.22409600
50.000000	49.814790	.37042000
100.000000	99.571824	.42818000
200.000000	200.53418	-.26709000
400.000000	410.99219	-2.7480475
600.000000	631.14897	-5.1914950
800.000000	858.28088	-7.2851100
1000.0000	1089.9505	-8.9950500

T=50.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	49.875022	.24995600
100.000000	99.746843	.25316000
200.000000	200.78184	-.39092000
400.000000	411.17691	-2.7942275
600.000000	632.08156	-5.3469266
800.000000	860.43129	-7.5539112
1000.0000	1094.4327	-9.4432700

T=100.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	49.913129	.17374200
100.000000	99.816814	.18319000
200.000000	200.73919	-.36959500
400.000000	410.25665	-2.5641625
600.000000	630.61963	-5.1032716
800.000000	859.73669	-7.4670862
1000.0000	1095.6654	-9.5665400

T=200.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	50.030788	-6.1576000E-02
100.000000	100.05685	-5.6850000E-02
200.000000	201.12197	-.56098500
400.000000	410.22639	-2.5565975

600.00000	630.10815	-5.0180250
800.00000	859.61516	-7.4518950
1000.0000	1097.7023	-9.7702300

T=300.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	50.071887	-.14377400
100.00000	100.27158	-.27158000
200.00000	201.37535	-.68767500
400.00000	409.50357	-2.3758925
600.00000	627.43540	-4.5725666
800.00000	855.43258	-6.9290725
1000.0000	1093.5346	-9.3534600

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NITROGEN-HYDROGEN

(24.44%-75.56%)

PRAUSNITZ-GUNN

METHOD

T=0.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
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50.000000	49.748864	.50227200
100.000000	99.414480	.58552000
200.000000	200.05014	-2.5070000E-02
400.000000	409.40252	-2.3506300
600.000000	626.81946	-4.4699100
800.000000	848.13745	-6.0171812
1000.000000	1072.9230	-7.2923000

T=25.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
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50.000000	49.793768	.41246400
100.000000	99.506373	.49363000
200.000000	200.23150	-.11575000
400.000000	409.73903	-2.4347575
600.000000	627.87588	-4.6459800
800.000000	852.02902	-6.5036275
1000.000000	1079.1465	-7.9146500

T=50.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
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50.000000	49.834294	.33141200
100.000000	99.682366	.31764000
200.000000	200.47808	-.23904000
400.000000	410.03098	-2.5077450
600.000000	629.28320	-4.8805333
800.000000	855.02207	-6.8777587
1000.000000	1084.5104	-8.4510400

T=100.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
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50.000000	49.824396	.35120800
100.000000	99.596319	.40369000
200.000000	200.22849	-.11424500
400.000000	409.21613	-2.3040325
600.000000	628.28408	-4.7140133
800.000000	854.69657	-6.8370712
1000.000000	1086.3420	-8.6342000

T=200.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
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50.000000	49.904584	.19083200
100.000000	99.826293	.17371000
200.000000	200.55917	-.27958500
400.000000	408.33602	-2.0840050
600.000000	627.28230	-4.5470500
800.000000	855.31965	-6.9149562

1000.0000 1089.3518 -8.9351800

T=300.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	50.092264	-.18452800
100.000000	100.12115	-.12115000
200.000000	201.04548	-.52274000
400.000000	408.69234	-2.1730850
600.000000	626.49306	-4.4155100
800.000000	853.59138	-6.6989225
1000.0000	1089.2690	-8.9269000

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NITROGEN-HYDROGEN

(48.26%-51.74%)

PRAUSNITZ-GUNN

METHOD

T=0.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
25.000000	24.954529	.18188400
50.000000	49.773246	.45350800
100.000000	99.392335	.60767000
200.000000	199.92570	3.7150000E-02
400.000000	406.44382	-1.6109550
600.000000	617.43039	-2.9050650
800.000000	830.24759	-3.7809487
1000.0000	1045.7900	-4.5790000

T=25.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
25.000000	24.926315	.29474000
50.000000	49.768940	.46212000
100.000000	99.297735	.70227000
200.000000	199.68639	.15680500
400.000000	406.97775	-1.7444375
600.000000	620.33489	-3.3891483
800.000000	835.21815	-4.4022687
1000.0000	1052.5332	-5.2533200

T=50.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
25.000000	24.934072	.26371200
50.000000	49.800903	.39819400
100.000000	99.447129	.55288000
200.000000	199.87475	6.2625000E-02
400.000000	407.57024	-1.8925600
600.000000	621.72656	-3.6210933
800.000000	838.64568	-4.8307100
1000.0000	1057.6618	-5.7661800

T=100.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
25.000000	24.940130	.23948000
50.000000	49.797422	.40515600
100.000000	99.402133	.59787000
200.000000	199.61305	.19347500
400.000000	407.06756	-1.7668900
600.000000	622.43865	-3.7397750
800.000000	841.92197	-5.2402462
1000.0000	1065.4261	-6.5426100

T=200.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	49.877071	.24585800
100.000000	99.894100	.10590000

200.00000	199.94080	2.9600000E-02
400.00000	407.18075	-1.7951875
600.00000	623.63092	-3.9384866
800.00000	847.36396	-5.9204950
1000.0000	1075.9640	-7.5964000

T=300.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	50.017202	-3.4404000E-02
100.00000	99.942384	5.7620000E-02
200.00000	200.42941	-0.21470500
400.00000	407.36401	-1.8410025
600.00000	623.45105	-3.9085083
800.00000	847.72398	-5.9654975
1000.0000	1077.4298	-7.7429800

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NITROGEN-HYDROGEN

(73.88%-26.12%)

PRAUSNITZ-GUNN

METHOD

T=0.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
25.000000	24.919285	.32286000
50.000000	49.670457	.65908600
100.000000	99.088574	.91143000
200.000000	198.88104	.55948000
400.000000	401.17401	-.29350250
600.000000	603.75755	-.62625833
800.000000	807.35944	-.91993000
1000.0000	1013.0378	-1.3037800

T=25.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
25.000000	24.939568	.24172800
50.000000	49.712520	.57496000
100.000000	99.111452	.88855000
200.000000	198.86285	.56857500
400.000000	402.61733	-.65433250
600.000000	607.73711	-1.2895183
800.000000	813.12724	-1.6409050
1000.0000	1020.1682	-2.0168200

T=50.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	49.716739	.56652200
100.000000	99.182156	.81785000
200.000000	199.05342	.47329000
400.000000	403.83231	-.95807750
600.000000	610.85405	-1.8090083
800.000000	818.74482	-2.3431025
1000.0000	1027.8842	-2.7884200

T=100.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	49.713573	.57285400
100.000000	99.144834	.85517000
200.000000	198.92078	.53961000
400.000000	404.11387	-1.0284675
600.000000	614.04410	-2.3406833
800.000000	825.21275	-3.1515937
1000.0000	1037.3716	-3.7371600

T=200.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	49.761771	.47645800
100.000000	99.315753	.68425000
200.000000	199.07082	.46459000
400.000000	404.58787	-1.1469675

600.00000	617.41373	-2.9022883
800.00000	834.64277	-4.3303462
1000.0000	1053.8883	-5.3888300

T=300.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	49.838454	.32309200
200.00000	199.43231	.28384500
400.00000	404.75709	-1.1892725
600.00000	617.18957	-2.8649283
800.00000	837.64407	-4.7055087
1000.0000	1061.1403	-6.1140300

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NITROGEN-HYDROGEN

(12.56%-87.44%)

GUNN-CHUEH-PRAUSNITZ

METHOD

T=0.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
25.000000	24.943136	.22745600
50.000000	49.783245	.43351000
100.000000	99.563185	.43682000
200.000000	200.56447	-.28223500
400.000000	411.12436	-2.7810900
600.000000	630.77641	-5.1294016
800.000000	856.43046	-7.0538075
1000.0000	1085.6159	-8.5615900

T=25.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
25.000000	24.945058	.21976800
50.000000	49.818881	.36223800
100.000000	99.586477	.41353000
200.000000	200.58100	-.29050000
400.000000	411.10958	-2.7773950
600.000000	631.30409	-5.2173483
800.000000	858.41564	-7.3019550
1000.0000	1089.9940	-8.9994000

T=50.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	49.877973	.24405400
100.000000	99.757257	.24275000
200.000000	200.81411	-.40705500
400.000000	411.25163	-2.8129075
600.000000	632.16680	-5.3611333
800.000000	860.47678	-7.5595975
1000.0000	1094.3786	-9.4378600

T=100.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	49.914661	.17067800
100.000000	99.822004	.17800000
200.000000	200.75365	-.37682500
400.000000	410.27897	-2.5697425
600.000000	630.61773	-5.1029550
800.000000	859.66894	-7.4586175
1000.0000	1095.4853	-9.5485300

T=200.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	50.031099	-6.2198000E-02
100.000000	100.05760	-5.7600000E-02
200.000000	201.12154	-.56077000
400.000000	410.20559	-2.5513975

600.00000	630.03433	-5.0057216
800.00000	859.45236	-7.4315450
1000.0000	1097.4139	-9.7413900

T=300.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	50.071764	-.14352800
100.00000	100.27076	-.27076000
200.00000	201.36999	-.68499500
400.00000	409.47002	-2.3675050
600.00000	627.34248	-4.5570800
800.00000	855.24731	-6.9059137
1000.0000	1093.2239	-9.3223900

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NITROGEN-HYDROGEN

(24.44%-75.56%)

GUNN-CHUEH-PRAUSNITZ

METHOD

T=0.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	49.759750	.48050000
100.000000	99.454700	.54530000
200.000000	200.18587	-9.2935000E-02
400.000000	409.77977	-2.4449425
600.000000	627.39183	-4.5653050
800.000000	848.79099	-6.0988737
1000.0000	1073.5185	-7.3518500

T=25.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	49.801698	.39660400
100.000000	99.535458	.46455000
200.000000	200.32878	-.16439000
400.000000	410.00673	-2.5016825
600.000000	628.27808	-4.7130133
800.000000	852.47924	-6.5599050
1000.0000	1079.5350	-7.9535000

T=50.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	49.840167	.31966600
100.000000	99.703790	.29621000
200.000000	200.54883	-.27441500
400.000000	410.22148	-2.5553700
600.000000	629.56221	-4.9270350
800.000000	855.31986	-6.9149825
1000.0000	1084.7388	-8.4738800

T=100.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	49.827727	.34454600
100.000000	99.608222	.39178000
200.000000	200.26641	-.13320500
400.000000	409.30998	-2.3274950
600.000000	628.40470	-4.7341165
800.000000	854.79323	-6.8491537
1000.0000	1086.3527	-8.6352700

T=200.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	49.905698	.18860400
100.000000	99.830014	.16999000
200.000000	200.56907	-.28453500
400.000000	408.34679	-2.0866975
600.000000	627.26315	-4.5438583
800.000000	855.23197	-6.9039962

1000.0000 1089.1542 -8.9154200

T=300.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	50.092555	-.18511000
100.00000	100.12186	-.12186000
200.00000	201.04533	-.52266500
400.00000	408.67427	-2.1685675
600.00000	626.42654	-4.4044233
800.00000	853.44201	-6.6802512
1000.0000	1089.0015	-8.9001500

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NITROGEN-HYDROGEN

(48.26%-51.74%)

GUNN-CHUEH-PRAUSNITZ

METHOD

T=0.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
25.000000	24.958984	.16406400
50.000000	49.790575	.41885000
100.00000	99.457378	.54263000
200.00000	200.14826	-7.4130000E-02
400.00000	407.04945	-1.7623625
600.00000	618.31405	-3.0523416
800.00000	831.21572	-3.9019650
1000.0000	1046.6342	-4.6634200

T=25.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
25.000000	24.929581	.28167600
50.000000	49.781607	.43678600
100.00000	99.344864	.65514000
200.00000	199.84693	7.6535000E-02
400.00000	407.41975	-1.8549375
600.00000	620.98950	-3.4982500
800.00000	835.94137	-4.4926712
1000.0000	1053.1623	-5.3162300

T=50.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
25.000000	24.936527	.25389200
50.000000	49.810379	.37924200
100.00000	99.482210	.51779000
200.00000	199.99334	3.3300000E-03
400.00000	407.89650	-1.9741250
600.00000	622.21089	-3.7018150
800.00000	839.17923	-4.8974037
1000.0000	1058.1159	-5.8115900

T=100.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
25.000000	24.941580	.23368000
50.000000	49.802978	.39404400
100.00000	99.422401	.57760000
200.00000	199.68021	.15989500
400.00000	407.24778	-1.8119450
600.00000	622.69910	-3.7831833
800.00000	842.19332	-5.2741650
1000.0000	1065.6231	-6.5623100

T=200.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	49.879212	.24157600
100.00000	99.901696	9.8310000E-02

200.00000	199.96410	1.7950000E-02
400.00000	407.23287	-1.8082175
600.00000	623.68425	-3.9473750
800.00000	847.37694	-5.9221175
1000.0000	1075.8885	-7.5888500

T=300.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	50.018056	-3.6112000E-02
100.00000	99.945208	5.4800000E-02
200.00000	200.43662	-0.21831000
400.00000	407.36923	-1.8423075
600.00000	623.42729	-3.9045483
800.00000	847.63785	-5.9547312
1000.0000	1077.2465	-7.7246500

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NITROGEN-HYDROGEN

(73.88%-26.12%)

GUNN-CHUEH-PRAUSNITZ

METHOD

T=0.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
25.000000	24.924081	.30367600
50.000000	49.689682	.62063600
100.000000	99.164592	.83541000
200.000000	199.16070	.41965000
400.000000	402.00192	-.50048000
600.000000	605.08667	-.84777833
800.000000	809.06572	-1.1332150
1000.0000	1014.9959	-1.4995900

T=25.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
25.000000	24.943153	.22738800
50.000000	49.726802	.54639600
100.000000	99.167428	.83258000
200.000000	199.06881	.46559500
400.000000	403.24673	-.81168250
600.000000	608.77889	-1.4631483
800.000000	814.49496	-1.8118700
1000.0000	1021.7643	-2.1764300

T=50.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	49.727616	.54476800
100.000000	99.224600	.77540000
200.000000	199.20960	.39520000
400.000000	404.32011	-1.0800275
600.000000	611.68072	-1.9467866
800.000000	819.85192	-2.4814900
1000.0000	1029.1963	-2.9196300

T=100.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	49.720278	.55944400
100.000000	99.170748	.82926000
200.000000	199.01594	.49203000
400.000000	404.41895	-1.1047375
600.000000	614.57985	-2.4299750
800.000000	825.95242	-3.2440525
1000.0000	1038.2705	-3.8270500

T=200.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	49.764769	.47046200
100.000000	99.327239	.67277000
200.000000	199.11262	.44369000
400.000000	404.72417	-1.1810425

600.00000	617.66106	-2.9435100
800.00000	834.99578	-4.3744725
1000.0000	1054.3295	-5.4329500

T=300.0

PRESSURE (LITERATURE) (ATM.)	PRESSURE (CALCULATED) (ATM.)	PER-CENT DEVIATION
50.000000	49.839986	.32002800
200.00000	199.45323	.27338500
400.00000	404.82460	-1.2061500
600.00000	617.31173	-2.8852883
800.00000	837.81921	-4.7274012
1000.0000	1061.3591	-6.1359100

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METHANE-HYDROGEN

(9.03%/90.97)

PRAUSNITZ-GUNN

METHOD

T=-210.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
172.70000	172.89059	-.11035900
364.50000	363.97192	.14487791
558.70000	556.23778	.44070520
752.20000	746.43039	.76703137
957.50000	946.94068	1.1028010
1160.9000	1141.2088	1.6962012

T=-180.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
200.00000	199.61194	.19403000
411.10000	409.93821	.28260520
635.60000	633.56041	.32089207
849.90000	845.66775	.49797034
1087.5000	1078.2525	.85034482
1331.4000	1312.8067	1.3965224

T=-150.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
214.90000	215.10254	-9.4248487E-02
456.90000	455.82040	.23628802
706.20000	701.02153	.73328660
951.70000	941.54445	1.0670957
1218.4000	1204.2183	1.1639609
1491.2000	1475.4907	1.0534670
1770.5000	1757.9588	.70834227

T=-120.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
235.00000	234.97765	9.5106382E-03
502.20000	501.31906	.17541616
779.00000	775.71542	.42164056
1055.2000	1051.1075	.38784116
1346.3000	1338.7020	.56436158
1650.8000	1637.6419	.79707414
1968.3000	1955.2331	.66386729

T=-90.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
257.00000	256.83077	6.5848249E-02
548.20000	546.83213	.24952024
848.80000	844.57084	.49825164
1151.4000	1143.9306	.64872329
1474.7000	1468.1428	.44464636
1810.5000	1798.8907	.64122065
2162.9000	2151.5503	.52474455

T=-60.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
278.00000	277.77341	8.1507194E-02
593.60000	592.09393	.25371799
920.10000	915.96533	.44937180
1275.0000	1267.1744	.61377254
1625.0000	1613.4742	.70928000
1971.5000	1959.8291	.59198072
2358.5000	2347.0577	.48515157

T=-30.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
300.00000	300.10322	-3.4406666E-02
639.10000	637.29223	.28286183
992.00000	987.16375	.48752520
1347.2000	1340.1054	.52661817
1730.9000	1725.3752	.31918655
2130.8000	2119.8678	.51305612
2548.2000	2541.8430	.24947021

T=0.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
319.00000	319.30187	-9.4630094E-02
684.20000	682.28863	.27935837
1061.9000	1058.0875	.35902627
1444.2000	1436.9779	.50007616
1861.4000	1853.3288	.43360911
2285.5000	2279.3931	.26720192
2739.8000	2735.7697	.14710197

T=30.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
340.00000	340.09112	-2.6800000E-02
728.50000	727.27761	.16779547
1134.1000	1128.7091	.47534608
1546.3000	1545.2691	6.6668822E-02
1983.7000	1980.9681	.13771739
2442.9000	2438.5106	.17967988
2937.5000	2929.1561	.28404765

T=60.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
360.40000	360.56641	-4.6173695E-02
773.70000	772.02498	.21649476
1202.1000	1199.2761	.23491390
1646.0000	1643.0762	.17763061
2111.4000	2108.0017	.16095008
2599.7000	2596.8687	.10890872

3126.1000 3121.7663 .13862960

T=90.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
381.20000	381.19046	2.5026232E-03
817.60000	816.54165	.12944593
1272.8000	1269.4453	.26356851
1745.1000	1740.5417	.26120566
2238.0000	2234.6552	.14945487
2755.7000	2754.8056	3.2456363E-02
3313.2000	3313.5010	-9.0848726E-03

T=120.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
401.70000	401.66075	9.7709733E-03
862.30000	860.95653	.15580076
1342.8000	1339.5789	.23987935
1841.8000	1837.6022	.22791834
2362.5000	2360.8787	6.8626455E-02
2909.0000	2912.2732	-.11251976

T=150.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
422.30000	422.07518	5.3237035E-02
907.30000	905.35066	.21485065
1412.2000	1409.3824	.19951848
1938.0000	1934.6125	.17479360
2486.1000	2486.4263	-1.3124974E-02
3063.3000	3069.0764	-.18856788

T=180.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
442.70000	442.51031	4.2848430E-02
950.70000	949.64254	.11122962
1482.2000	1479.0151	.21487653
2029.7000	2031.2927	-7.8469724E-02
2609.5000	2612.4920	-.11465798
3214.8000	3225.3483	-.32811683

T=210.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
461.00000	461.53749	-.11659219
994.60000	993.64692	9.5825457E-02
1550.5000	1548.3041	.14162528
2129.1000	2127.5651	7.2091494E-02
2732.9000	2737.2644	-.15969848

T=240.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
3126.1000	3121.7663	.13862960

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
482.90000	483.00884	-2.2538827E-02
1038.2000	1037.6808	5.0009632E-02
1619.0000	1617.6937	8.0685608E-02
2221.6000	2223.5099	-8.5969571E-02
2853.6000	2862.2724	-3.0391084

T=270.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
502.00000	502.63697	-1.2688645
1082.2000	1081.5459	6.0441692E-02
1687.5000	1686.6355	5.1229629E-02
2317.0000	2319.2814	-9.8463530E-02
2976.5000	2987.1061	-3.5632790

T=300.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
523.40000	523.31874	1.5525410E-02
1125.4000	1125.1760	1.9904034E-02
1755.4000	1755.3353	3.6857696E-03
2411.2000	2414.9062	-1.5370769
3095.6000	3110.4379	-4.7932226

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METHANE-HYDROGEN

(9.03%-90.97%)

GUNN-CHUEH-PRAUSNITZ

METHOD

T=-210.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
172.70000	172.97387	-.15858135
364.50000	364.34628	4.2172839E-02
558.70000	557.12037	.28273313
752.20000	748.02725	.55473943
957.50000	949.51060	.83440208
1160.9000	1144.9244	1.3761392

T=-180.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
200.00000	199.68910	.15545000
411.10000	410.26632	.20279250
635.60000	634.34713	.19711611
849.90000	847.06813	.33320037
1087.5000	1080.5161	.64219770
1331.4000	1316.1277	1.1470857

T=-150.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
214.90000	215.16731	-.12438808
456.90000	456.11231	.17239877
706.20000	701.71123	.63562305
951.70000	942.78208	.93705159
1218.4000	1206.2219	.99951575
1491.2000	1478.4537	.85476797
1770.5000	1762.0825	.47543066

T=-120.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
235.00000	235.03527	-1.5008510E-02
502.20000	501.58125	.12320788
779.00000	776.34008	.34145314
1055.2000	1052.2435	.28018385
1346.3000	1340.5189	.42940652
1650.8000	1640.3103	.63543130
1968.3000	1958.9487	.47509525

T=-90.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
257.00000	256.88343	4.5357976E-02
548.20000	547.06979	.20616745
848.80000	845.13317	.43200164
1151.4000	1144.9489	.56028313
1474.7000	1469.7904	.33292195
1810.5000	1801.3104	.50757249
2162.9000	2154.9203	.36893522

T=-60.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
278.00000	277.82148	6.4215827E-02
593.60000	592.31080	.21718328
920.10000	916.47825	.39362569
1275.0000	1268.1393	.53809411
1971.5000	1962.0362	.48003043
1625.0000	1615.0064	.61499076
2358.5000	2350.1303	.35487386

T=-30.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
300.00000	300.14781	-4.9270000E-02
639.10000	637.49115	.25173681
992.00000	987.63408	.44011290
1347.2000	1340.9561	.46347238
1730.9000	1726.7520	.23964411
2130.8000	2121.8890	.41819973
2548.2000	2544.6560	.13907856

T=0.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
319.00000	319.34256	-.10738557
684.20000	682.47186	.25257819
1061.9000	1058.5205	.31825030
1444.2000	1437.7596	.44594931
1861.4000	1854.5946	.36560653
2285.5000	2281.2502	.18594618
2739.8000	2738.3531	5.2810424E-02

T=30.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
340.00000	340.12883	-3.7891176E-02
728.50000	727.44697	.14454770
1134.1000	1129.1089	.44009346
1546.3000	1546.0002	1.9388217E-02
1983.7000	1982.1354	7.8872813E-02
2442.9000	2440.2223	.10961152
2937.5000	2931.5348	.20307063

T=60.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
360.40000	360.60133	-5.5862930E-02
773.70000	772.18199	.19620137
1202.1000	1199.6464	.20410947
1646.0000	1643.7525	.13654313
2111.4000	2109.0802	.10987022
2599.7000	2598.4486	4.8136323E-02

3126.1000 3123.9600 6.8455903E-02

T=90.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
381.20000	381.22295	-6.0204616E-03
817.60000	816.68746	.11161203
1272.8000	1269.7886	.23659648
1745.1000	1741.1684	.22529367
2238.0000	2235.6533	.10485701
2755.7000	2756.2661	-2.0542874E-02
3313.2000	3315.5264	-7.0216105E-02

T=120.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
401.70000	401.69101	2.2379885E-03
862.30000	861.09210	.14007885
1342.8000	1339.8979	.21612302
1841.8000	1838.1834	.19636225
2362.5000	2361.8037	2.9473015E-02
2909.0000	2913.6248	-.15898246

T=150.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
422.30000	422.10340	4.6554582E-02
907.30000	905.47703	.20092251
1412.2000	1409.6793	.17849454
1938.0000	1935.1523	.14694014
2486.1000	2487.2835	-4.7604682E-02
3063.3000	3070.3278	-.22941925

T=180.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
442.70000	442.53669	3.6889541E-02
950.70000	949.76036	9.8836646E-02
1482.2000	1479.2912	.19624881
2029.7000	2031.7943	-.10318273
2609.5000	2613.2875	-.14514274
3214.8000	3226.5066	-.36414706

T=210.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
461.00000	461.56197	-.12190238
994.60000	993.75665	8.4792881E-02
1550.5000	1548.5611	.12504998
2129.1000	2128.0309	5.0213705E-02
2732.9000	2738.0016	-.18667349

T=240.0

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PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
482.90000	483.03184	-2.7301718E-02
1038.2000	1037.7833	4.0136775E-02
1619.0000	1617.9330	6.5904879E-02
2221.6000	2223.9427	-.10545102
2853.6000	2862.9558	-.32785954

T=270.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
502.00000	502.65850	-.13117529
1082.2000	1081.6416	5.1598595E-02
1687.5000	1686.8581	3.8038518E-02
2317.0000	2319.6829	-.11579197
2976.5000	2987.7394	-.37760456

T=300.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
523.40000	523.33885	1.1683225E-02
1125.4000	1125.2652	1.1977963E-02
1755.4000	1755.5424	-8.1121111E-03
2411.2000	2415.2786	-.16915228
3095.6000	3111.0228	-.49821682

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ETHANE-HYDROGEN
(20.10%-79.90%)

PRAUSNITZ-GUNN
METHOD

T=70.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
214.00000	215.17201	-.54766822
620.00000	626.01087	-.96949516
1037.0000	1048.6118	-1.1197492
1459.0000	1482.7443	-1.6274366
1892.0000	1934.7882	-2.2615327
2347.0000	2413.6322	-2.8390370

T=90.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
222.00000	223.16068	-.52282882
644.00000	649.85027	-.90842701
1079.0000	1089.5176	-.97475440
1521.0000	1543.8596	-1.5029322
1974.0000	2016.5067	-2.1533282
2451.0000	2518.6658	-2.7607425

T=120.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
235.00000	236.13381	-.48247234
681.00000	686.42478	-.79659030
1142.0000	1153.0706	-.96940455
1613.0000	1635.4239	-1.3901983
2098.0000	2139.8999	-1.9971353
2606.0000	2676.5964	-2.7089946

T=150.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
246.00000	247.13191	-.46012601
717.00000	722.49850	-.76687587
1205.0000	1215.7996	-.89623236
1703.0000	1726.5279	-1.3815560
2219.0000	2262.8653	-1.9768048
2760.0000	2834.4355	-2.6969384

T=180.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
259.00000	259.98993	-.38221235
753.00000	758.14056	-.68267729
1269.0000	1279.2406	-.80698187
1794.0000	1817.2992	-1.2987290
2341.0000	2384.9119	-1.8757753
2916.0000	2990.9131	-2.5690363

T=210.0

PRESSURE (LITERATURE)	PRESSURE (CALCULATED)	PER-CENT DEVIATION
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(PSI.)	(PSI.)	
271.00000	271.91091	-.33612915
790.00000	794.99018	-.63166835
1332.0000	1340.9312	-.67051051
1885.0000	1908.5837	-1.2511246
2460.0000	2506.2402	-1.8796829
3071.0000	3147.0849	-2.4775284

T=240.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
283.00000	283.80393	-.28407420
825.00000	830.02248	-.60878545
1393.0000	1402.6510	-.69282124
1974.0000	1998.8401	-1.2583637
2579.0000	2627.8138	-1.8927413
3220.0000	3302.4777	-2.5614192

T=270.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
295.00000	295.66926	-.22686779
863.00000	867.38237	-.50780648
1453.0000	1463.7138	-.73735719
2063.0000	2088.7892	-1.2500824
2697.0000	2748.1489	-1.8965109
3368.0000	3457.8856	-2.6688123

T=300.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
307.00000	307.38396	-.12506840
897.00000	901.34230	-.48409141
1514.0000	1525.5492	-.76282694
2154.0000	2178.2104	-1.1239740
2815.0000	2868.5259	-1.9014529
3514.0000	3612.1066	-2.7918782

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ETHANE-HYDROGEN

(50.17%-49.83%)

PRAUSNITZ-GUNN

METHOD

T=70.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
512.00000	518.03582	-1.1788710
857.00000	879.10892	-2.5798039
1181.0000	1223.4131	-3.5912870
1495.0000	1561.3092	-4.4353979
1815.0000	1906.0063	-5.0141212
2153.0000	2264.3282	-5.1708406

T=90.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
534.00000	539.32042	-.99633333
900.00000	920.35077	-2.2611966
1247.0000	1286.8678	-3.1970970
1586.0000	1648.9088	-3.9665069
1926.0000	2018.8660	-4.8217030
2302.0000	2411.9017	-4.7741833

T=120.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
568.00000	572.00498	-.70510211
964.00000	982.28296	-1.8965726
1344.0000	1380.2852	-2.6997916
1720.0000	1779.5831	-3.4641337
2108.0000	2193.8334	-4.0717931
2520.0000	2631.3414	-4.4183095

T=150.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
603.00000	605.11200	-.35024875
1027.0000	1043.7439	-1.6303700
1440.0000	1473.5447	-2.3294930
1852.0000	1909.2206	-3.0896652
2280.0000	2364.7520	-3.7171929
2739.0000	2849.8271	-4.0462614

T=180.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
635.00000	636.93979	-.30547874
1090.0000	1104.0614	-1.2900366
1535.0000	1566.5699	-2.0566710
1983.0000	2037.5145	-2.7490922
2451.0000	2533.1490	-3.3516523
2956.0000	3066.8487	-3.7499560

T=210.0

PRESSURE (LITERATURE)	PRESSURE (CALCULATED)	PER-CENT DEVIATION
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(PSI.)	(PSI.)	
669.00000	669.63508	-9.4929745E-02
1152.0000	1163.9958	-1.0413020
1628.0000	1658.0766	-1.8474570
2111.0000	2165.6711	-2.5898199
2620.0000	2704.6396	-3.2305190
3168.0000	3282.8809	-3.6262910

T=240.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
701.00000	701.64392	-9.1857346E-02
1214.0000	1224.8661	-.89506589
1722.0000	1749.4178	-1.5922067
2238.0000	2292.4694	-2.4338427
2786.0000	2873.1663	-3.1287257
3379.0000	3498.6909	-3.5421988

T=270.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
734.00000	734.17840	-2.4305177E-02
1274.0000	1283.7891	-.76837519
1814.0000	1840.1902	-1.4437816
2365.0000	2419.2458	-2.2936913
2952.0000	3040.5885	-3.0009654
3586.0000	3710.6178	-3.4751199

T=300.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
766.00000	765.54808	5.8997389E-02
1335.0000	1343.5421	-.63985767
1905.0000	1930.5226	-1.3397690
2492.0000	2544.8501	-2.1207905
3117.0000	3207.7608	-2.9117998
3793.0000	3925.6083	-3.4961323

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ETHANE-HYDROGEN

(79.97%-20.03%)

PRAUSNITZ-GUNN

METHOD

T=90.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
387.00000	395.91240	-2.3029457
669.00000	692.89351	-3.5715261
888.00000	930.03590	-4.7337725
1067.0000	1120.3721	-5.0020712
1228.0000	1302.0184	-6.0275570
1395.0000	1468.2741	-5.2526236

T=120.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
415.00000	423.27473	-1.9939108
730.00000	752.24006	-3.0465835
989.00000	1025.8744	-3.7284529
1212.0000	1265.0314	-4.3755280
1422.0000	1487.7117	-4.6210759
1637.0000	1713.0057	-4.6429871

T=150.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
442.00000	450.06777	-1.8252873
790.00000	810.34464	-2.5752708
1087.0000	1120.6800	-3.0984360
1353.0000	1402.0809	-3.6275609
1608.0000	1671.3987	-3.9427052
1878.0000	1952.6513	-3.9750425

T=180.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
469.00000	476.28323	-1.5529275
849.00000	868.57749	-2.3059469
1184.0000	1213.5340	-2.4944256
1492.0000	1536.3642	-2.9734718
1795.0000	1855.0979	-3.3480724
2118.0000	2190.5181	-3.4238951

T=210.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
496.00000	502.79145	-1.3692439
907.00000	923.88439	-1.8615644
1278.0000	1304.8525	-2.1011345
1628.0000	1670.5949	-2.6163943
1979.0000	2037.0952	-2.9355836
2355.0000	2428.9804	-3.1414182

T=240.0

PRESSURE (LITERATURE)	PRESSURE (CALCULATED)	PER-CENT DEVIATION
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(PSI.)	(PSI.)	
522.00000	528.76244	-1.2954865
964.00000	981.00413	-1.7639139
1371.0000	1395.9926	-1.8229467
1761.0000	1803.2025	-2.3965076
2160.0000	2218.1777	-2.6934120
2589.0000	2666.8015	-3.0050791

T=270.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
548.00000	554.39529	-1.1670237
1020.0000	1035.1830	-1.4885294
1462.0000	1484.1350	-1.5140218
1894.0000	1935.2987	-2.1805015
2339.0000	2398.9700	-2.5639162
2822.0000	2904.8832	-2.9370375

T=300.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
575.00000	580.74929	-.99987652
1076.0000	1088.2990	-1.1430297
1552.0000	1574.6858	-1.4617139
2026.0000	2067.1752	-2.0323395
2516.0000	2579.6835	-2.5311406
3055.0000	3142.5085	-2.8644353

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ETHANE-HYDROGEN

(89.96%-10.04%)

PRAUSNITZ-GUNN

METHOD

T=90.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
350.00000	356.83650	-1.9532857
596.00000	616.57889	-3.4528338
758.00000	796.38884	-5.0644907
867.00000	924.24957	-6.6031799
950.00000	1023.7881	-7.7671684
1049.0000	1115.2044	-6.3111916

T=120.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
377.00000	383.37591	-1.6912228
657.00000	674.84944	-2.7168097
862.00000	892.78364	-3.5711879
1017.0000	1063.9611	-4.6176106
1149.0000	1210.9131	-5.3884334
1298.0000	1354.9212	-4.3853004

T=150.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
402.00000	408.25038	-1.5548208
716.00000	732.43132	-2.2948770
960.00000	986.57795	-2.7685364
1160.0000	1200.7108	-3.5095517
1342.0000	1396.8491	-4.0871162
1547.0000	1596.9446	-3.2284809

T=180.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
428.00000	433.63806	-1.3173037
774.00000	788.40423	-1.8610116
1055.0000	1078.2825	-2.2068720
1301.0000	1335.1800	-2.6272098
1534.0000	1581.8614	-3.1200391
1794.0000	1839.4949	-2.5359476

T=210.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
453.00000	458.07755	-1.1208719
831.00000	843.41014	-1.4933983
1148.0000	1168.5485	-1.7899390
1439.0000	1470.5570	-2.1929812
1724.0000	1767.6672	-2.5329002
2039.0000	2082.0840	-2.1129965

T=240.0

PRESSURE (LITERATURE)	PRESSURE (CALCULATED)	PER-CENT DEVIATION
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(PSI.)	(PSI.)	
479.00000	483.34044	-.90614613
886.00000	896.39241	-1.1729582
1240.0000	1258.1019	-1.4598306
1575.0000	1604.3726	-1.8649269
1909.0000	1952.4203	-2.2745049
2282.0000	2324.9207	-1.8808369

T=270.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
503.00000	507.56925	-.90839960
941.00000	949.01955	-.85223698
1330.0000	1346.4850	-1.2394736
1708.0000	1737.5058	-1.7275058
2091.0000	2135.5537	-2.1307364
2524.0000	2569.0553	-1.7850752

T=300.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
527.00000	531.21288	-.79940796
993.00000	1000.1414	-.71917421
1419.0000	1434.9766	-1.1259055
1841.0000	1870.1236	-1.5819445
2274.0000	2319.4285	-1.9977352
2764.0000	2811.9949	-1.7364290

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ETHANE-HYDROGEN

(20.10%-79.90%)

GUNN-CHUEH-PRAUSNITZ

METHOD

T=70.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
214.00000	215.22485	-.57235981
620.00000	626.46252	-1.0423412
1037.0000	1049.8811	-1.2421504
1459.0000	1485.2674	-1.8003701
1892.0000	1939.0269	-2.4855655
2347.0000	2420.0930	-3.1143161

T=90.

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
222.00000	223.21128	-.54562162
644.00000	650.28236	-.97552173
1079.0000	1090.7318	-1.0872845
1521.0000	1546.2785	-1.6619658
1974.0000	2020.5717	-2.3592553
2451.0000	2524.8650	-3.0136678

T=120.

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
235.00000	236.18170	-.50285106
681.00000	686.83144	-.85630543
1142.0000	1154.2148	-1.0695971
1613.0000	1637.7016	-1.5314073
2098.0000	2143.7307	-2.1797283
2606.0000	2682.4407	-2.9332578

T=150.

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
246.00000	247.17669	-.47832926
717.00000	722.88204	-.82036820
1205.0000	1216.8799	-.98588381
1703.0000	1728.6782	-1.5078214
2219.0000	2266.4853	-2.1399414
2760.0000	2839.9607	-2.8971268

T=180.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
259.00000	260.03256	-.39867181
753.00000	758.50306	-.73081806
1269.0000	1280.2645	-.88766745
1794.0000	1819.3346	-1.4121850
2341.0000	2388.3389	-2.0221657
2916.0000	2996.1456	-2.7484773

T=210.0

PRESSURE (LITERATURE)	PRESSURE (CALCULATED)	PER-CENT DEVIATION
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(PSI.)	(PSI.)	
271.00000	271.95130	-.35103321
790.00000	795.33469	-.67527721
1332.0000	1341.9015	-.74335585
1885.0000	1910.5155	-1.3536074
2460.0000	2509.4907	-2.0118170
3071.0000	3152.0502	-2.6392119

T=240.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
283.00000	283.84229	-.29762897
825.00000	830.34918	-.64838545
1393.0000	1403.5727	-.75898779
1974.0000	2000.6761	-1.3513728
2579.0000	2630.9040	-2.0125630
3220.0000	3307.1972	-2.7079875

T=270.

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
295.00000	295.70575	-.23923728
863.00000	867.69444	-.54396755
1453.0000	1464.5902	-.79767377
2063.0000	2090.5367	-1.3347891
2697.0000	2751.0894	-2.0055394
3368.0000	3462.3793	-2.8022357

T=300.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
307.00000	307.41871	-.13638762
897.00000	901.63875	-.51714046
1514.0000	1526.3851	-.81803830
2154.0000	2179.8756	-1.2012813
2815.0000	2871.3285	-2.0010124
3514.0000	3616.3891	-2.9137478

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ETHANE-HYDROGEN

(50.17%-49.83%)

GUNN-CHUEH-PRAUSNITZ

METHOD

T=70.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
512.00000	518.81657	-1.3313613
857.00000	881.48947	-2.8575810
1181.0000	1228.2270	-3.9988992
1495.0000	1569.3770	-4.9750501
1815.0000	1918.1893	-5.6853608
2153.0000	2281.4669	-5.9668787

T=90.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
534.00000	540.05871	-1.1345898
900.00000	922.61361	-2.5126233
1247.0000	1291.4594	-3.5653087
1586.0000	1656.6189	-4.4526418
1926.0000	2030.5078	-5.4261578
2302.0000	2428.3693	-5.4895438

T=120.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
568.00000	572.68968	-.82564788
964.00000	984.39116	-2.1152655
1344.0000	1384.5706	-3.0186458
1720.0000	1786.8108	-3.8843488
2108.0000	2204.8104	-4.5925237
2520.0000	2646.8756	-5.0347460

T=150.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
603.00000	605.75142	-.45628855
1027.0000	1045.7165	-1.8224440
1440.0000	1477.5636	-2.6085833
1852.0000	1916.0184	-3.4567170
2280.0000	2375.1035	-4.1712061
2739.0000	2864.5200	-4.5826944

T=180.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
635.00000	637.53712	-.39954645
1090.0000	1105.9111	-1.4597339
1535.0000	1570.3535	-2.3031596
1983.0000	2043.9242	-3.0723247
2451.0000	2542.9251	-3.7505140
2956.0000	3080.7731	-4.2210115

T=210.0

PRESSURE (LITERATURE)	PRESSURE (CALCULATED)	PER-CENT DEVIATION
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(PSI.)	(PSI.)	
669.00000	670.19722	-.17895665
1152.0000	1165.7365	-1.1924045
1628.0000	1661.6452	-2.0666584
2111.0000	2171.7346	-2.8770535
2620.0000	2713.9213	-3.5847824
3168.0000	3296.1035	-4.0436710

T=240.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
701.00000	702.17360	-.16741797
1214.0000	1226.5124	-1.0306754
1722.0000	1752.7942	-1.7882810
2238.0000	2298.2160	-2.6906166
2786.0000	2881.9825	-3.4451722
3379.0000	3511.2744	-3.9146019

T=270.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
734.00000	734.68002	-9.2645776E-02
1274.0000	1285.3462	-.89059654
1814.0000	1843.3918	-1.6202756
2365.0000	2424.7058	-2.5245581
2952.0000	3048.9766	-3.2851151
3586.0000	3722.5945	-3.8091048

T=300.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
766.00000	766.02287	-2.9856396E-03
1335.0000	1345.0206	-.75060674
1905.0000	1933.5650	-1.4994750
2492.0000	2550.0459	-2.3292897
3117.0000	3215.7569	-3.1683317
3793.0000	3937.0457	-3.7976720

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ETHANE-HYDROGEN

(79.97%→20.03%)

GUNN-CHUEH-PRAUSNITZ

METHOD

T=90.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
387.00000	396.41275	-2.4322351
669.00000	694.72803	-3.8457443
888.00000	933.92736	-5.1720000
1067.0000	1126.8374	-5.6080037
1228.0000	1311.8097	-6.8248941
1395.0000	1481.7121	-6.2159211

T=120.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
415.00000	423.73229	-2.1041662
730.00000	753.93032	-3.2781260
989.00000	1029.4826	-4.0932861
1212.0000	1271.1812	-4.8829372
1422.0000	1496.9737	-5.2724120
1637.0000	1725.9727	-5.4351069

T=150.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
442.00000	450.48849	-1.9204728
790.00000	811.90998	-2.7734151
1087.0000	1124.0484	-3.4083164
1353.0000	1407.8714	-4.0555358
1608.0000	1680.1832	-4.4890049
1878.0000	1965.0821	-4.6369595

T=180.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
5.0000000		
469.00000	476.67194	-1.6358081
849.00000	870.03857	-2.4780412
1184.0000	1216.6890	-2.7608952
1492.0000	1541.8267	-3.3395911
1795.0000	1863.4692	-3.8144401
2118.0000	2202.4382	-3.9866949

T=210.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
496.00000	503.15347	-1.4422318
907.00000	925.24709	-2.0118070
1278.0000	1307.8188	-2.3332394
1628.0000	1675.7767	-2.9346867
1979.0000	2045.0875	-3.3394391
2355.0000	2440.4421	-3.6281146

T=240.0

PRESSURE	PRESSURE	PER-CENT

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(LITERATURE) (PSI.)	(CALCULATED) (PSI.)	DEVIATION
522.00000	529.10069	-1.3602854
964.00000	982.28784	-1.8970788
1371.0000	1398.7958	-2.0274106
1761.0000	1808.1294	-2.6762862
2160.0000	2225.8261	-3.0475046
2589.0000	2677.8360	-3.4312862

T=270.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
548.00000	554.71251	-1.2249105
1020.0000	1036.3905	-1.6069117
1462.0000	1486.7844	-1.6952393
1894.0000	1939.9985	-2.4286430
2339.0000	2406.3080	-2.8776400
2822.0000	2915.5259	-3.3141708

T=300.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
575.00000	581.04893	-1.0519878
1076.0000	1089.4377	-1.2488568
1552.0000	1577.2095	-1.6243234
2026.0000	2071.6723	-2.2543089
2516.0000	2586.7402	-2.8116136
3055.0000	3152.7862	-3.2008576

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ETHANE-HYDROGEN

(89.96%-10.04%)

GUNN-CHUEH-PRAUSNITZ

METHOD

T=90.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
350.00000	357.19599	-2.0559971
596.00000	617.97281	-3.6867130
758.00000	799.37290	-5.4581662
867.00000	929.29976	-7.1856701
950.00000	1031.3341	-8.5614842
1049.0000	1125.7289	-7.3144804

T=120.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
377.00000	383.70416	-1.7782917
657.00000	676.12632	-2.9111598
862.00000	895.54489	-3.8915185
1017.0000	1068.6964	-5.0832251
1149.0000	1218.0873	-6.0128198
1298.0000	1365.0616	-5.1665331

T=150.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
402.00000	408.55035	-1.6294402
716.00000	733.61241	-2.4598337
960.00000	989.14794	-3.0362437
1160.0000	1205.1716	-3.8941034
1342.0000	1403.7105	-4.5983979
1547.0000	1606.7902	-3.8649127

T=180.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
428.00000	433.91543	-1.3821098
774.00000	789.50187	-2.0028255
1055.0000	1080.6883	-2.4349099
1301.0000	1339.4034	-2.9518370
1534.0000	1588.4521	-3.5496805
1794.0000	1849.0712	-3.0697435

T=210.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
453.00000	458.33480	-1.1776600
831.00000	844.43627	-1.6168796
1148.0000	1170.8142	-1.9872996
1439.0000	1474.5931	-2.4734607
1724.0000	1774.0338	-2.9021925
2039.0000	2091.4103	-2.5703923

T=240.0

PRESSURE (LITERATURE)	PRESSURE (CALCULATED)	PER-CENT DEVIATION
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(PSI.)	(PSI.)	
479.00000	483.58162	-.95649686
886.00000	897.35380	-1.2814672
1240.0000	1260.2483	-1.6329274
1575.0000	1608.2410	-2.1105396
1909.0000	1958.5820	-2.5972760
2282.0000	2334.0169	-2.2794434

T=270.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
503.00000	507.79559	-.95339761
941.00000	949.92550	-.94851222
1330.0000	1348.5267	-1.3929849
1708.0000	1741.2266	-1.9453512
2091.0000	2141.5238	-2.4162505
2524.0000	2577.9470	-2.1373613

T=300.0

PRESSURE (LITERATURE) (PSI.)	PRESSURE (CALCULATED) (PSI.)	PER-CENT DEVIATION
527.00000	531.42603	-.83985388
993.00000	1000.9972	-.80535750
1419.0000	1436.9294	-1.2635236
1841.0000	1873.7141	-1.7769744
2274.0000	2325.2327	-2.2529771
2764.0000	2820.6876	-2.0509261

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APPENDIX D

SAMPLE CALCULATIONS

HYDROGEN

(GENERALIZED METHOD)

GIVEN:

$$T=100^{\circ}\text{K}$$

$$P=1 \text{ atm.}$$

$$V=4069.64 \text{ cc./gm.}$$

$$T_1 c = \frac{43.6}{1 + \frac{21.8}{2.02 \times 100}} = 39.3^{\circ}\text{K}$$

$$P_1 c = \frac{20.2}{1 + \frac{44.2}{2.02 \times 100}} = 16.6 \text{ atm.}$$

$$T_c = 1.8 \times 39.3 = 70.8^{\circ}\text{R}$$

$$P_c = 14.7 \times 16.6 = 243.0 \text{ psi.}$$

$$d_o = 1 / (4069.64 \times 0.016) = 0.0152 \text{ gm./cc.}$$

$$d = 0.0152 / 2.02 = 0.00745 \text{ gm. mole/cc.}$$

$$\theta = \frac{100 \times 1.8}{70.8} = 2.55$$

$$\rho = \frac{0.00745 \times 10.73 \times 70.8}{243.0} = 0.0232$$

$$ST = 2.55 \times 0.0232 = 0.0592$$

$$Q = (0.114 \times 2.55 - 0.343 - 0.098 / (2.55)^2) \times (0.0232)^2 = 0.42 \times 10^{-4}$$

$$W = (0.0275 \times 2.55 - 0.0232) \times (0.0232)^3 = 0.745 \times 10^{-6}$$

$$V = 0.0000875 \times (0.0232)^6 = 2.2 \times 10^{-14}$$

$$Z = \frac{0.035 \times (0.0232)^6 \times (1 + 0.052 \times (0.0232)^2) \times \exp(-0.052 \times (0.0232)^2)}{(2.55)^2} \\ = 0.675 \times 10^{-7}$$

$$P_1 = 0.0592 + 0.42 \times 10^{-4} + 0.745 \times 10^{-6} + 2.2 \times 10^{-14} + 0.675 \times 10^{-7} \\ = 0.0592$$

$$P_z = 243.0 \times 0.0592 = 14.5 \text{ psi.}$$

$$P_x = 14.5 / 14.7 = 0.987 \text{ atm.}$$

(with the use of the computer, $P_x = 0.999$)

ETHANE-HYDROGEN

PRAUSNITZ-GUNN METHOD

(PROPOSED METHOD)

GIVEN:

$$T = 70^{\circ}\text{F} \quad H_2 = 0.799$$

$$P = 214 \text{ psi.} \quad C_2H_6 = 0.201$$

$$Z = 0.9955$$

$$T_c = \frac{70 \times 459.6}{1.8} = 284^{\circ}\text{K}$$

$$T_{1c} = \frac{43.6}{1 + \frac{21.8}{2.02 \times 284}} = 42.0^{\circ}\text{K}$$

$$P_{1c} = \frac{20.2}{1 + \frac{44.2}{2.02 \times 284}} = 18.8 \text{ atm.}$$

$$V_{1c} = \frac{51.5}{1 - \frac{9.91}{2.02 \times 284}} = 52.4 \text{ cc./gm. mole}$$

$$\omega_m = 0.201 \times 0.1062 + 0.799 \times 0 = 0.0215$$

$$A_{1o} = 0.343 - 0.128 \times 0.0215 - 0.509 \times (0.0215)^2 = 0.340$$

$$B_{1o} = 0.114 + 0.127 \times 0.0215 - 0.243 \times (0.0215)^2 = 0.117$$

$$A_{11} = 0.0235 + 0.290 \times 0.0215 - 0.295 \times (0.0215)^2 = 0.0297$$

$$B_{11} = 0.0275 + 0.131 \times 0.0215 - 0.135 \times (0.0215)^2 = 0.0303$$

$$C_{1o} = 0.098 + 0.401 \times 0.0215 - 0.0397 \times (0.0215)^2 = 0.107$$

$$C_{11} = 0.0357 + 0.185 \times 0.0215 - 0.230 \times (0.0215)^2 = 0.0396$$

$$A_1 \alpha' = 0.0000875$$

$$\gamma' = 0.052 - 0.090 \times 0.0215 + 0.105 \times (0.0215)^2 = 0.0501$$

$$T_{cm} = 0.201 \times 305.4 + 0.799 \times 42.0 = 94.68^\circ \text{K}$$

$$V_{cm} = 0.201 \times 148.0 + 0.799 \times 52.4 = 71.52 \text{ cc./gm. mole}$$

$$Z_c = 0.291$$

$$Z_{cm} = 0.201 \times 0.285 + 0.799 \times 0.291 = 0.289$$

$$P_{cm} = \frac{82.06 \times 94.68 \times 0.289}{71.52} = 31.4 \text{ atm.}$$

$$P_t = 214 / 14.69 = 14.5 \text{ atm.}$$

$$d = \frac{14.5}{0.9955 \times 82.06 \times 284} = 6.28 \times 10^{-4} \text{ cc./gm. mole}$$

$$\theta = \frac{284}{94.68} = 3.01$$

$$\rho = \frac{6.28 \times 10^{-4} \times 82.06 \times 94.68}{31.4} = 0.155$$

$$ST = 3.01 \times 0.155 = 0.466$$

$$Q = \frac{(0.117 \times 3.01 - 0.340 - 0.107) \times (0.155)^2}{(3.01)^2} = 5.25 \times 10^{-4}$$

$$W = (0.0303 \times 3.01 - 0.0297) \times (0.155)^3 = 2.27 \times 10^{-4}$$

$$V = (0.0000875) \times (0.155)^6 = 1.18 \times 10^{-9}$$

$$Z = \frac{(0.0396 \times (0.155)^3) \times (1 + 0.0501 \times (0.155)^2) \times \exp(-0.0501 \times (0.155)^2)}{(3.01)^2}$$

$$Z=1.63 \times 10^{-5}$$

$$P_1 = 0.466 + 5.25 \times 10^{-4} + 2.27 \times 10^{-4} + 1.18 \times 10^{-9} + 1.63 \times 10^{-5} \\ = 0.466$$

$$P_z = 31.4 \times 0.466 = 14.6 \text{ atm.}$$

$$P_x = 14.6 \times 14.69 = 215.0 \text{ psi.}$$

(with the used of the computer, $P_x = 215.17$ psi.)

NOTATION

- $A_0, B_0, C_0, a, b, c, \alpha, \gamma$ - Constants of the original B-W-R equation
- $A'_0, B'_0, C'_0, a', b', c', \alpha', \gamma'$ - Constants of the generalized B-W-R equation
- P - Pressure
- T - Temperature
- d - Density
- R - Gas constant
- Π - Reduced pressure
- ρ - Reduced density
- θ - Reduced temperature
- ω - Acentric factor
- T_c - Critical temperature
- T_c^0 - Classical critical temperature
- P_c - Critical pressure
- P_c^0 - Classical critical pressure
- V_c - Critical volume
- V_c^0 - Classical critical volume
- c_1, c_2, c_3 - Constants given by Equations(11), (12), (13)
- m - Molecular weight
- T_{cM} - Pseudo-critical temperature of the mixture
- P_{cM} - Pseudo-critical pressure of the mixture
- y - Mole fraction
- V_{cM} - Pseudo-critical volume of the mixture
- Z - Compressibility factor

SUBSCRIPTS

c-critical

i-component i

M-mixture

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