



A11103 066403

NIST
PUBLICATIONS

NAT'L INST OF STANDARDS & TECH R.I.C.



A11103066403

Friend, Daniel G./Tables for the thermoph
QC100 .U5753 NO.1325 1989 V198 C.1 NIST-

TECHNICAL NOTE 1325

U.S. DEPARTMENT OF COMMERCE / National Institute of Standards and Technology

Tables for the Thermophysical Properties of Methane

Daniel G. Friend
James F. Ely
Hepburn Ingham

QC

100

.U5753

E1325

1989

C.2



The National Institute of Standards and Technology¹ was established by an act of Congress on March 3, 1901. The Institute's overall goal is to strengthen and advance the Nation's science and technology and facilitate their effective application for public benefit. To this end, the Institute conducts research to assure international competitiveness and leadership of U.S. industry, science and technology. NIST work involves development and transfer of measurements, standards and related science and technology, in support of continually improving U.S. productivity, product quality and reliability, innovation and underlying science and engineering. The Institute's technical work is performed by the National Measurement Laboratory, the National Engineering Laboratory, the National Computer Systems Laboratory, and the Institute for Materials Science and Engineering.

The National Measurement Laboratory

Provides the national system of physical and chemical measurement; coordinates the system with measurement systems of other nations and furnishes essential services leading to accurate and uniform physical and chemical measurement throughout the Nation's scientific community, industry, and commerce; provides advisory and research services to other Government agencies; conducts physical and chemical research; develops, produces, and distributes Standard Reference Materials; provides calibration services; and manages the National Standard Reference Data System. The Laboratory consists of the following centers:

- Basic Standards²
- Radiation Research
- Chemical Physics
- Analytical Chemistry

The National Engineering Laboratory

Provides technology and technical services to the public and private sectors to address national needs and to solve national problems; conducts research in engineering and applied science in support of these efforts; builds and maintains competence in the necessary disciplines required to carry out this research and technical service; develops engineering data and measurement capabilities; provides engineering measurement traceability services; develops test methods and proposes engineering standards and code changes; develops and proposes new engineering practices; and develops and improves mechanisms to transfer results of its research to the ultimate user. The Laboratory consists of the following centers:

- Computing and Applied Mathematics
- Electronics and Electrical Engineering²
- Manufacturing Engineering
- Building Technology
- Fire Research
- Chemical Engineering³

The National Computer Systems Laboratory

Conducts research and provides scientific and technical services to aid Federal agencies in the selection, acquisition, application, and use of computer technology to improve effectiveness and economy in Government operations in accordance with Public Law 89-306 (40 U.S.C. 759), relevant Executive Orders, and other directives; carries out this mission by managing the Federal Information Processing Standards Program, developing Federal ADP standards guidelines, and managing Federal participation in ADP voluntary standardization activities; provides scientific and technological advisory services and assistance to Federal agencies; and provides the technical foundation for computer-related policies of the Federal Government. The Laboratory consists of the following divisions:

- Information Systems Engineering
- Systems and Software Technology
- Computer Security
- Systems and Network Architecture
- Advanced Systems

The Institute for Materials Science and Engineering

Conducts research and provides measurements, data, standards, reference materials, quantitative understanding and other technical information fundamental to the processing, structure, properties and performance of materials; addresses the scientific basis for new advanced materials technologies; plans research around cross-cutting scientific themes such as nondestructive evaluation and phase diagram development; oversees Institute-wide technical programs in nuclear reactor radiation research and nondestructive evaluation; and broadly disseminates generic technical information resulting from its programs. The Institute consists of the following divisions:

- Ceramics
- Fracture and Deformation³
- Polymers
- Metallurgy
- Reactor Radiation

¹Headquarters and Laboratories at Gaithersburg, MD, unless otherwise noted; mailing address Gaithersburg, MD 20899.

²Some divisions within the center are located at Boulder, CO 80303.

³Located at Boulder, CO, with some elements at Gaithersburg, MD.

Tables for the Thermophysical Properties of Methane

Daniel G. Friend
James F. Ely
Hepburn Ingham

Thermophysics Division
Center for Chemical Engineering
National Engineering Laboratory
National Institute of Standards and Technology
Boulder, Colorado 80303-3328



U.S. DEPARTMENT OF COMMERCE, Robert A. Mosbacher, Secretary
NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, Raymond G. Kammer, Acting Director

Issued April 1989

National Institute of Standards and Technology Technical Note 1325
Natl. Inst. Stand. Technol., Tech. Note 1325, 490 pages (Apr. 1989)
CODEN:NTNOEF

U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON: 1989

CONTENTS

ABSTRACT.....	ix
1.INTRODUCTION.....	1
2.THERMODYNAMIC PROPERTIES AND THEIR ALGEBRAIC REPRESENTATION	2
2.1 Fixed Point Constants.....	2
2.2 Liquid-Vapor Saturation Boundary.....	4
2.3 Ideal Gas Equation.....	5
2.4 Residual Helmholtz Energy.....	6
2.5 Derived Property Equations.....	8
3.TRANSPORT PROPERTIES AND THEIR ALGEBRAIC REPRESENTATION.....	12
3.1 Dilute Gas Correlations.....	12
3.2 Excess Property Correlations.....	14
3.3 Critical Enhancement Correlation.....	15
4.SUMMARY OF UNCERTAINTIES ASSOCIATED WITH THE CORRELATIONS.....	18
4.1 Two-Phase Boundary.....	18
4.2 Thermodynamic Properties.....	19
4.3 Transport Properties.....	22
5. ACKNOWLEDGMENTS.....	24
6. REFERENCES.....	25
 APPENDIX A: TABLES FOR THE COMPARISON OF EXPERIMENTAL DATA AND THE CORRELATIONS.....	 31
 APPENDIX B: TABLES FOR THE THERMOPHYSICAL PROPERTIES OF METHANE.....	 287
 APPENDIX C: LISTING OF A FORTRAN 77 PROGRAM TO CALCULATE THE THERMOPHYSICAL PROPERTIES OF METHANE.....	 443

LIST OF TABLES

1.	FIXED POINT CONSTANTS AND OTHER PARAMETERS USED IN THE CORRELATIONS	3
2.	COEFFICIENTS FOR LIQUID-VAPOR BOUNDARY CORRELATIONS.....	5
3.	COEFFICIENTS FOR IDEAL GAS FREE ENERGY, EQ (5).....	6
4.	EXPONENTS AND COEFFICIENTS FOR THE RESIDUAL FREE ENERGY $\phi^{\hat{r}}$ (EQ (6))	7
5.	IDEAL GAS FREE ENERGY AND ITS DERIVATIVES.....	9
6.	RESIDUAL FREE ENERGY AND ITS DERIVATIVES.....	10
7.	THERMODYNAMIC PROPERTY EQUATIONS.....	11
8.	COEFFICIENTS FOR DILUTE GAS TRANSPORT PROPERTIES.....	13
9.	COEFFICIENTS FOR EXCESS TRANSPORT PROPERTY CORRELATIONS.....	15
10.	CONSTANTS FOR λ_{cr}	17
A1.	COMPARISONS FOR SATURATED VAPOR PRESSURES.....	33
A2.	COMPARISONS FOR SATURATED LIQUID DENSITIES.....	40
A3.	COMPARISONS FOR SATURATED VAPOR DENSITIES.....	52
A4.	COMPARISONS OF EXPERIMENTAL AND CALCULATED PVT DATA.....	58
A5.	COMPARISONS FOR SECOND VIRIAL COEFFICIENTS.....	143
A6.	COMPARISONS FOR ISOCHORIC SPECIFIC HEAT CAPACITY.....	145
A7.	COMPARISONS FOR ISOBARIC SPECIFIC HEAT CAPACITY.....	156
A8.	COMPARISONS FOR SPECIFIC HEAT CAPACITY OF THE SATURATED LIQUID....	170
A9.	COMPARISONS FOR SOUND SPEED.....	173
A10.	COMPARISONS FOR COLLISION INTEGRAL.....	196
A11.	COMPARISONS FOR ZERO DENSITY VISCOSITY.....	198
A12.	COMPARISONS FOR ZERO DENSITY THERMAL CONDUCTIVITY.....	204
A13.	COMPARISONS FOR VISCOSITY AT ELEVATED PRESSURES.....	211
A14.	COMPARISONS FOR THERMAL CONDUCTIVITY AT ELEVATED PRESSURES	229
B1.	PROPERTIES OF IDEAL GAS AT 0.1 MPA AND DILUTE GAS TRANSPORT PROPERTIES.....	288
B2.	PROPERTIES ALONG SATURATION BOUNDARY.....	298
B3.	PROPERTIES IN THE SINGLE-PHASE REGION ALONG ISOBARS.....	301
B4.	PROPERTIES IN THE SINGLE-PHASE REGION ALONG ISOTHERMS.....	412

LIST OF SYMBOLS AND UNITS

Symbol	Description	SI Units (used in text)	REFERENCE
Roman			
A	Molar Helmholtz energy	$\text{J}\cdot\text{mol}^{-1}$ +	eq (4)
a,b	Exponents in scaled equation	-	eq (21), table (10)
B	Second virial coefficient	$\text{dm}^3\cdot\text{mol}^{-1}$	table (7)
C_i	Coefficients in $\Omega^{(2,2)*}$	-	eq (10), table (8)
C_P	Isobaric specific heat capacity	$\text{J}\cdot\text{mol}^{-1}\cdot\text{K}^{-1}$	table (7)
C_V	Isochoric specific heat capacity	$\text{J}\cdot\text{mol}^{-1}\cdot\text{K}^{-1}$	table (7)
E	Constant in scaled equation	-	eq (22), table (10)
F	Crossover function in λ_{cr}	-	eq (17)
F_T, F_A, F_ρ	Coefficients in F	-	eq (17), table (10)
f_{int}, f_i	Contribution from internal modes	-	eqs (11,12), table (8)
G	Molar Gibbs energy	$\text{J}\cdot\text{mol}^{-1}$	table (7)
G_i	Coefficients in $\rho_{\sigma L}$	-	eq (2), table (2)
g_i	Coefficients in η_{ex}	-	eq (13), table (9)
H	Molar enthalpy	$\text{J}\cdot\text{mol}^{-1}$	tables (1,7)
H_i	Coefficients in P_σ	-	eq (1), table (2)
J_i	Coefficients in $\rho_{\sigma V}$	-	eq (3), table (2)
j_i	Coefficients in λ_{ex}	-	eq (15), table (9)
k	Boltzmann constant	$\text{J}\cdot\text{K}^{-1}$	table (1)
M_r	Relative molecular mass	-	table (1)
N_A	Avogadro constant	mol^{-1}	table (1)
n_i	Coefficients in ϕ^r	-	eq (6), table (4)
P	Pressure	MPa	-
Q	Constant in scaled equation	-	eq (21), table (10)
Q_i	Coefficients in ϕ^{id}	-	eq (5), table (3)
R	Molar gas constant	$\text{J}\cdot\text{mol}^{-1}\cdot\text{K}^{-1}$	table (1)
R	Constant in scaled equation	-	eq (21), table (10)

LIST OF SYMBOLS AND UNITS (CONT'D)

Symbol	Description	SI Units (used in text)	REFERENCE
r_i	Exponent of δ	-	eqs (6,13,15), tables (4,9)
S	Molar entropy	$\text{J}\cdot\text{mol}^{-1}\cdot\text{K}^{-1}$	table (7)
S	Constant in scaled equation	-	eq (22), table (10)
SWEOS	Schmidt-Wagner Equation of State		
s_i	Exponent of τ	-	eqs (6,13,15), tables (4,9)
t	Reduced temperature, kT/ϵ	-	eqs (9,10)
T	Temperature, IPTS-68	K	-
T^*	Reduced temperature, $(T_c - T)/T_c$	-	eq (18)
U	Molar internal energy	$\text{J}\cdot\text{mol}^{-1}$	table (7)
u	Unified atomic mass unit	kg	table (1)
W	Constant in scaled equation	-	eq (23), table (10)
w	Speed of sound	$\text{m}\cdot\text{s}^{-1}$	table (7)
Z	Compressibility factor, $P/RT\rho$	-	eq (3)
Greek			
β	Scaling exponent in $\rho_{\sigma L}, \rho_{\sigma V}$	-	eqs (2,3), table (2)
Γ	Constant in scaled equation	-	eq (24), table (10)
δ	Reduced density, ρ/ρ_c	-	-
δ_{σ}^*	Reduced density variable	-	eq (14)
ϵ	Scaling exponent in P_{σ}	-	eq (1), table (2)
ϵ	Energy parameter potential	J	See ϵ/k , below
ϵ/k	Energy parameter potential	K	table (1)
η	Shear viscosity	$\mu\text{Pa}\cdot\text{s}$	eq (7)
θ	Variable in scaled equation	-	eqs (21,22)
λ	Thermal conductivity	$\text{mW}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$	eq (8)
ρ	Molar density	$\text{mol}\cdot\text{dm}^{-3}$	-

LIST OF SYMBOLS AND UNITS (CONT'D)

Symbol	Description	SI Units	REFERENCE
ρ^*	Reduced density, $(\rho_c - \rho)/\rho_c$	-	eq (19)
σ	Distance parameter in potential	nm	table (1)
τ	Reduced inverse temperature, T_c/T	-	-
ϕ	Reduced Helmholtz energy, A/RT	-	eq (4)
χ_T^*	Reduced compressibility	-	eqs (20,21,24)
Ω	Variable in scaled equation	-	eqs (21,23)
$\Omega^{(2,2)*}$	Reduced collision integral	-	eqs (9,10)

Superscripts

id	Ideal gas contribution	eq (4), table (1)
r	Residual contribution	eq (4)

Subscripts

c	Value at critical point	table (1)
cr	Critical contribution	eqs (8,16)
ex	Excess contribution	eqs (7,8,13,15)
t	Value at triple point	table (1)
tL,tV	Value at triple point in liquid,vapor	table (1)
σ	Value at saturation boundary	eq (1)
σ_L, σ_V	Value in saturated liquid, vapor	eqs (2,3)
δ	Partial derivative with respect to δ	tables (5,6)
τ	Partial derivative with respect to τ	tables (5,6)
0	Value at zero density	eqs (7-9,11)

⁺ Throughout this paper, the mole (mol) quantifies the amount of substance whose elementary entities are the molecular constituents (CH_4) of the methane fluid.

TABLES FOR THE THERMOPHYSICAL PROPERTIES OF METHANE

Daniel G. Friend, James F. Ely and Hepburn Ingham

Thermophysics Division

National Engineering Laboratory

National Institute of Standards and Technology

(formerly National Bureau of Standards)

Boulder, Colorado 80303

The thermophysical properties of methane are tabulated for a large range of fluid states based on recently formulated correlations. For the thermodynamic properties, temperatures from 91 to 600 K at pressures less than 100 MPa are included. For the viscosity, the corresponding range is 91 - 400 K with pressures to 55 MPa, while for the thermal conductivity the range is 91 - 600 K with pressures to 100 MPa. In addition to the tables of properties, algebraic expressions and associated tables of coefficients are given to allow additional property calculations. Tables of comparisons between experimental property determinations and the correlations are also given both for primary data used in the formulation of the correlations and for additional data. A listing of a FORTRAN program for the evaluation of methane thermophysical properties using the Schmidt-Wagner equation of state is included.

Key words: correlation; density; equation of state; heat capacity; methane; phase boundary; pressure; speed of sound; thermal conductivity; thermophysical properties; transport properties; virial coefficients; viscosity.

1. INTRODUCTION

We have recently developed correlations for several of the thermophysical properties of methane [1], including an equation of state analogous to that proposed by Schmidt and Wagner [2], equations for the liquid-vapor phase boundary, and correlations for the fluid viscosity and thermal conductivity. Details of the development and error analysis of the formulations have been presented elsewhere [1]. In this paper, we summarize our equations and present extensive tabular comparisons of the correlations with experimental data and tables of properties based on these correlations. We have also included the listing of a FORTRAN program which can be used interactively to calculate properties of methane.

The rationale for these new correlations and the present set of tables was discussed in Ref.[1]. Briefly summarized, since the extensive works of Goodwin [3], Angus et al. [4], and Sychev et al. [5], for example, there have been many new experimental measurements, including accurate phase boundary measurements [6], critical region PVT experiments [7], and extensive thermal conductivity [8] and viscosity measurements [9]. In addition, the form of the residual Helmholtz energy correlation, first proposed by Schmidt and Wagner [2], gives an excellent description of the thermodynamic surface and describes the critical region extremely well for a classical equation of state. The new ancillary equations for the phase boundary incorporate the results of lowest order scaling theory, and both viscosity and thermal conductivity correlations improve the description of the fluid properties when compared to previous correlations. The economic importance of methane, as the major constituent of natural gas, makes the use of improved thermophysical properties correlations especially desirable. Also, the present correlations should prove useful as reference equations for corresponding states models for mixtures and other pure fluids.

The next two sections give, for thermodynamic and transport properties, the algebraic forms for the fluid property correlations with very brief narrative. The List of Symbols and Units given above is a

useful adjunct to the equations, and tables of necessary coefficients and constants are interspersed throughout the text. Extensive discussion of the development of the equations and evaluation of fitted coefficients was given in Ref.[1]. Tables which follow, in Appendix A, give the comparisons between the correlations and experimental data; these include both primary data, used in the determination of the coefficients in the equation, and secondary data, not explicitly used for any of a number of reasons as discussed in Ref.[1]. The next set of tables, in Appendix B, gives values of the thermophysical properties for convenient values of the temperature, density, or pressure. Finally, this report concludes with a listing in Appendix C, of a FORTRAN 77 program which allows interactive evaluation of many thermophysical properties for any state point within the range of the correlations.

2. THERMODYNAMIC PROPERTIES AND THEIR ALGEBRAIC REPRESENTATION

2.1 Fixed Point Constants

Values for the critical and triple-point constants, intermolecular potential parameters (for transport properties using the 11-6-8, $\gamma = 3$ potential), reference values for ideal gas properties, and miscellaneous constants are given in table 1. Details of the selection process and quoted uncertainties are given in Ref.[1]. The values of the critical constants, including all the quoted digits and disregarding the associated uncertainties, are needed for evaluating the correlating equations below. The fundamental constants in table 1 agree with the values most recently recommended by CODATA [10].

TABLE 1

FIXED POINT CONSTANTS AND OTHER PARAMETERS USED IN THE CORRELATIONS

Triple Point:	$T_t = 90.6854 \pm 0.0003 \text{ K}$ $P_t = 11.696 \pm 0.002 \text{ kPa}$ $\rho_{tL} = 28.145 \pm 0.005 \text{ mol} \cdot \text{dm}^{-3}$ $\rho_{tv} = 15.66 \pm 0.05 \text{ mol} \cdot \text{m}^{-3}$
Critical Point:	$T_c = 190.551 \pm 0.01 \text{ K}$ $P_c = 4.5992 \pm 0.003 \text{ MPa}$ $\rho_c = 10.139 \pm 0.01 \text{ mol} \cdot \text{dm}^{-3}$ $Z_c = 0.28631 \pm 0.0005$
Intermolecular Potential Parameters:	$\epsilon/k = 174 \text{ K}$ $\sigma = 0.36652 \text{ nm}$
Ideal Gas Reference Point Values:	(at 298.15 K and 0.101 325 MPa) $S^{\text{id}} = 186.266 \text{ J} \cdot \text{K}^{-1} \cdot \text{mol}^{-1}$ $H^{\text{id}} = 10.0177 \text{ kJ} \cdot \text{mol}^{-1}$
Miscellaneous:	Relative molecular mass... $M_r = 16.043$ Universal gas constant... $R = 8.314 \ 510 \text{ J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$ Boltzmann constant... $k = 1.380 \ 658 \times 10^{-23} \text{ J} \cdot \text{K}^{-1}$ Avogadro constant... $N_A = 6.022 \ 136 \ 7 \times 10^{23} \text{ mol}^{-1}$ Unified atomic mass unit... $u = 1.660 \ 540 \ 2 \times 10^{-27} \text{ kg}$

2.2 Liquid-Vapor Saturation Boundary

The three equations for the pressure, liquid density, and vapor density along the two-phase boundary are described in this section. Although the full equation of state can be used with the Maxwell construction method to evaluate these quantities, these equations include theoretically inspired scaling terms and are more accurate in the critical region. The measurements of Kleinrahm and Wagner [6] were the primary data used to establish these correlations.

For the saturated vapor pressure P_σ , the equation

$$P_\sigma(T) = P_c \text{ EXP } [H_1 T^*/(1-T^*) + H_2 T^* + H_3 T^{*\epsilon} + H_4 T^{*2} + H_5 T^{*3}], \quad (1)$$

where $T^* = (T_c - T)/T_c$, is used. The necessary constants and critical exponent are given in table 2.

The densities of the saturated liquid $\rho_{\sigma L}$ and saturated vapor $\rho_{\sigma V}$ are given by

$$\rho_{\sigma L}(T) = \rho_c \left[1 + \frac{G_1 T^{*\beta} + G_2 T^{*2} + G_3 T^{*3}}{1 + G_4 T^{*(1-\beta)}} \right] \quad (2)$$

and

$$\rho_{\sigma V}(T) = \frac{P_\sigma(T)}{R T} \left\{ 1 + P_\sigma(T) \tau^8 \frac{Z_c^{-1}}{P_c} \left[1 + \frac{J_0 T^{*\beta} + J_1 T^{*2\beta} + J_2 (T^* + T^{*4}) + J_3 T^{*2}}{1 + J_4 T^*} \right] \right\}^{-1} \quad (3)$$

respectively. In eq (3), $Z_c = P_c/(RT_c \rho_c)$ is the critical compressibility factor given in table 1, $\tau = T_c/T$, and $P_\sigma(T)$ must be evaluated from eq (1). The constants are again found in table 2. Tables A1, A2, and A3 in Appendix A give comparisons between experimental phase boundary measurements and the quantities calculated by eqs (1-3).

TABLE 2

COEFFICIENTS FOR LIQUID-VAPOR BOUNDARY CORRELATIONS

Saturated Vapor Pressure eq (1)	Saturated Liquid Density eq (2)	Saturated Vapor Density eq (3)
$\epsilon = 1.90$	$\beta = 0.355$	$\beta = 0.355$
$H_1 = -6.589\ 879$	$G_1 = 1.838\ 982$	$J_0 = -0.737\ 748\ 3$
$H_2 = 0.635\ 517\ 5$	$G_2 = -0.772\ 745\ 2$	$J_1 = -1.241\ 532$
$H_3 = 11.310\ 28$	$G_3 = 0.559\ 244\ 6$	$J_2 = -1.649\ 972$
$H_4 = -10.387\ 20$	$G_4 = -0.380\ 779\ 3$	$J_3 = 2.281\ 949$
$H_5 = 3.393\ 075$		$J_4 = 1.439\ 570$

2.3 Ideal Gas Equation

The thermodynamic surface is described by an equation for the molar Helmholtz energy, A . Thus, the important derived properties can be obtained by simple, analytical differentiation. The Helmholtz energy is divided into ideal gas and residual constituents according to

$$A(\rho, T) = A^{\text{id}} + A^{\text{r}} = RT\phi = RT(\phi^{\text{id}} + \phi^{\text{r}}). \quad (4)$$

All the derived thermodynamic properties can similarly be divided into ideal and residual contributions as discussed below.

Our ideal gas correlation is based on Goodwin's fit [11] of the spectroscopically derived data of McDowell and Kruse [12]. With the definitions $\delta = \rho/\rho_c$ and $\tau = T_c/T$, the dimensionless ideal gas contribution to the Helmholtz energy is written as

$$\begin{aligned} \phi^{\text{id}}(\delta, \tau) &= A^{\text{id}} / RT \\ &= Q_1 + \ln \delta + Q_2 \ln \tau + Q_3 \tau^{-1/3} + \\ &\quad Q_4 \tau^{-2/3} + Q_5 \tau^{-1} + Q_6 \ln(1 - e^{Q_7 \tau}) \end{aligned} \quad (5)$$

with the coefficients Q_i given in table 3. Equation (5) must be evaluated at the experimental density and temperature, although for many thermodynamic properties, there is no density (or pressure) dependence in the required derivatives, as discussed below. The constants in table 3 incorporate integration constants necessary to give the standard values of the entropy and enthalpy reported in table 1. Reference [11] gives a table of comparisons between the spectroscopic data and the correlations; these comparisons are not repeated in this paper.

TABLE 3
COEFFICIENTS FOR IDEAL GAS FREE ENERGY, eq (5)

$Q_0 = -15.479\ 844$	$Q_4 = 1.690\ 097\ 9$
$Q_1 = -10.413\ 865$	$Q_5 = -0.391\ 154\ 1$
$Q_2 = 2.599\ 832\ 4$	$Q_6 = 4.720\ 671\ 5$
$Q_3 = -3.385\ 408\ 3$	$Q_7 = -10.543\ 907$

2.4 Residual Helmholtz Energy

The residual term in eq (5) for the Helmholtz energy was correlated by a 32-term function introduced by Schmidt and Wagner [2]. The resulting equation of state has been called the SWEOS and the coefficients for methane were obtained by multiproperty least-squares fitting as described in Ref.[1]. Explicitly, we write

$$\phi^r = \sum_{i=1}^{13} n_i \delta^{r_i} \tau^{s_i} + e^{-\delta^2} \sum_{i=14}^{24} n_i \delta^{r_i} \tau^{s_i} + e^{-\delta^4} \sum_{i=25}^{32} n_i \delta^{r_i} \tau^{s_i} \quad (6)$$

with $\delta = \rho/\rho_c$ and $\tau = T_c/T$ as before. The coefficients n_i and the exponents r_i and s_i are given in table 4.

TABLE 4

EXPONENTS AND COEFFICIENTS FOR THE RESIDUAL FREE ENERGY ϕ^r (eq (6))

	i	r_i	s_i	n_i
$\delta^{r_i} \tau^{s_i}$	1	1	0	0.384 436 099 66
	2	1	1.5	-0.179 692 598 80 x 10
	3	1	2.5	0.329 444 947 37
	4	2	-0.5	0.226 312 728 44 x 10 ⁻¹
	5	2	1.5	0.759 236 768 80 x 10 ⁻¹
	6	2	2	0.693 758 447 26 x 10 ⁻¹
	7	3	0	0.241 163 263 95 x 10 ⁻¹
	8	3	1	0.107 009 920 85 x 10 ⁻¹
	9	3	2.5	-0.380 933 275 16 x 10 ⁻¹
	10	6	0	0.471 537 561 14 x 10 ⁻³
	11	7	2	0.556 607 678 81 x 10 ⁻³
	12	7	5	0.548 759 346 53 x 10 ⁻⁶
	13	8	2	-0.999 632 699 97 x 10 ⁻⁴
$e^{-\delta^2} \delta^{r_i} \tau^{s_i}$	14	1	5	-0.128 087 979 28
	15	1	6	0.380 198 873 38 x 10 ⁻¹
	16	2	3.5	0.139 226 650 55
	17	2	5.5	-0.874 996 348 86 x 10 ⁻¹
	18	3	3	-0.334 894 165 76 x 10 ⁻²
	19	3	7	-0.517 576 297 12 x 10 ⁻¹
	20	5	6	0.252 835 179 12 x 10 ⁻¹
	21	6	8.5	0.518 703 205 95 x 10 ⁻³
	22	7	4	-0.166 770 594 52 x 10 ⁻²
	23	8	6.5	-0.607 401 927 39 x 10 ⁻³
	24	10	5.5	-0.972 915 359 99 x 10 ⁻⁴
$e^{-\delta^4} \delta^{r_i} \tau^{s_i}$	25	2	22	-0.298 844 010 46 x 10 ⁻⁴
	26	3	11	-0.130 940 111 24 x 10 ⁻¹
	27	3	18	0.198 175 833 80 x 10 ⁻¹
	28	4	11	0.208 465 762 33 x 10 ⁻¹
	29	4	23	-0.358 025 052 63 x 10 ⁻¹
	30	5	17	-0.203 486 851 74
	31	5	18	0.215 964 755 09
	32	5	23	-0.429 340 628 25 x 10 ⁻²

2.5 Derived Property Equations

One can evaluate many of the thermodynamic properties of methane by taking the appropriate derivatives of the Helmholtz energy as given in eqs (4-6). In tables 5 and 6 we have collected the coefficients necessary to calculate the six lowest order derivatives for the ideal gas and residual contributions to the free energy. In our notation, the first isothermal (reduced) density derivative of the (reduced) residual free energy is denoted

$$\phi_{\delta}^r = \left. \frac{\partial \phi^r(\delta, \tau)}{\partial \delta} \right|_{\tau} = \frac{\rho_c}{RT} \left. \frac{\partial A^r(\rho, T)}{\partial \rho} \right|_T$$

and similarly for other derivatives.

To calculate derivatives of the ideal gas contribution to the free energy, one is guided by the form of eq (5). The left-most column of table 5 lists the factors necessary for the various derivatives, and the remaining columns give the coefficients of these factors directly beneath the heading which indicates the quantity to be calculated. The resulting terms are to be added as in eq (7). The values of the Q_i parameters are obtained from table 4.

TABLE 5

IDEAL GAS FREE ENERGY AND ITS DERIVATIVES

	ϕ^{id} eq (5)	$\delta\phi_{\delta}^{id}$ (=1)	$\tau\phi_{\tau}^{id}$	$\delta^2\phi_{\delta\delta}^{id}$ (=-1)	$\tau^2\phi_{\tau\tau}^{id}$	$\delta\tau\phi_{\delta\tau}^{id}$ (=0)
1	Q_1	1	Q_2	-1	$-Q_2$	0
$\ln \delta$	1	0	0	0	0	0
$\ln \tau$	Q_2	0	0	0	0	0
$\tau^{-1/3}$	Q_3	0	$-Q_3/3$	0	$4Q_3/9$	0
$\tau^{-2/3}$	Q_4	0	$-2Q_4/3$	0	$10Q_4/9$	0
τ^{-1}	Q_5	0	$-Q_5$	0	$2Q_5$	0
$\ln (1 - e^{Q_7\tau})$	Q_6	0	0	0	0	0
$(e^{-Q_7\tau} - 1)^{-1}$	0	0	$-Q_6Q_7\tau$	0	0	0
$e^{Q_7\tau} (e^{Q_7\tau} - 1)^{-2}$	0	0	0	0	$-Q_6Q_7^2\tau^2$	0

For derivatives of the residual free energy, eq (2) and tables 4 and 6 can be used. As in eq (6), the derivatives are obtained by summing 32 terms of three general types. Each of the terms has factors consisting of powers of the reduced density and temperature with the explicit exponents r_i and s_i and coefficients n_i given for each value of i in table 4. The additional exponential factor, with its argument either the second or fourth power of the density, is indicated in the column heading of table 6 where appropriate. The remaining coefficients relevant to the derivative being calculated are given in the appropriate row in that table.

TABLE 6

RESIDUAL FREE ENERGY AND ITS DERIVATIVES

	$n_i \delta^{r_i s_i}$ (i = 1 to 13)	$e^{-\delta^2} n_i \delta^{r_i s_i}$ (i = 14 to 24)	$e^{-\delta^4} n_i \delta^{r_i s_i}$ (i = 25 to 32)
ϕ^r	1	1	1
$\delta \phi_{\delta}^r$	r_i	$r_i - 2\delta^2$	$r_i - 4\delta^4$
$\tau \phi_{\tau}^r$	s_i	s_i	s_i
$\delta^2 \phi_{\delta\delta}^r$	$r_i(r_i - 1)$	$[r_i(r_i - 1) - 2(2r_i + 1)\delta^2 + 4\delta^4]$	$[r_i(r_i - 1) - 4(2r_i + 3)\delta^4 + 16\delta^8]$
$\tau^2 \phi_{\tau\tau}^r$	$s_i(s_i - 1)$	$s_i(s_i - 1)$	$s_i(s_i - 1)$
$\delta \tau \phi_{\delta\tau}^r$	$r_i s_i$	$s_i(r_i - 2\delta^2)$	$s_i(r_i - 4\delta^4)$

In table 7, the most common thermodynamic quantities of interest have been expressed in terms of the reduced derivatives of the Helmholtz energy as discussed above. All nominally extensive quantities (that is, the various thermodynamic potentials and heat capacities) are given on a per-mole basis. It is straightforward to use these tables to calculate the most useful thermodynamic properties of methane. In tables A4-A9 of Appendix A, we give comparisons of experimental data and correlated values for the PVT surface, second virial coefficient, isochoric specific heat capacity, isobaric specific heat capacity, specific heat capacity of the liquid along the saturation boundary, and speed of sound.

TABLE 7
THERMODYNAMIC PROPERTY EQUATIONS

Pressure:	$P(\rho, T) = \rho RT (1 + \delta \phi_{\delta}^r)$
Internal Energy:	$U(\rho, T) = RT (\tau \phi_{\tau}^{id} + \tau \phi_{\tau}^r)$
Enthalpy:	$H(\rho, T) = RT (1 + \tau \phi_{\tau}^{id} + \tau \phi_{\tau}^r + \delta \phi_{\delta}^r)$
Gibbs Energy:	$G(\rho, T) = RT (1 + \phi^{id} + \phi^r + \delta \phi_{\delta}^r)$
Helmholtz Energy:	$A(\rho, T) = RT (\phi^{id} + \phi^r)$
Entropy:	$S(\rho, T) = -R (\phi^{id} + \phi^r - \tau \phi_{\tau}^{id} - \tau \phi_{\tau}^r)$
Isochoric Specific Heat Capacity:	$C_v(\rho, T) = -R (\tau^2 \phi_{\tau\tau}^{id} + \tau^2 \phi_{\tau\tau}^r)$
Isobaric Specific Heat Capacity:	$C_p(\rho, T) = C_v(\rho, T) + R \frac{(1 + \delta \phi_{\delta}^r - \delta \tau \phi_{\delta\tau}^r)^2}{1 + 2\delta \phi_{\delta}^r + \delta^2 \phi_{\delta\delta}^r}$
Saturated Liquid Specific Heat Capacity:	$C_{\sigma L}(T) = C_v(\rho_{\sigma L}, T) - R (1 + \delta \phi_{\delta}^r - \delta \tau \phi_{\delta\tau}^r) \frac{T}{\rho_{\sigma L}} \frac{d\rho_{\sigma L}}{dT}$
Speed of Sound:	$w^2(\rho, T) = \frac{RT}{uN_A M_r} \frac{C_p(\rho, T)}{C_v(\rho, T)} (1 + 2\delta \phi_{\delta}^r + \delta^2 \phi_{\delta\delta}^r)$
Second Virial Coefficient:	$B(T) = \frac{1}{\rho} \lim_{\delta \rightarrow 0} \phi_{\delta}^r$

3. TRANSPORT PROPERTIES AND THEIR ALGEBRAIC REPRESENTATION

The viscosity and thermal conductivity are correlated as the sums of terms representing the temperature dependent dilute gas contributions, the temperature and density dependent excess contributions and, for the thermal conductivity, a contribution from the critical enhancement. The viscosity is given by

$$\eta(\rho, T) = \eta_0(T) + \eta_{ex}(\rho, T) \quad (7)$$

and the expression for thermal conductivity is

$$\lambda(\rho, T) = \lambda_0(T) + \lambda_{ex}(\rho, T) + \lambda_{cr}(\rho, T). \quad (8)$$

These terms are described in this section.

3.1 Dilute Gas Correlations

Our expression for the dilute gas viscosity is from the Chapman-Enskog theory [13]. Using the appropriate constants from table 1, we find

$$\eta_0(T) = 10.50 \sqrt{t} / \Omega^{(2,2)*}(t) \mu\text{Pa}\cdot\text{s} \quad (9)$$

where the reduced temperature $t = kT/\epsilon$. The collision integral $\Omega^{(2,2)*}$ has been approximated for the 11-6-8, $\gamma = 3$ intermolecular potential function [14],

$$\Omega^{(2,2)*} = \left[\sum_{i=1}^9 c_i t^{[(i-1)/3-1]} \right]^{-1}, \quad (10)$$

with coefficients c_i listed in table 8. The collision integrals tabulated

in Ref.[14] are compared to eq (10) in table A10 of Appendix A; experimental values of η_0 are compared to values calculated from eq (9) in table A11.

TABLE 8
COEFFICIENTS FOR DILUTE GAS TRANSPORT PROPERTIES

$\Omega^{(2,2)*}$, eq (10)		f_{int} , eq (12)	
C_1	-3.032 813 828 1	f_1	1.458 850
C_2	16.918 880 086		
C_3	-37.189 364 917	f_2	-0.437 716 2
C_4	41.288 861 858		
C_5	-24.615 921 140		
C_6	8.948 843 095 9		
C_7	-1.873 924 504 2		
C_8	0.209 661 013 90		
C_9	-9.657 043 707 4 $\times 10^{-3}$		

For the thermal conductivity λ_0 of the dilute gas, we have chosen a modified Eucken model [15] with resulting equation

$$\lambda_0(T) = 0.51826 \eta_0(T) [3.75 - f_{int}(\tau^2 \phi_{\tau\tau}^{id} + 1.5)] \text{ mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}. \quad (11)$$

In eq (11), f_{int} is the dimensionless function defined by

$$f_{int} = f_1 + (f_2/t) \quad (12)$$

with the fitted coefficients f also given in table 8, and the viscosity should be expressed in $\mu\text{Pa} \cdot \text{s}$, as in eq (9). The quantity $\tau^2 \phi_{\tau\tau}^{id}$ in eq (12) can be evaluated from tables 3 and 5. Table A12 of Appendix A gives comparisons between experimental values for the dilute gas thermal conductivity and values calculated from eq (11).

3.2 Excess Property Correlations

For the excess viscosity, we use the rational polynomial

$$\eta_{\text{ex}}(\rho, T) = 12.149 \left[\sum_{i=1}^9 g_i \delta^{r_i} \tau^{s_i} \right] \left[1 + \sum_{i=10}^{11} g_i \delta^{r_i} \tau^{s_i} \right]^{-1} \mu\text{Pa}\cdot\text{s} \quad (13)$$

where the exponents r_i and s_i and the dimensionless fitted coefficients, g_i , are given in table 9. Comparisons between experimental viscosities and viscosities calculated using eq (7) with eqs (9) and (13) are given in table A13 of Appendix A.

The excess thermal conductivity λ_{ex} has been correlated to a polynomial in δ and τ with a factor in the final term of $(\delta_{\sigma}^*)^{-1}$, defined by

$$\delta_{\sigma}^*(T) = \begin{cases} \rho_{\sigma v}(T) / \rho_c, & \text{if } T < T_c \text{ and } \rho < \rho_c, \\ 1, & \text{otherwise,} \end{cases} \quad (14)$$

in the final term. In eq (14), $\rho_{\sigma v}$ is the density of the saturated vapor and can be calculated from eq (3). The quantity $\delta_{\sigma}^*(T)$ differs from 1 only in the vapor phase below the critical temperature. Thus we write

$$\lambda_{\text{ex}}(\rho, T) = 6.29638 \left[\sum_{i=1}^6 j_i \delta^{r_i} \tau^{s_i} + j_7 \delta^2 / \delta_{\sigma}^* \right] \text{mW}\cdot\text{m}^{-1}\cdot\text{K}^{-1} \quad (15)$$

The exponents and dimensionless fitting coefficients for eq (15) are included in table 9.

TABLE 9

COEFFICIENTS FOR EXCESS TRANSPORT PROPERTY CORRELATIONS

i	η_{ex} , eq (13)			λ_{ex} , eq (15)		
	r_i	s_i	g_i	r_i	s_i	j_i
1	1	0	0.412 501 37	1	0	2.414 920 7
2	1	1	-0.143 909 12	3	0	0.551 663 31
3	2	0	0.103 669 93	4	0	-0.528 377 34
4	2	1	0.402 874 64	4	1	0.073 809 553
5	2	1.5	-0.249 035 24	5	0	0.244 655 07
6	3	0	-0.129 531 31	5	1	-0.047 613 626
7	3	2	0.065 757 76	* 2	0	1.555 461 2
8	4	0	0.025 666 28	* Term divided by δ_σ^*		
9	4	1	-0.037 165 26			
10	1	0	-0.387 983 41			
11	1	1	0.035 338 15			

3.3 Critical Enhancement Correlation

The remaining term in eq (8) is the critical enhancement of the thermal conductivity; it is easily observed in a broad region around the critical point. We have correlated this using a function very similar to that developed by Sengers et al. [16]. After evaluating the universal, fluid dependent, and correlated constants, we write

$$\lambda_{cr}(\rho, T) = \frac{91.855}{\eta(\rho, T)} \frac{1}{\tau^2} [1 + \delta\phi_\delta^r - \delta\tau\phi_{\delta\tau}^r]^2 \chi_T^{*0.4681} F(T^*, \rho^*) \frac{\text{mW}}{\text{m}\cdot\text{K}} \quad (16)$$

where the viscosity is expressed in $\mu\text{Pa}\cdot\text{s}$ in eq (16). The empirical dimensionless crossover or damping function F is defined by

$$F(T^*, \rho^*) = e^{-[F_T |T^*|^{1/2} + F_\rho \rho^{*2} + F_A \rho^*]} \quad (17)$$

where F_T , F_A , and F_ρ are constants in table 10 and T^* and ρ^* measure deviations from the critical point according to

$$T^* = (T_c - T)/T_c \quad (= 1 - 1/r) \quad (18)$$

and

$$\rho^* = (\rho_c - \rho)/\rho_c \quad (= 1 - \delta) . \quad (19)$$

The final factor in eq (16) is the reduced and symmetrized compressibility χ_T^* . Throughout most of the phase diagram, this can be evaluated classically using

$$\chi_T^* = 0.28631 \delta r [1 + 2\delta \phi_{\delta}^r + \delta^2 \phi_{\delta\delta}^r]^{-1} , \quad (20)$$

where the derivatives in eq (20) are found from tables 4 and 6. However, the classical quantity in eq (20) is not very accurate in the region very close to the critical point, so in the small region defined by $185 \text{ K} \leq T \leq 196 \text{ K}$ and $7.6 \text{ mol} \cdot \text{dm}^{-3} \leq \rho \leq 12.7 \text{ mol} \cdot \text{dm}^{-3}$, we recommend evaluating the compressibility using the MLSG [17] scaled equation of state. In this region, then,

$$\chi_T^*(\rho, T) = Q |\rho^*|^{-a} \theta^b [\theta + \Omega(\theta+R)]^{-1} . \quad (21)$$

where the variables θ and Ω are defined as

$$\theta = \begin{cases} 1 + E (1 + S T^* |\rho^*|^{-1/\beta})^{2\beta}, & \text{if } T^* < -|\rho^*|^{1/\beta}/S \\ 1 & , \quad \text{if } T^* > -|\rho^*|^{1/\beta}/S \end{cases} \quad (22)$$

and

$$\Omega = W T^* |\rho^*|^{-1/\beta} \quad (23)$$

and the remaining constants in eq (21) can be found in table 10. Finally, along the critical isochore, if $185 \text{ K} \leq T \leq 196 \text{ K}$, we can use

$$\chi_T^*(\rho=\rho_c, T) = \Gamma |T^*|^{-\gamma} \quad (24)$$

to avoid spurious singularities in eq (21). This completes the description of the thermal conductivity enhancement and the correlation for the methane fluid transport properties. Table A14 of Appendix A gives tabular comparisons between experimental values of the thermal conductivity coefficient and those calculated from eq (8) using eqs (11, 12, 15-17).

TABLE 10

CONSTANTS FOR λ_{cr}

Fitted coefficients:	$F_T = 2.646$ $F_\rho = 2.678$ $F_A = -0.637$
Critical exponent:	$\beta = 0.355$
Universal constants:	$a = 3.352$ $b = 0.732$ $E = 0.287$ $R = 0.535$
Fluid dependent constants derived from Ref.[16] :	$Q = 0.113\ 3$ $S = -6.098$ $W = -1.401$ $\Gamma = 0.080\ 1$

4. SUMMARY OF UNCERTAINTIES ASSOCIATED WITH THE CORRELATIONS

We have judged the uncertainties associated with the correlations in various regions of the phase diagram. These judgements are based on an examination of the deviations of our correlations from experimental data using tables such as included in Appendix A and deviation plots as in Ref.[1], an assessment of the experiments themselves and their reported accuracies, and comparisons of these correlations with previously published equations. In this section, we will summarize the results of our assesment so that the equations and the tables in Appendix B can be used appropriately; details concerning the establishment of these uncertainties are given in Ref.[1]. In this section, the terms "uncertainty", "error", and "accuracy" are used interchangeably; the deviations from the true value, of quantities calculated from the correlations, will not exceed the stated uncertainty.

4.1 Two-Phase Boundary

First, for the pressure along the liquid-vapor saturation boundary, we have considered the uncertainties of both the triple-point and critical point pressures (table 1), the quality of the measurements of Ref.[6], and the disconcerting disagreement between the earlier benchmark data. We make the subjective judgment that either the ancillary eq (1) or the SWEOS will provide values of the saturation pressuures accurate within 0.06 percent above $T = 120$ K and accurate within 0.3 percent below this temperature.

For the density of the saturated liquid, again, either the ancillary equation or the value of the density from the SWEOS can be used with an estimated accuracy well under 0.2 percent throughout the range from the triple point to just below the critical point. We estimate that between 190.5 K and T_c the uncertainty in the saturated liquid density associated with these equations may exceed 1 percent.

We have considered the data and conclusions of Refs. [3, 4, 6], and estimate that the error associated with either eq (3) or the SWEOS for the density of the saturated vapor does not exceed 1 percent from the triple point temperature to 91 K, 2 percent above $T = 190.5$ K, and is well under 0.5 percent for the remainder of the two-phase boundary.

4.2 Thermodynamic Properties

In this section, we discuss the uncertainties associated with the full equation of state. The PVT surface is considered first, and both the calculation of pressure with temperature and density as independent variables, and the calculation of density with temperature and pressure as independent variables are discussed. For this discussion, the thermodynamic space is divided into temperature regions: T_t - 185 K, 185 - 195 K, 195 - 300 K, and 300 - 600 K. Following the treatment of the PVT surface, uncertainties associated with the calculation of the second virial coefficient, isochoric specific heat capacity, isobaric specific heat capacity, specific heat capacity of the saturated liquid, and speed of sound are discussed in turn.

We offer the following guidelines when calculating pressures from the SWEOS when given densities and temperatures between the triple point and 185 K. For the vapor phase, the errors should not exceed 0.2 percent. For the liquid below 150 K and below 1 MPa, the percentage uncertainty is extremely large, but the actual pressure should not be in error by more than 0.1 MPa. Most of the remaining data indicate that the error should be less than 5 percent. An exception occurs below 120 K or very close to the saturation line, where the uncertainty approaches 10 percent. Most of the primary PVT data (from Goodwin [38]) in this temperature region and below about 30 MPa and $28.5 \text{ mol} \cdot \text{dm}^{-3}$ exhibit deviations from the correlation well below 1 percent. Calculation of an accurate density from a given temperature and pressure is a much easier task in the region below 185 K. The general uncertainty is well below 1 percent. In the vapor phase, all points at temperatures below 180 K or pressures below 3.5 MPa show absolute

deviations below 0.5 percent. A few vapor points closer to the critical point in both temperature and pressure show higher deviations. We estimate that for the liquid in this range, a 0.2 percent accuracy in the determination of the density from the SWEOS is expected.

Our comparisons suggest that in calculating the pressure using the SWEOS in the temperature range 185 - 195 K, accuracies of better than 0.1 percent are expected at up to 6 MPa. The accuracy is expected to deteriorate to about 2 percent at higher pressures. Our study suggests that in this temperature range the SWEOS should return a density well within 0.5 percent accuracy. The exception is quite close to the critical point, $190.4 \text{ K} < T < 190.6 \text{ K}$ and $4.4 \text{ MPa} < P < 4.8 \text{ MPa}$, where errors of nearly 5 percent are possible.

In the temperature range 195 to 300 K, we find the largest quantity of PVT data with a very large range in pressures. In predicting pressures from the present SWEOS in this temperature region and below 10 MPa (or $15 \text{ mol} \cdot \text{dm}^{-3}$) an accuracy of 0.5 percent is expected; above these pressures, 5 percent errors are possible. For prediction of densities, in our judgment, 0.2 percent is the general uncertainty associated with the SWEOS for most of this region, except for a deterioration to 0.5 percent above $20 \text{ mol} \cdot \text{dm}^{-3}$ and below 210 K. The correlation can be extrapolated to pressures above 100 MPa in this temperature range (to about 600 MPa), but the estimated uncertainty becomes closer to 8 percent in pressure and 1 percent in density.

We summarize our observations of the data and the SWEOS for predicting pressures at temperatures above 300 K as follows. For pressures below 40 MPa and temperatures to 600 K, the expected accuracy is 0.2 percent. In the pressure range 40 - 200 MPa the accuracy is near 1 percent, but for higher pressures the uncertainty increases with increasing pressure and may reach 20 percent at 1000 MPa. In the highest pressure range, above 800 MPa, it is also prudent to restrict the temperature to 450 K because there are no data at significantly higher temperatures. We have extended the correlation above the 100 MPa cutoff in this temperature range, but the quality of the equation clearly deteriorates at high pressures; pressures

above 100 MPa are not included in the tables of Appendix B. For the calculation of densities for temperatures below 350 K and densities below $15 \text{ mol} \cdot \text{dm}^{-3}$, an accuracy of 0.2 percent should be associated with the SWEOS. For temperatures up to 600 K or densities to $20 \text{ mol} \cdot \text{dm}^{-3}$, the error increases to 0.5 percent. The error increases to 1 percent up to $25 \text{ mol} \cdot \text{dm}^{-3}$ and 5 percent at higher densities. Extrapolation of the SWEOS to state points above 450 K for the density range above $20 \text{ mol} \cdot \text{dm}^{-3}$ is not advised.

We estimate an uncertainty in the correlation for the second virial coefficient of about 1 percent throughout the range, from the triple point to 625 K.

In our judgment, a 2 percent uncertainty should be expected when calculating the isochoric specific heat capacity from the SWEOS outside the critical region, and the accuracy approaches 5 percent for temperatures between 180 K and 200 K for densities up to $14 \text{ mol} \cdot \text{dm}^{-3}$. The asymptotically critical behavior of C_V is not well described by this (or any) classical equation of state.

We estimate that the SWEOS will give isobaric heat specific capacities within about 2 percent for the liquid and supercritical fluid from 115 K to about 300 K for pressures to about 15 MPa. The uncertainty is assumed to be worse outside these ranges, and in the general critical region, 20 percent errors may be possible. Very close to the critical point, the behavior of this classical SWEOS will not describe the heat capacities accurately.

The accuracy of the SWEOS in predicting saturated liquid specific heat capacities is 2 percent from the triple point to 186 K and 5 percent for temperatures approaching the critical point.

For predicting the speed of sound in methane, we can summarize our observations by the following subjective guidelines for the use of the SWEOS. Below 180 K or above 195 K, with pressures below about 20 MPa, for the saturated liquid, compressed liquid, vapor phase, and supercritical

fluid, accuracies of 0.6 percent can be anticipated. Between 180 K and 188 K, or above 20 MPa (to about 35 MPa), the accuracy decreases to 1.5 percent. In the general region of the critical point, 188 K to 195 K and 4.5 MPa to 4.7 MPa, the uncertainties can exceed 5 percent. Our classical equation of state cannot give accurate results for derivative properties at the critical point or for state points extremely close to the critical point (approximately 190 to 191 K and 4.55 to 4.65 MPa). In particular, theory indicates that the speed of sound should vanish at the critical point; in our formulation this speed is about $231 \text{ m}\cdot\text{s}^{-1}$. This discrepancy between theory and our correlation occurs principally because the very small divergence of the isochoric specific heat capacity ($\sim |T-T_c|^{-\alpha}$ where α is about 0.1) is not predicted by a classical equation of state; in our formulation the value of C_v at the critical point is about $45 \text{ J}\cdot\text{mol}^{-1}\cdot\text{K}^{-1}$. In addition, because of truncation error, the nominally zero value of $\partial P/\partial \rho|_T$ is equal to about $10^{-8} \text{ J}\cdot\text{mol}^{-1}$ and the related C_p , which should diverge strongly, is found to be about $10^{13} \text{ J}\cdot\text{mol}^{-1}\cdot\text{K}^{-1}$ at the critical point.

The comparisons with experimental data (and the process of determining the coefficients of the SWEOS) probe only four derivatives of the dimensionless, residual Helmholtz energy, namely ϕ_δ^r , $\phi_{\delta\delta}^r$, $\phi_{\tau\tau}^r$, and $\phi_{\delta\tau}^r$. While this should describe the actual surface quite well, additional uncertainties will enter any calculation which requires other derivatives or integrals of these directly accessible functions. We hesitate to make any quantitative predictions of the errors involved in calculating any thermodynamic quantities not explicitly discussed in this section, but we do conjecture that these errors will be comparable to those found with any other precise equation of state for methane.

4.3 Transport Properties

From the dispersion of the data and correlations, the quoted experimental accuracies associated with the data, and a study of the use of the 11-6-8 intermolecular potential in the Chapman-Enskog dilute gas

theory, we estimate that the correlation of eqs (9) and (10) will give dilute gas viscosities for methane with associated accuracies of 0.5 percent from the 270 K to 600 K and 1 percent above that range. For lower temperatures, and especially below the critical point, the data are extremely sparse or nonexistent. We anticipate that, with this potential function, the theory will extrapolate well, but we increase our error estimate to 2 percent for temperatures from the triple point to 270 K.

We next examine the viscosity of methane at elevated pressures. For the vapor phase, below the critical temperature, we estimate that the error varies from 2 percent, as above, to more than 5 percent as the saturated vapor line is approached. For the liquid below the critical temperature, the data indicate an accuracy of about 3 percent from the phase boundary to the compressed liquid at pressures to 30 MPa. Above the critical temperature, in the temperature range from T_c to 270 K, the data indicate an accuracy of about 5 percent for densities up to $10 \text{ mol} \cdot \text{dm}^{-3}$. In the same temperature range, but for higher densities and for pressures up to about 30 MPa, the viscosity increases and the estimated uncertainty drops to about 2 percent. For the low density region, to $10 \text{ mol} \cdot \text{dm}^{-3}$, we estimate that the uncertainty associated with the correlation is 1 percent in the higher temperature range, to 450 K. For pressures up to 55 MPa and temperatures to 450 K, the error is about 2 percent. The correlation attempts to describe the rapidly rising excess viscosity as the melting line is approached. It has a zero in the denominator, corresponding to a singularity in the correlation within the fluid region; this occurs well outside the range of any data. In addition to the usual warnings concerning extrapolation beyond the range of the correlating equation, any user is cautioned about this singularity, which can be a problem only at pressures exceeding 200 MPa.

For the thermal conductivity of the dilute methane gas, we estimate that the accuracy of the correlation is about 2.5 percent for temperatures between 130 and 625 K. For temperatures below 130 K, where the vapor pressure is about 0.37 MPa, the current correlation could give errors in excess of 10 percent for the thermal conductivity of dilute methane.

We estimate that the accuracy of the correlation for the total thermal conductivity of methane is about 2 percent for most of the range between 110 K and 725 K and for pressures to 70 MPa (or densities to about $29 \text{ mol} \cdot \text{dm}^{-3}$). The exceptions occur around the critical point and near both saturation boundaries, where 5 percent errors are typical, and greater errors could occur in the very close to the critical point. For the vapor at lower temperatures and the dense liquid near the triple point, an uncertainty of nearly 10 percent is possible.

5. ACKNOWLEDGMENTS

We thank R.D. McCarty for helpful discussions and W. Wagner for providing a copy of his experimental tables prior to publication. We also thank R.T Jacobsen and M.W. Chase for their careful reviews of parts of the manuscript.

6. REFERENCES

- [1] D.G. Friend, J.F. Ely, H. Ingham, "Thermophysical Properties of Methane," to be published J. Phys. Chem. Ref. Data (1989).
- [2] R. Schmidt and W. Wagner, Fluid Phase Equil. 19, 175 (1985).
- [3] R.D. Goodwin, Nat. Bur. Stand. (U.S.) Technical Note 653 (1974).
- [4] S. Angus, B. Armstrong, and K.M. de Reuck, *International Thermodynamic Tables of the Fluid State* Vol. 5 Methane, International Union of Pure and Applied Chemistry, Chemical Data Series No. 16, Pergamon Press, Oxford (1978).
- [5] V.V. Sychev, A.A. Vasserman, V.A. Zagoruchenko, A.D. Kozlov, G.A. Spiridonov, and V.A. Tsymarny, *Thermodynamic Properties of Methane* (Hemisphere Publishing, Washington (1987), T.B. Selover Jr., English Language Ed.
- [6] R. Kleinrahm and W. Wagner, J. Chem. Thermo. 18, 739 (1986).
- [7] R. Kleinrahm, W. Duschek, and W. Wagner, J. Chem. Thermo. 18, 1103 (1986).
- [8] H.M. Roder, Int. J. Thermo. 6, 119 (1984) and Nat. Bur. Stand. (U.S.) Interagency Report NBSIR 84-3006 (1984).
- [9] D.E. Diller, Physica 104A, 417 (1980) and Personal Communication, Nat. Inst. Stand. Tech., Boulder, CO 80303.
- [10] E.R. Cohen and B. N. Taylor, J. Res. Nat. Bur. Stand. (U.S.) 92, 85 (1987).
- [11] R.D. Goodwin, J. Res. Nat. Bur. Stand. (U.S.) 75A, 15 (1971).
- [12] R.S. McDowell and F.H. Kruse, J. Chem. Eng. Data 8, 547 (1963).
- [13] J.O. Hirschfelder, C.F. Curtiss, and R.B. Bird, *Molecular Theory of Gases and Liquids*, Wiley, New York (1967).
- [14] M. Klein, H.J.M. Hanley, F.J. Smith, and P. Holland, Nat. Stand. Ref. Data Ser., Nat. Bur. Stand. (U.S.), 47, (1974).
- [15] R.C. Reid, J.M. Prausnitz, and T.K. Sherwood, *The Properties of Gases and Liquids*, McGraw-Hill, New York, 3rd Ed. (1977).
- [16] J.V. Sengers, R.S. Basu, and J.M.H. Levelt Sengers, National Aeronautics and Space Administration (U.S.) NASA Contractor Report 3424 (1981).

- [17] M. Vicentini-Missoni, J.M.H. Levelt Sengers, and M.S. Green, J. Res. Nat. Bur. Stand. (U.S.) 73A, 563 (1969) and Phys. Rev. Lett. 22, 389 (1969).
- [18] R. Prydz and R.D. Goodwin, J. Chem. Thermo. 4, 127 (1972); R.D. Goodwin and R. Prydz, J. Res. Nat. Bur. Stand. (U.S.) 76A, 81 (1972).
- [19] W.M. Haynes, Personal Communication, Nat. Inst. Stand. Tech., Boulder, CO 80303.
- [20] J.E. Orrit and J.M. Laupretre, Adv. Cryo. Eng. 23, 573 (1978).
- [21] W.M. Haynes and M.J. Hiza, J. Chem. Thermo. 9, 179 (1977).
- [22] C.R. McClune, Cryo. 16, 289 (1976).
- [23] M.J. Terry, J.T. Lynch, M. Bunclark, K.R. Mansell, and L.A.K. Staveley, J. Chem. Thermo. 1, 413 (1969).
- [24] J. Klosek and C. McKinley, Proc. 1st Int. Conf. on LNG, Inst. Gas Tech., Chicago, Sess. 5, Pap. 22 (1968).
- [25] J.B. Rodosevich and R.C. Miller, A. I. Ch. E. J. 19, 729 (1973).
- [26] O.B. Verbeke, Personal Communication to R.D. Goodwin, National Bureau of Standards, Boulder, CO. (1973). Reported as ID 7 in table 1c (p.46) of Ref. 3.
- [27] A.J. Vennix, T.W. Leland Jr., and R. Kobayashi, J. Chem. Eng. Data 15, 238 (1970).
- [28] R.D. Goodwin, Reported as ID 101-114 in table 1c (p.46) of Ref. 3.
- [29] F.P. Ricci and E. Scafe, Phys. Lett. 29A, 650 (1969).
- [30] R.D. Goodwin, Reported as ID 601-604 in table 1c (p.46) of Ref. 3.
- [31] R.D. Goodwin, Reported as ID 1 in table 1c (p.46) of Ref. 3.
- [32] V. Jansoone, H. Gielen, J. de Boelpaep, and O.B. Verbeke, Physica 46, 213 (1970).
- [33] H.J. Achtermann, T.K. Bose, H. Rögener, and J.M. St-Arnaud, Int. J. Thermo. 7, 709 (1986).
- [34] H.J. Achtermann, F. Klobasa, and H. Rögener, Brennst.-Warme-Kraft 34, 266 and 311 (1982).
- [35] V.M. Cheng, Ph.D. Thesis (Dept. Aero. and Mech. Sci.), Princeton University (1972).
- [36] D.R. Douslin, R.H. Harrison, R.T. Moore, and J.P. McCullough, J. Chem. Eng. Data 9, 358 (1964).

- [37] B.E. Gammon and D.R. Douslin, J. Chem. Phys. 64, 203 (1976).
- [38] R.D. Goodwin, Ref. 3, data appear in table 4 (pp. 69-78); some data also published in R.D. Goodwin and R. Prydz, J. Res. Nat. Bur. Stand. (U.S.) 76A, 81 (1972).
- [39] R.D. Goodwin, Ref. 3, table 4 (p. 53).
- [40] H.M. Kvalnes and V.L. Gaddy, J. Am. Chem. Soc. 53, 394 (1931).
- [41] J. Mollerup, J. Chem. Thermo. 17, 489 (1985).
- [42] E.C. Morris, Int. J. Thermo. 5, 281 (1984).
- [43] S.L. Robertson and S.E. Babb Jr., J. Chem. Phys. 51, 1357 (1969).
- [44] A. Sivaraman and B.E. Gammon, "Speed-of-Sound Measurements in Natural Gas Fluids," Gas Research Institute Report 86-0043 (1986).
- [45] N.J. Trappeniers, T. Wassenaar, and J.C. Abels, Physica A98, 289 (1979).
- [46] A. Van Itterbeek, O. Verbeke, and K. Staes, Physica 29, 742 (1963).
- [47] A.J. Vennix, Ph.D. Thesis (Dept. Chem. Eng.), Rice University (1966) and A.J. Vennix, T.W. Leland Jr., and R. Kobayashi, J. Chem. Eng. Data 15, 238 (1970).
- [48] M.A. Byrne, M.R. Jones, and L.A.K. Staveley, Trans. Faraday Soc. 64, 1747 (1968).
- [49] G.A. Pope, Ph.D. Thesis (Dept. Chem. Eng.), Rice University (1971).
- [50] A.E. Hoover, I. Nagata, T.W. Leland Jr., and R. Kobayashi, J. Chem. Phys. 48, 2633 (1968).
- [51] J.M.H. Levelt Sengers, M. Klein, and J.S. Gallagher, in Amer. Inst. Phys. Handbook, 3rd ed., McGraw Hill, N.Y. (1972), p. 4-204.
- [52] B.A. Younglove, J. Res. Nat. Bur. Stand. (U.S.) 78A, 401 (1974).
- [53] H.M. Roder, J. Res. Nat. Bur. Stand. (U.S.) 80A, 739 (1976).
- [54] M.L. Jones Jr., D.T. Mage, R.C. Faulkner Jr. and D.L. Katz, Chem. Eng. Prog. Symp. Ser. 59, 52 (1963).
- [55] P.H.G. Van Kasteren and H. Zeldenrust, Ind. Engin. Chem. Fund. 18, 333 (1979).
- [56] V.G. Baidakov, A.M. Kaverin, and V.P. Skripov, J. Chem. Thermo. 14, 1003 (1982).
- [57] Y.P. Blagoi, A.E. Butko, S.A. Mikhailenko and V.V. Yakuba, Zh. Fiz. Khim. 41, 1699 (1967).

- [58] G.C. Straty, *Cryo.* 14, 367 (1974).
- [59] W. Van Dael, A. Van Itterbeek, J. Thoen, and A. Cops, *Physica* 31, 1643 (1965).
- [60] A. Van Itterbeek, J. Thoen, A. Cops, and W. Van Dael, *Physica* 35, 162 (1967).
- [61] J.M. Hellemans, J. Kestin, and S.T. Ro, *Physica* 65, 376 (1973).
- [62] R.A. Dawe, G.C. Maitland, M. Rigby, and E.B. Smith, *Trans. Faraday Soc.* 66, 1955 (1970).
- [63] J. Kestin, S.T. Ro, and W.A. Wakeham, *Trans. Faraday Soc.* 67, 2308 (1971).
- [64] D.L. Timrot, M.A. Serednitskaya, and M.S. Besspalov, *Sov. Phys. Dokl.* 20, 107 (1975).
- [65] J. Kestin and J. Yata, *J. Chem. Phys.* 49, 4780 (1968).
- [66] A.G. De Rocco and J.O. Halford, *J. Chem. Phys.* 28, 1152 (1958).
- [67] G.C. Maitland and E.B. Smith, *J. Chem. Soc. Faraday Trans.* 170, 1191 (1973).
- [68] Y. Abe, J. Kestin, H.E. Khalifa, and W.A. Wakeham, *Physica* 93A, 155 (1978).
- [69] A.G. Clarke and E.B. Smith, *J. Chem. Phys.* 51, 4156 (1969).
- [70] J.G. Giddings, J.T.F. Kao, and R. Kobayashi, *J. Chem. Phys.* 45, 578 (1966).
- [71] L.T. Carmichael, V.M. Berry, and B.H. Sage, *J. Chem. Eng. Data* 10, 57 (1965).
- [72] A.A. Clifford, J. Kestin, and W. A. Wakeham, *Physica* 97A, 287 (1979).
- [73] M.J. Assael and W.A. Wakeham, *J. Chem. Soc. Faraday Trans.* 177, 697 (1981).
- [74] H.L. Johnston and E.R. Grilly, *J. Chem. Phys.* 14, 233 (1946).
- [75] X.Y. Zheng, S. Yamamoto, H. Yosida, H. Masuoka, and M. Yorizane, *J. Chem. Eng. Japan* 17, 237 (1984).
- [76] W.B. Mann and B.G. Dickins, *Proc. Roy. Soc. A* 134, 77 (1931).
- [77] D. Misic and G. Thodos, *Physica* 32, 885 (1966).
- [78] L.T. Carmichael, H.H. Reamer, and B.H. Sage, *J. Chem. Eng. Data* 11, 52 (1966).

- [79] C.E. Baker and R.S. Brokaw, J. Chem. Phys. 43, 3519 (1965).
- [80] V.P. Sokolova and I.F. Golubev, Teploenergetika 14, 91 (1967).
- [81] B. Le Neindre, R. Tufeu, P. Bury, P. Johannin, and B. Vodar,
Proceedings of the Eighth Conference on Thermal Conductivity C.Y. Ho
and R.E. Taylor, eds., Plenum Press, N.Y. (1969) p.229.
- [82] M. Yorizane, S. Yoshimura, H. Masuoka, and H. Yoshida, Ind. Engin.
Chem. Fund. 22, 454 (1983).
- [83] Y. Tanaka, M. Noguchi, H. Kubota, and T. Makita, J. Chem. Eng. Japan
12, 171 (1979).
- [84] A.K. Barua, M. Afzal, G.P. Flynn, and J. Ross, J. Chem. Phys. 41, 374
(1964).
- [85] J.P. Boon, J.C. Legros, and G. Thomaes, Physica 33, 547 (1967).
- [86] M.H. Gonzalez, R.F. Bukacek, and A.L. Lee, Soc. Petr. Eng. J. 7,
75 (1967).
- [87] W.M. Haynes, Physica 70, 410 (1973).
- [88] J. Hellemans, H. Zink, and O. Van Paemel, Physica 46, 395 (1970).
- [89] E.T.S. Huang, G.W. Swift, and F. Kurata, A. I. Ch. E. J. 12, 932
(1966).
- [90] L.D. Ikenberry and S.A. Rice, J. Chem. Phys. 39, 1561 (1963).
- [91] U.V. Mardolcar and C.A. Nieto de Castro, Ber. Bunsen. Phys. Chem. 91,
152 (1987).
- [92] R.C. Prasad, N. Mani, and J.E.S. Venart, Int. J. Thermo. 5, 265 (1984).

APPENDIX A

TABLES FOR THE COMPARISON OF EXPERIMENTAL DATA AND THE CORRELATIONS

A1.	COMPARISONS FOR SATURATED VAPOR PRESSURES.....	33
A2.	COMPARISONS FOR SATURATED LIQUID DENSITIES.....	40
A3.	COMPARISONS FOR SATURATED VAPOR DENSITIES.....	52
A4.	COMPARISONS OF EXPERIMENTAL AND CALCULATED PVT DATA.....	58
A5.	COMPARISONS FOR SECOND VIRIAL COEFFICIENTS.....	143
A6.	COMPARISONS FOR ISOCHORIC SPECIFIC HEAT CAPACITY.....	145
A7.	COMPARISONS FOR ISOBARIC SPECIFIC HEAT CAPACITY.....	156
A8.	COMPARISONS FOR SPECIFIC HEAT CAPACITY OF THE SATURATED LIQUID...	170
A9.	COMPARISONS FOR SOUND SPEED.....	173
A10.	COMPARISONS FOR COLLISION INTEGRAL.....	196
A11.	COMPARISONS FOR ZERO DENSITY VISCOSITY.....	198
A12.	COMPARISONS FOR ZERO DENSITY THERMAL CONDUCTIVITY.....	204
A13.	COMPARISONS FOR VISCOSITY AT ELEVATED PRESSURES.....	211
A14.	COMPARISONS FOR THERMAL CONDUCTIVITY AT ELEVATED PRESSURES.....	229

We make several prefatory notes to the fourteen tables in this Appendix. Additional specific notes can be found at the beginning of most of the tables. In several instances, only first authors are given; complete citations can be found in the numbered references. Deviations are given on a percentage basis according to $\text{Dev} = 100 (\text{Cal} - \text{Exp})/\text{Exp}$. The weights (Wt) refer to weighting of individual data points in the least squares algorithms for the determination of the coefficients of the correlating equations as discussed in detail in Ref.[1]. The summary statistics given for each reference and for the cumulative experimental data are defined as follows,

$$\text{AAD} = \frac{1}{N} \sum_i |\text{Cal}_i - \text{Exp}_i| , \quad (\text{A1})$$

$$\text{BIAS} = \frac{1}{N} \sum_i (\text{Cal}_i - \text{Exp}_i) , \quad (\text{A2})$$

$$\text{RMS} = \left[\frac{1}{N} \sum_i (\text{Cal}_i - \text{Exp}_i)^2 - \text{BIAS}^2 \right]^{1/2} . \quad (\text{A3})$$

The quantity N above represents the number of points in the data set, and the summation over the index i is over all N points. These statistics give dimensioned quantities; the analogously defined dimensionless statistics are based on percentage deviations. Thus, AAD-%, BIAS-%, and RMS-% are defined as above, but with the quantity $(\text{Cal}_i - \text{Exp}_i)$ replaced by $100(\text{Cal}_i - \text{Exp}_i)$. Some of the entries in the tables have digits beyond the range of significance, including trailing zeroes; these serve only to maintain uniform appearance of the columns and the quantities can be truncated according to the error estimates in the original experimental publications, the discussion in Ref.[1], or the uncertainties quoted in Sec. 4 above.

TABLE A1

COMPARISONS FOR SATURATED VAPOR PRESSURES

Notes for Table A1. The numeral 1 associated with quantities refers to comparisons with eq (1); the numeral 2 refers to comparisons with the SWEOS. Similarly, Wt1 refers to weighting for the development of eq (1), and Wt2 refers to weighting of the Gibbs condition for the development of the SWEOS. For the points generated from eq (1), in the last part of the table, statistics relative to eq (1) have no meaning; these points are therefore excluded from the totals.

Data from Kleinrahm and Wagner [6]

T	P_{σ} , exp	P_{σ} , eq (1)	Dev1	P_{σ} , SWEOS	Dev2	Wt1	Wt2
K	MPa	MPa	%	MPa	%		
90.685	0.117 00E-01	0.116 93E-01	-0.060	0.116 93E-01	-0.061	1.0	0.0
91.000	0.121 70E-01	0.121 75E-01	0.043	0.121 75E-01	0.040	1.0	0.0
95.000	0.198 30E-01	0.198 34E-01	0.019	0.198 32E-01	0.011	1.0	0.0
100.000	0.344 00E-01	0.344 08E-01	0.022	0.344 08E-01	0.024	1.0	0.0
105.000	0.564 30E-01	0.564 26E-01	-0.007	0.564 33E-01	0.006	1.0	0.0
110.000	0.882 20E-01	0.882 03E-01	-0.019	0.882 19E-01	-0.001	1.0	0.0
111.631	0.101 10E+00	0.101 11E+00	0.006	0.101 13E+00	0.025	1.0	0.0
115.000	0.132 34E+00	0.132 32E+00	-0.015	0.132 34E+00	0.003	1.0	0.0
120.000	0.191 56E+00	0.191 58E+00	0.010	0.191 61E+00	0.024	1.0	0.0
125.000	0.268 98E+00	0.268 96E+00	-0.006	0.268 99E+00	0.002	1.0	0.0
130.000	0.367 62E+00	0.367 60E+00	-0.006	0.367 60E+00	-0.005	1.0	0.0
135.000	0.490 70E+00	0.490 71E+00	0.003	0.490 68E+00	-0.003	1.0	0.0
140.000	0.641 62E+00	0.641 65E+00	0.004	0.641 56E+00	-0.010	1.0	0.0
145.000	0.823 73E+00	0.823 79E+00	0.008	0.823 69E+00	-0.005	1.0	0.0
150.000	0.104 06E+01	0.104 06E+01	0.007	0.104 05E+01	-0.007	1.0	0.0
155.000	0.129 57E+01	0.129 58E+01	0.008	0.129 56E+01	-0.005	1.0	0.0
160.000	0.159 29E+01	0.159 30E+01	0.004	0.159 28E+01	-0.007	1.0	0.0
165.000	0.193 62E+01	0.193 61E+01	-0.007	0.193 59E+01	-0.014	1.0	0.0
170.000	0.232 96E+01	0.232 94E+01	-0.011	0.232 93E+01	-0.015	1.0	0.0
175.000	0.277 79E+01	0.277 76E+01	-0.010	0.277 76E+01	-0.011	1.0	0.0
180.000	0.328 68E+01	0.328 65E+01	-0.009	0.328 63E+01	-0.017	1.0	0.0
182.000	0.350 89E+01	0.350 87E+01	-0.005	0.350 84E+01	-0.014	1.0	0.0
184.000	0.374 23E+01	0.374 23E+01	0.000	0.374 19E+01	-0.011	1.0	0.0
186.000	0.398 78E+01	0.398 81E+01	0.007	0.398 76E+01	-0.006	1.0	0.0
187.000	0.411 54E+01	0.411 59E+01	0.010	0.411 53E+01	-0.003	1.0	0.0

Data from Kleinrahn and Wagner [6] (continued)

T	P_{σ} , exp	P_{σ} , eq (1)	Dev1	P_{σ} , SWEOS	Dev2	Wt1	Wt2
K	MPa	MPa	%	MPa	%		
188.000	0.424 66E+01	0.424 71E+01	0.013	0.424 65E+01	0.000	1.0	0.0
189.000	0.438 14E+01	0.438 20E+01	0.014	0.438 15E+01	0.003	1.0	0.0
189.500	0.445 03E+01	0.445 09E+01	0.013	0.445 05E+01	0.004	1.0	0.0
189.800	0.449 22E+01	0.449 27E+01	0.011	0.449 24E+01	0.004	1.0	0.0
190.000	0.452 04E+01	0.452 08E+01	0.010	0.452 05E+01	0.003	1.0	0.0
190.100	0.453 45E+01	0.453 49E+01	0.009	0.453 47E+01	0.003	1.0	0.0
190.200	0.454 88E+01	0.454 91E+01	0.007	0.454 89E+01	0.003	1.0	0.0
190.300	0.456 30E+01	0.456 33E+01	0.006	0.456 31E+01	0.002	1.0	0.0
190.400	0.457 74E+01	0.457 76E+01	0.004	0.457 75E+01	0.002	1.0	0.0
190.450	0.458 46E+01	0.458 47E+01	0.003	0.458 46E+01	0.001	1.0	0.0
190.500	0.459 18E+01	0.459 19E+01	0.002	0.459 18E+01	0.001	1.0	0.0
190.530	0.459 61E+01	0.459 62E+01	0.001	0.459 62E+01	0.000	1.0	0.0
190.551	0.459 92E+01	0.459 92E+01	0.000	0.459 92E+01	0.000	1.0	0.0

Number of Points (Ref. 6) 38

AAD1-%	0.011,	BIAS1-%	0.002,	RMS1-%	0.015
AAD1	0.171,	BIAS1	0.105,	RMS1	0.233 kPa
AAD2-%	0.009,	BIAS2-%	-0.001,	RMS2-%	0.015
AAD2	0.118,	BIAS2	-0.050,	RMS2	0.177 kPa

Data from Prydz and Goodwin [18]

T	P_{σ} , exp	P_{σ} , eq (1)	Dev1	P_{σ} , SWEOS	Dev2	Wt1	Wt2
K	MPa	MPa	%	MPa	%		
91.000	0.122 30E-01	0.121 75E-01	-0.448	0.121 75E-01	-0.451	0.0	0.0
92.000	0.138 80E-01	0.138 14E-01	-0.473	0.138 14E-01	-0.477	0.0	0.0
93.000	0.157 00E-01	0.156 28E-01	-0.458	0.156 27E-01	-0.465	0.0	0.0
94.000	0.177 00E-01	0.176 30E-01	-0.396	0.176 29E-01	-0.404	0.0	0.0
95.000	0.199 10E-01	0.198 34E-01	-0.383	0.198 32E-01	-0.391	0.0	0.0

Data from Prydz and Goodwin [18] (continued)

T	P_{σ} , exp	P_{σ} , eq (1)	Dev1	P_{σ} , SWEOS	Dev2	Wt1	Wt2
K	MPa	MPa	%	MPa	%		
96.000	0.223 40E-01	0.222 54E-01	-0.385	0.222 52E-01	-0.392	0.0	0.0
97.000	0.250 00E-01	0.249 06E-01	-0.377	0.249 04E-01	-0.382	0.0	0.0
98.000	0.279 00E-01	0.278 04E-01	-0.343	0.278 04E-01	-0.346	0.0	0.0
99.000	0.310 70E-01	0.309 66E-01	-0.334	0.309 66E-01	-0.335	0.0	0.0
100.000	0.345 10E-01	0.344 08E-01	-0.297	0.344 08E-01	-0.295	0.0	0.0
101.000	0.382 60E-01	0.381 46E-01	-0.298	0.381 47E-01	-0.294	0.0	0.0
102.000	0.423 20E-01	0.421 99E-01	-0.287	0.422 01E-01	-0.280	0.0	0.0
103.000	0.467 10E-01	0.465 84E-01	-0.270	0.465 88E-01	-0.262	0.0	0.0
104.000	0.514 40E-01	0.513 20E-01	-0.233	0.513 25E-01	-0.223	0.0	0.0
105.000	0.565 60E-01	0.564 26E-01	-0.237	0.564 33E-01	-0.224	0.0	0.0
106.000	0.620 60E-01	0.619 22E-01	-0.223	0.619 31E-01	-0.208	0.0	0.0
107.000	0.679 90E-01	0.678 27E-01	-0.240	0.678 38E-01	-0.224	0.0	0.0
108.000	0.743 20E-01	0.741 62E-01	-0.213	0.741 74E-01	-0.196	0.0	0.0
109.000	0.811 30E-01	0.809 47E-01	-0.226	0.809 61E-01	-0.208	0.0	0.0
110.000	0.883 90E-01	0.882 03E-01	-0.211	0.882 19E-01	-0.193	0.0	0.0
111.000	0.961 50E-01	0.959 52E-01	-0.205	0.959 71E-01	-0.187	0.0	0.0
111.000	0.961 60E-01	0.959 52E-01	-0.216	0.959 71E-01	-0.197	0.0	0.0
112.000	0.104 48E+00	0.104 22E+00	-0.252	0.104 24E+00	-0.233	0.0	0.0
113.000	0.113 28E+00	0.113 02E+00	-0.232	0.113 04E+00	-0.213	0.0	0.0
114.000	0.122 65E+00	0.122 38E+00	-0.222	0.122 40E+00	-0.203	0.0	0.0
115.000	0.132 55E+00	0.132 32E+00	-0.174	0.132 34E+00	-0.155	0.0	0.0
115.000	0.132 62E+00	0.132 32E+00	-0.227	0.132 34E+00	-0.208	0.0	0.0
116.000	0.143 11E+00	0.142 87E+00	-0.170	0.142 89E+00	-0.152	0.0	0.0
116.000	0.143 17E+00	0.142 87E+00	-0.212	0.142 89E+00	-0.194	0.0	0.0
117.000	0.154 34E+00	0.154 04E+00	-0.193	0.154 07E+00	-0.175	0.0	0.0
118.000	0.166 16E+00	0.165 87E+00	-0.174	0.165 90E+00	-0.158	0.0	0.0
119.000	0.178 71E+00	0.178 37E+00	-0.188	0.178 40E+00	-0.172	0.0	0.0
120.000	0.191 91E+00	0.191 58E+00	-0.173	0.191 61E+00	-0.158	0.0	0.0
121.000	0.205 81E+00	0.205 51E+00	-0.147	0.205 54E+00	-0.134	0.0	0.0
122.000	0.220 52E+00	0.220 18E+00	-0.152	0.220 21E+00	-0.140	0.0	0.0
123.000	0.235 98E+00	0.235 64E+00	-0.145	0.235 66E+00	-0.134	0.0	0.0
124.000	0.252 28E+00	0.251 89E+00	-0.155	0.251 91E+00	-0.146	0.0	0.0
125.000	0.269 33E+00	0.268 96E+00	-0.136	0.268 99E+00	-0.128	0.0	0.0
126.000	0.287 31E+00	0.286 89E+00	-0.147	0.286 91E+00	-0.140	0.0	0.0
127.000	0.306 08E+00	0.305 69E+00	-0.128	0.305 70E+00	-0.123	0.0	0.0

Data from Prydz and Goodwin [18] (continued)

T	P_{σ} , exp	P_{σ} , eq (1)	Dev1	P_{σ} , SWEOS	Dev2	Wt1	Wt2
K	MPa	MPa	%	MPa	%		
128.000	0.325 80E+00	0.325 39E+00	-0.126	0.325 40E+00	-0.122	0.0	0.0
129.000	0.346 44E+00	0.346 02E+00	-0.122	0.346 02E+00	-0.120	0.0	0.0
130.000	0.368 02E+00	0.367 60E+00	-0.115	0.367 60E+00	-0.114	0.0	0.0
131.000	0.390 61E+00	0.390 16E+00	-0.116	0.390 16E+00	-0.117	0.0	0.0
132.000	0.414 18E+00	0.413 72E+00	-0.111	0.413 71E+00	-0.113	0.0	0.0
133.000	0.438 80E+00	0.438 32E+00	-0.110	0.438 30E+00	-0.113	0.0	0.0
134.000	0.464 47E+00	0.463 97E+00	-0.107	0.463 95E+00	-0.111	0.0	0.0
135.000	0.491 26E+00	0.490 71E+00	-0.111	0.490 68E+00	-0.117	0.0	0.0
136.000	0.519 08E+00	0.518 57E+00	-0.099	0.518 53E+00	-0.106	0.0	0.0
137.000	0.548 10E+00	0.547 56E+00	-0.098	0.547 51E+00	-0.108	0.0	0.0
138.000	0.578 34E+00	0.577 72E+00	-0.107	0.577 66E+00	-0.118	0.0	0.0
139.000	0.609 64E+00	0.609 07E+00	-0.093	0.609 00E+00	-0.105	0.0	0.0
140.000	0.642 19E+00	0.641 65E+00	-0.085	0.641 56E+00	-0.099	0.0	0.0
141.000	0.676 06E+00	0.675 47E+00	-0.088	0.675 36E+00	-0.103	0.0	0.0
142.000	0.711 16E+00	0.710 56E+00	-0.084	0.710 44E+00	-0.101	0.0	0.0
143.000	0.747 58E+00	0.746 97E+00	-0.082	0.746 82E+00	-0.101	0.0	0.0
144.000	0.785 25E+00	0.784 70E+00	-0.070	0.784 60E+00	-0.082	0.0	0.0
145.000	0.824 39E+00	0.823 79E+00	-0.072	0.823 69E+00	-0.085	0.0	0.0
146.000	0.864 91E+00	0.864 27E+00	-0.073	0.864 16E+00	-0.087	0.0	0.0
147.000	0.906 79E+00	0.906 17E+00	-0.068	0.906 05E+00	-0.082	0.0	0.0
148.000	0.950 21E+00	0.949 51E+00	-0.073	0.949 38E+00	-0.087	0.0	0.0
149.000	0.995 01E+00	0.994 33E+00	-0.068	0.994 19E+00	-0.082	0.0	0.0
150.000	0.104 14E+01	0.104 06E+01	-0.074	0.104 05E+01	-0.088	0.0	0.0
151.000	0.108 92E+01	0.108 85E+01	-0.065	0.108 83E+01	-0.080	0.0	0.0
152.000	0.113 86E+01	0.113 79E+01	-0.064	0.113 77E+01	-0.078	0.0	0.0
153.000	0.118 98E+01	0.118 89E+01	-0.072	0.118 87E+01	-0.086	0.0	0.0
154.000	0.124 24E+01	0.124 15E+01	-0.068	0.124 14E+01	-0.082	0.0	0.0
155.000	0.129 67E+01	0.129 58E+01	-0.068	0.129 56E+01	-0.082	0.0	0.0
156.000	0.135 26E+01	0.135 17E+01	-0.064	0.135 16E+01	-0.077	0.0	0.0
157.000	0.141 04E+01	0.140 94E+01	-0.068	0.140 92E+01	-0.080	0.0	0.0
158.000	0.146 98E+01	0.146 88E+01	-0.070	0.146 86E+01	-0.082	0.0	0.0
159.000	0.153 10E+01	0.153 00E+01	-0.070	0.152 98E+01	-0.081	0.0	0.0
160.000	0.159 41E+01	0.159 30E+01	-0.069	0.159 28E+01	-0.080	0.0	0.0
161.000	0.165 88E+01	0.165 78E+01	-0.064	0.165 76E+01	-0.074	0.0	0.0
162.000	0.172 57E+01	0.172 45E+01	-0.073	0.172 43E+01	-0.083	0.0	0.0

Data from Prydz and Goodwin [18] (continued)

T	P_{σ} , exp	P_{σ} , eq (1)	Dev1	P_{σ} , SWEOS	Dev2	Wt1	Wt2
K	MPa	MPa	%	MPa	%		
163.000	0.179 42E+01	0.179 30E+01	-0.063	0.179 29E+01	-0.072	0.0	0.0
164.000	0.186 49E+01	0.186 36E+01	-0.069	0.186 34E+01	-0.077	0.0	0.0
165.000	0.193 73E+01	0.193 61E+01	-0.062	0.193 59E+01	-0.069	0.0	0.0
166.000	0.201 20E+01	0.201 06E+01	-0.070	0.201 04E+01	-0.076	0.0	0.0
167.000	0.208 83E+01	0.208 71E+01	-0.057	0.208 70E+01	-0.062	0.0	0.0
168.000	0.216 74E+01	0.216 57E+01	-0.079	0.216 56E+01	-0.083	0.0	0.0
169.000	0.224 81E+01	0.224 65E+01	-0.072	0.224 64E+01	-0.075	0.0	0.0
170.000	0.233 10E+01	0.232 94E+01	-0.071	0.232 93E+01	-0.074	0.0	0.0
171.000	0.241 60E+01	0.241 45E+01	-0.064	0.241 44E+01	-0.066	0.0	0.0
172.000	0.250 33E+01	0.250 18E+01	-0.059	0.250 17E+01	-0.061	0.0	0.0
173.000	0.259 30E+01	0.259 14E+01	-0.060	0.259 13E+01	-0.062	0.0	0.0
174.000	0.268 49E+01	0.268 33E+01	-0.058	0.268 33E+01	-0.060	0.0	0.0
175.000	0.277 91E+01	0.277 76E+01	-0.053	0.277 76E+01	-0.054	0.0	0.0
176.000	0.287 61E+01	0.287 44E+01	-0.060	0.287 43E+01	-0.062	0.0	0.0
177.000	0.297 50E+01	0.297 36E+01	-0.049	0.297 35E+01	-0.051	0.0	0.0
178.000	0.307 70E+01	0.307 53E+01	-0.054	0.307 52E+01	-0.057	0.0	0.0
179.000	0.318 09E+01	0.317 96E+01	-0.041	0.317 95E+01	-0.044	0.0	0.0
180.000	0.328 82E+01	0.328 65E+01	-0.052	0.328 63E+01	-0.059	0.0	0.0
180.000	0.328 84E+01	0.328 65E+01	-0.058	0.328 63E+01	-0.065	0.0	0.0
181.000	0.339 77E+01	0.339 62E+01	-0.042	0.339 59E+01	-0.051	0.0	0.0
182.000	0.350 98E+01	0.350 87E+01	-0.032	0.350 84E+01	-0.041	0.0	0.0
182.000	0.351 00E+01	0.350 87E+01	-0.038	0.350 84E+01	-0.047	0.0	0.0
183.000	0.362 56E+01	0.362 40E+01	-0.045	0.362 36E+01	-0.055	0.0	0.0
184.000	0.374 35E+01	0.374 23E+01	-0.032	0.374 19E+01	-0.044	0.0	0.0
185.000	0.386 47E+01	0.386 36E+01	-0.029	0.386 31E+01	-0.041	0.0	0.0
186.000	0.398 89E+01	0.398 81E+01	-0.020	0.398 76E+01	-0.033	0.0	0.0
187.000	0.411 66E+01	0.411 59E+01	-0.018	0.411 53E+01	-0.031	0.0	0.0
188.000	0.424 74E+01	0.424 71E+01	-0.008	0.424 65E+01	-0.021	0.0	0.0
189.000	0.438 24E+01	0.438 20E+01	-0.009	0.438 15E+01	-0.020	0.0	0.0
190.000	0.452 10E+01	0.452 08E+01	-0.003	0.452 05E+01	-0.010	0.0	0.0

Number of Points (Ref.18) 105

AAD1-%	0.137,	BIAS1-%	-0.137,	RMS1-%	0.108	
AAD1	0.679,	BIAS1	-0.679,	RMS1	0.514	kPa
AAD2-%	0.139,	BIAS2-%	-0.139,	RMS2-%	0.103	
AAD2	0.771,	BIAS2	-0.771,	RMS2	0.587	kPa

Data from Haynes [19]

T	P_{σ} , exp	P_{σ} , eq (1)	Dev1	P_{σ} , SWEOS	Dev2	Wt1	Wt2
K	MPa	MPa	%	MPa	%		
95.000	0.198 70E-01	0.198 34E-01	-0.182	0.198 32E-01	-0.190	0.0	0.0
100.000	0.344 80E-01	0.344 08E-01	-0.210	0.344 08E-01	-0.208	0.0	0.0
105.000	0.565 10E-01	0.564 26E-01	-0.148	0.564 33E-01	-0.136	0.0	0.0
110.000	0.883 40E-01	0.882 03E-01	-0.155	0.882 19E-01	-0.137	0.0	0.0
115.000	0.132 48E+00	0.132 32E+00	-0.121	0.132 34E+00	-0.103	0.0	0.0
120.000	0.191 67E+00	0.191 58E+00	-0.048	0.191 61E+00	-0.033	0.0	0.0
125.000	0.269 08E+00	0.268 96E+00	-0.044	0.268 99E+00	-0.035	0.0	0.0
130.000	0.367 60E+00	0.367 60E+00	-0.001	0.367 60E+00	0.000	0.0	0.0
135.000	0.490 69E+00	0.490 71E+00	0.005	0.490 68E+00	-0.001	0.0	0.0
140.000	0.641 55E+00	0.641 65E+00	0.015	0.641 56E+00	0.001	0.0	0.0

Number of Points (Ref. 19) 10

AAD1-%	0.093,	BIAS1-%	-0.089,	RMS1-%	0.080
AAD1	0.082,	BIAS1	-0.058,	RMS1	0.075 kPa
AAD2-%	0.084,	BIAS2-%	-0.084,	RMS2-%	0.077
AAD2	0.061,	BIAS2	-0.060,	RMS2	0.048 kPa

Data from eq (1)

T	P_{σ} , exp	P_{σ} , eq (1)	Dev1	P_{σ} , SWEOS	Dev2	Wt1	Wt2
K	MPa	MPa	%	MPa	%		
91.0	1.217 52E-02	1.217 52E-02	-	1.217 49E-02	-0.003	-	46595.385
96.0	2.225 40E-02	2.225 40E-02	-	2.225 25E-02	-0.007	-	25531.209
101.0	3.814 59E-02	3.814 59E-02	-	3.814 75E-02	0.004	-	14913.515
106.0	6.192 18E-02	6.192 18E-02	-	6.193 06E-02	0.014	-	9199.929
111.0	9.595 25E-02	9.595 25E-02	-	9.597 06E-02	0.019	-	5947.908
116.0	1.428 67E-01	1.428 67E-01	-	1.428 93E-01	0.018	-	4004.906
121.0	2.055 07E-01	2.055 07E-01	-	2.055 35E-01	0.013	-	2793.881
126.0	2.868 87E-01	2.868 87E-01	-	2.869 07E-01	0.007	-	2010.580
131.0	3.901 56E-01	3.901 56E-01	-	3.901 55E-01	0.000	-	1487.113
136.0	5.185 69E-01	5.185 69E-01	-	5.185 28E-01	-0.008	-	1127.035

Data from eq (1) (continued)

T	P_{σ} , exp	P_{σ} , eq (1)	Dev1	P_{σ} , SWEOS	Dev2	Wt1	Wt2
K	MPa	MPa	%	MPa	%		
141.0	6.754 67E-01	6.754 67E-01	-	6.753 61E-01	-0.016	-	1500.000
146.0	8.642 75E-01	8.642 75E-01	-	8.641 59E-01	-0.013	-	1500.000
151.0	1.088 50E+00	1.088 50E+00	-	1.088 34E+00	-0.014	-	1500.000
156.0	1.351 74E+00	1.351 74E+00	-	1.351 57E+00	-0.013	-	1500.000
161.0	1.657 78E+00	1.657 78E+00	-	1.657 60E+00	-0.010	-	1500.000
166.0	2.010 57E+00	2.010 57E+00	-	2.010 44E+00	-0.006	-	3750.000
171.0	2.414 45E+00	2.414 45E+00	-	2.414 39E+00	-0.002	-	3750.000
176.0	2.874 35E+00	2.874 35E+00	-	2.874 31E+00	-0.001	-	3750.000
181.0	3.396 22E+00	3.396 22E+00	-	3.395 94E+00	-0.008	-	3750.000
186.0	3.988 10E+00	3.988 10E+00	-	3.987 57E+00	-0.013	-	3750.000

Number of Points (eq (1)) 20

AAD1-%	- ,	BIAS1-%	- ,	RMS1-%	-
AAD1	- ,	BIAS1	- ,	RMS1	-
AAD2-%	0.010,	BIAS2-%	-0.002,	RMS2-%	0.011
AAD2	0.096,	BIAS2	-0.086,	RMS2	0.132 kPa

Total Points 153 for Ancillary Equation

AAD1-%	0.103,	BIAS1-%	-0.099,	RMS1-%	0.109
AAD1	0.514,	BIAS1	-0.444,	RMS1	0.563 kPa

Total Points 173 for Equation of State

AAD2-%	0.092,	BIAS2-%	-0.090,	RMS2-%	0.104
AAD2	0.508,	BIAS2	-0.492,	RMS2	0.581 kPa

TABLE A2
COMPARISONS FOR SATURATED LIQUID DENSITIES

Note: The numeral 1 associated with quantities refers to comparisons with eq (2); the numeral 2 refers to comparisons with the SWEOS. Similarly, Wt1 refers to weighting for the development of eq (2), and Wt2 refers to weighting of the Gibbs condition for the development of the SWEOS. For the points generated from eq (2), in the last part of the table, statistics relative to eq (2) have no meaning; these points are therefore excluded from the totals.

Data from Kleinrahm and Wagner [6]

T	ρ_{oL}, exp	$\rho_{oL}, \text{eq}(2)$	Dev1	ρ_{oL}, SWEOS	Dev2	Wt1	Wt2
K	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mol} \cdot \text{dm}^{-3}$	%	$\text{mol} \cdot \text{dm}^{-3}$	%		
90.685	28.1411	28.1474	0.022	28.1452	0.015	1.0	0.0
91.000	28.1144	28.1208	0.023	28.1192	0.017	1.0	0.0
95.000	27.7811	27.7811	0.000	27.7860	0.018	1.0	0.0
100.000	27.3571	27.3518	-0.019	27.3624	0.019	1.0	0.0
105.000	26.9223	26.9157	-0.025	26.9295	0.027	1.0	0.0
110.000	26.4772	26.4709	-0.024	26.4858	0.032	1.0	0.0
111.631	26.3286	26.3236	-0.019	26.3384	0.037	1.0	0.0
115.000	26.0197	26.0154	-0.016	26.0298	0.039	1.0	0.0
120.000	25.5490	25.5473	-0.007	25.5600	0.043	1.0	0.0
125.000	25.0629	25.0641	0.005	25.0744	0.046	1.0	0.0
130.000	24.5594	24.5632	0.015	24.5708	0.046	1.0	0.0
135.000	24.0353	24.0415	0.026	24.0466	0.047	1.0	0.0
140.000	23.4889	23.4956	0.028	23.4984	0.040	1.0	0.0
145.000	22.9145	22.9210	0.028	22.9221	0.033	1.0	0.0
150.000	22.3071	22.3123	0.023	22.3124	0.024	1.0	0.0
155.000	21.6599	21.6624	0.012	21.6622	0.011	1.0	0.0
160.000	20.9618	20.9618	0.000	20.9617	-0.001	1.0	0.0
165.000	20.2000	20.1966	-0.017	20.1966	-0.017	1.0	0.0
170.000	19.3516	19.3457	-0.030	19.3451	-0.034	1.0	0.0
175.000	18.3815	18.3730	-0.046	18.3706	-0.059	1.0	0.0
180.000	17.2151	17.2070	-0.047	17.2044	-0.062	1.0	0.0
182.000	16.6600	16.6537	-0.038	16.6536	-0.039	1.0	0.0
184.000	16.0238	16.0205	-0.020	16.0263	0.016	1.0	0.0
186.000	15.2610	15.2622	0.008	15.2793	0.120	1.0	0.0
187.000	14.8040	14.8072	0.021	14.8325	0.193	1.0	0.0

Data from Kleinrahn and Wagner [6] continued

T	$\rho_{\sigma L}$, exp	$\rho_{\sigma L}$, eq(2)	Dev1	$\rho_{\sigma L}$, SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
188.000	14.2617	14.2672	0.039	14.3028	0.288	1.0	0.0
189.000	13.5704	13.5766	0.046	13.6234	0.391	1.0	0.0
189.500	13.1152	13.1218	0.050	13.1727	0.439	1.0	0.0
189.800	12.7744	12.7795	0.040	12.8303	0.438	1.0	0.0
190.000	12.4960	12.5000	0.032	12.5476	0.413	1.0	0.0
190.100	12.3325	12.3356	0.025	12.3796	0.382	1.0	0.0
190.200	12.1436	12.1463	0.022	12.1838	0.331	1.0	0.0
190.300	11.9180	11.9187	0.006	11.9449	0.226	1.0	0.0
190.400	11.6225	11.6228	0.002	11.6265	0.034	1.0	0.0
190.450	11.4243	11.4242	-0.001	11.4071	-0.150	1.0	0.0
190.500	11.1494	11.1463	-0.027	11.0923	-0.513	1.0	0.0
190.530	10.8882	10.8736	-0.135	10.7796	-0.997	1.0	0.0
190.551	10.1390	10.1390	0.000	10.1390	0.000	1.0	0.0

Number of Points (Ref. 6) 38

AAD1-%	0.025,	BIAS1-%	0.000,	RMS1-%	0.034	
AAD1	0.004,	BIAS1	0.000,	RMS1	0.005	mol·dm ⁻³
AAD2-%	0.148,	BIAS2-%	0.050,	RMS2-%	0.249	
AAD2	0.020,	BIAS2	0.009,	RMS2	0.030	mol·dm ⁻³

Data from Orrit and Laupretre [20]

T	$\rho_{\sigma L}$, exp	$\rho_{\sigma L}$, eq(2)	Dev1	$\rho_{\sigma L}$, SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
99.447	27.4263	27.3996	-0.097	27.4097	-0.061	0.0	0.0
104.630	26.9731	26.9482	-0.092	26.9618	-0.042	0.0	0.0
109.832	26.5081	26.4860	-0.083	26.5009	-0.027	0.0	0.0
115.147	26.0219	26.0019	-0.077	26.0162	-0.022	0.0	0.0
117.812	25.7545	25.7539	-0.002	25.7674	0.050	0.0	0.0

Data from Orrit and Laupretre [20] continued

T	$\rho_{\sigma L}$, exp	$\rho_{\sigma L}$, eq(2)	Dev1	$\rho_{\sigma L}$, SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
120.577	25.5183	25.4924	-0.102	25.5048	-0.053	0.0	0.0
123.300	25.2303	25.2302	0.000	25.2414	0.044	0.0	0.0
126.026	24.9872	24.9628	-0.097	24.9726	-0.059	0.0	0.0
128.614	24.7142	24.7040	-0.041	24.7123	-0.008	0.0	0.0
131.494	24.4343	24.4096	-0.101	24.4165	-0.073	0.0	0.0
134.235	24.1376	24.1228	-0.061	24.1282	-0.039	0.0	0.0
137.004	23.8590	23.8259	-0.139	23.8299	-0.122	0.0	0.0
139.730	23.5405	23.5258	-0.063	23.5287	-0.050	0.0	0.0
142.412	23.2494	23.2223	-0.117	23.2242	-0.108	0.0	0.0
145.146	22.9265	22.9037	-0.099	22.9048	-0.095	0.0	0.0
147.933	22.5955	22.5685	-0.120	22.5689	-0.118	0.0	0.0
153.472	21.9111	21.8659	-0.206	21.8657	-0.207	0.0	0.0
150.627	22.2515	22.2332	-0.082	22.2333	-0.082	0.0	0.0
155.955	21.5415	21.5329	-0.040	21.5327	-0.041	0.0	0.0
159.051	21.1301	21.0992	-0.146	21.0991	-0.147	0.0	0.0

Number of Points (Ref. 20) 20

AAD1-% 0.088, BIAS1-% -0.088, RMS1-% 0.047
 AAD1 0.021, BIAS1 -0.021, RMS1 0.011 mol·dm⁻³
 AAD2-% 0.072, BIAS2-% -0.063, RMS2-% 0.059
 AAD2 0.017, BIAS2 -0.015, RMS2 0.013 mol·dm⁻³

Data from Haynes and Hiza [21]

T	$\rho_{\sigma L}$, exp	$\rho_{\sigma L}$, eq(2)	Dev1	$\rho_{\sigma L}$, SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
105.000	26.9458	26.9157	-0.112	26.9295	-0.061	0.0	0.0
110.000	26.4985	26.4709	-0.104	26.4858	-0.048	0.0	0.0
115.000	26.0443	26.0154	-0.111	26.0298	-0.056	0.0	0.0
120.000	25.5721	25.5473	-0.097	25.5600	-0.047	0.0	0.0
125.000	25.0845	25.0641	-0.081	25.0744	-0.040	0.0	0.0

Data from Haynes and Hiza [21] continued

T	$\rho_{\sigma L}$, exp	$\rho_{\sigma L}$, eq(2)	Dev1	$\rho_{\sigma L}$, SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
130.000	24.5775	24.5632	-0.058	24.5708	-0.027	0.0	0.0
135.000	24.0540	24.0415	-0.052	24.0466	-0.031	0.0	0.0
140.000	23.5067	23.4956	-0.047	23.4984	-0.035	0.0	0.0
145.000	22.9312	22.9210	-0.045	22.9221	-0.040	0.0	0.0
150.000	22.3218	22.3123	-0.043	22.3124	-0.042	0.0	0.0
160.000	20.9876	20.9618	-0.123	20.9617	-0.124	0.0	0.0

Number of Points (Ref. 21) 11

AAD1-%	0.079,	BIAS1-%	-0.079,	RMS1-%	0.030	
AAD1	0.020,	BIAS1	-0.020,	RMS1	0.008	mol·dm ⁻³
AAD2-%	0.050,	BIAS2-%	-0.050,	RMS2-%	0.025	
AAD2	0.012,	BIAS2	-0.012,	RMS2	0.005	mol·dm ⁻³

Data from McClune [22]

T	$\rho_{\sigma L}$, exp	$\rho_{\sigma L}$, eq(2)	Dev1	$\rho_{\sigma L}$, SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
93.150	27.9493	27.9385	-0.039	27.9407	-0.031	0.0	0.0
93.150	27.9493	27.9385	-0.039	27.9407	-0.031	0.0	0.0
98.150	27.5267	27.5113	-0.056	27.5201	-0.024	0.0	0.0
103.150	27.0978	27.0779	-0.073	27.0908	-0.026	0.0	0.0
108.150	26.6521	26.6366	-0.058	26.6513	-0.003	0.0	0.0
113.150	26.1977	26.1853	-0.047	26.2000	0.009	0.0	0.0
118.150	25.7340	25.7221	-0.046	25.7355	0.006	0.0	0.0
123.150	25.2615	25.2448	-0.066	25.2560	-0.022	0.0	0.0

Number of Points (Ref.22) 7

AAD1-%	0.055,	BIAS1-%	-0.055,	RMS1-%	0.011	
AAD1	0.015,	BIAS1	-0.015,	RMS1	0.003	mol·dm ⁻³
AAD2-%	0.017,	BIAS2-%	-0.013,	RMS2-%	0.015	
AAD2	0.005,	BIAS2	-0.004,	RMS2	0.004	mol·dm ⁻³

Data from Terry et al. [23]

T	$\rho_{\sigma L}$, exp	$\rho_{\sigma L}$, eq(2)	Dev1	$\rho_{\sigma L}$, SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
92.029	28.0346	28.0336	-0.003	28.0339	-0.003	0.0	0.0
93.090	27.9519	27.9436	-0.030	27.9457	-0.022	0.0	0.0
93.654	27.8975	27.8957	-0.006	27.8986	0.004	0.0	0.0
95.743	27.7233	27.7177	-0.020	27.7236	0.001	0.0	0.0
95.905	27.7225	27.7038	-0.067	27.7099	-0.045	0.0	0.0
100.939	27.2831	27.2705	-0.046	27.2818	-0.005	0.0	0.0
102.616	27.1502	27.1246	-0.094	27.1371	-0.048	0.0	0.0
107.338	26.7229	26.7089	-0.053	26.7234	0.002	0.0	0.0
108.806	26.6082	26.5780	-0.114	26.5928	-0.058	0.0	0.0
112.156	26.2882	26.2759	-0.047	26.2907	0.010	0.0	0.0
114.003	26.1369	26.1072	-0.114	26.1218	-0.058	0.0	0.0
117.523	25.7883	25.7810	-0.028	25.7946	0.024	0.0	0.0
119.319	25.6420	25.6119	-0.117	25.6248	-0.067	0.0	0.0
123.040	25.2307	25.2555	0.098	25.2667	0.143	0.0	0.0
125.765	25.0206	24.9887	-0.128	24.9986	-0.088	0.0	0.0
127.426	24.8201	24.8234	0.013	24.8324	0.050	0.0	0.0
130.078	24.5872	24.5552	-0.130	24.5628	-0.099	0.0	0.0
132.228	24.3426	24.3335	-0.037	24.3399	-0.011	0.0	0.0
136.122	23.9493	23.9213	-0.117	23.9258	-0.098	0.0	0.0
137.671	23.8061	23.7532	-0.222	23.7569	-0.207	0.0	0.0
140.482	23.4704	23.4415	-0.123	23.4441	-0.112	0.0	0.0
142.092	23.2555	23.2589	0.015	23.2610	0.023	0.0	0.0
145.195	22.9151	22.8979	-0.075	22.8990	-0.070	0.0	0.0
147.541	22.6171	22.6163	-0.004	22.6168	-0.001	0.0	0.0
151.369	22.1523	22.1388	-0.061	22.1388	-0.061	0.0	0.0

Number of Points (Ref. 23) 25

AAD1-%	0.070,	BIAS1-%	-0.060,	RMS1-%	0.064	
AAD1	0.018,	BIAS1	-0.015,	RMS1	0.016	mol·dm ⁻³
AAD2-%	0.052,	BIAS2-%	-0.032,	RMS2-%	0.065	
AAD2	0.013,	BIAS2	-0.008,	RMS2	0.016	mol·dm ⁻³

Data from Klosek and McKinley [24]

T	$\rho_{\sigma L}$, exp	$\rho_{\sigma L}$, eq(2)	Dev1	$\rho_{\sigma L}$, SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
94.261	27.8437	27.8441	0.001	27.8479	0.015	0.0	0.0
99.817	27.3539	27.3676	0.050	27.3780	0.088	0.0	0.0
105.372	26.8631	26.8829	0.074	26.8968	0.126	0.0	0.0
110.928	26.3635	26.3872	0.090	26.4021	0.146	0.0	0.0
116.483	25.8654	25.8780	0.049	25.8920	0.103	0.0	0.0
122.039	25.3377	25.3522	0.057	25.3640	0.104	0.0	0.0
127.594	24.7887	24.8066	0.072	24.8155	0.108	0.0	0.0
133.150	24.2373	24.2372	0.000	24.2431	0.024	0.0	0.0

Number of Points (Ref. 24) 8

AAD1-%	0.049,	BIAS1-%	0.049,	RMS1-%	0.031	
AAD1	0.013,	BIAS1	0.013,	RMS1	0.008	mol·dm ⁻³
AAD2-%	0.089,	BIAS2-%	0.089,	RMS2-%	0.043	
AAD	0.023,	BIAS2	0.023,	RMS2	0.011	mol·dm ⁻³

Data from Rodosevich and Miller [25]

T	$\rho_{\sigma L}$, exp	$\rho_{\sigma L}$, eq(2)	Dev1	$\rho_{\sigma L}$, SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
91.000	28.1175	28.1208	0.012	28.1192	0.006	0.0	0.0
100.150	27.3545	27.3388	-0.057	27.3495	-0.018	0.0	0.0
108.050	26.6638	26.6455	-0.069	26.6602	-0.014	0.0	0.0
114.940	26.0396	26.0210	-0.071	26.0354	-0.016	0.0	0.0

Number of Points (Ref. 25) 4

AAD1-%	0.052,	BIAS1-%	-0.046,	RMS1-%	0.034	
AAD1	0.014,	BIAS1	-0.012,	RMS1	0.009	mol·dm ⁻³
AAD2-%	0.014,	BIAS2-%	-0.011,	RMS2-%	0.010	
AAD2	0.004,	BIAS2	-0.003,	RMS2	0.003	mol·dm ⁻³

Data from Verbeke [26]

T	$\rho_{\sigma L}$, exp	$\rho_{\sigma L}$, eq(2)	Dev1	$\rho_{\sigma L}$, SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
190.050	12.4400	12.4204	-0.158	12.4664	0.212	0.0	0.0
190.150	12.2700	12.2447	-0.206	12.2859	0.129	0.0	0.0
190.250	12.0700	12.0385	-0.261	12.0712	0.010	0.0	0.0
190.350	11.7900	11.7826	-0.063	11.7997	0.082	0.0	0.0
190.450	11.4100	11.4242	0.125	11.4071	-0.025	0.0	0.0

Number of Points (Ref. 26) 5

AAD1-%	0.163,	BIAS1-%	-0.113,	RMS1-%	0.135	
AAD1	0.020,	BIAS1	-0.014,	RMS1	0.016	mol·dm ⁻³
AAD2-%	0.092,	BIAS2-%	0.082,	RMS2-%	0.085	
AAD2	0.011,	BIAS2	0.010,	RMS2	0.010	mol·dm ⁻³

Data from Vennix et al. [27]

T	$\rho_{\sigma L}$, exp	$\rho_{\sigma L}$, eq(2)	Dev1	$\rho_{\sigma L}$, SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
138.951	23.6246	23.6124	-0.052	23.6155	-0.038	0.0	0.0
158.829	21.2348	21.1311	-0.488	21.1309	-0.489	0.0	0.0
166.766	20.0075	19.9073	-0.501	19.9072	-0.501	0.0	0.0
174.773	18.5009	18.4206	-0.434	18.4183	-0.446	0.0	0.0
178.726	17.5690	17.5291	-0.227	17.5260	-0.245	0.0	0.0
182.608	16.5275	16.4711	-0.341	16.4723	-0.334	0.0	0.0
186.771	14.9754	14.9175	-0.387	14.9408	-0.231	0.0	0.0
188.852	13.7549	13.6933	-0.448	13.7385	-0.119	0.0	0.0
189.882	12.6809	12.6713	-0.076	12.7213	0.319	0.0	0.0

Number of Points (Ref. 27) 9

AAD1-%	0.328,	BIAS1-%	-0.328,	RMS1-%	0.161	
AAD1	0.058,	BIAS1	-0.058,	RMS1	0.032	mol·dm ⁻³
AAD2-%	0.302,	BIAS2-%	-0.232,	RMS2-%	0.247	
AAD2	0.054,	BIAS2	-0.045,	RMS2	0.044	mol·dm ⁻³

Data from Goodwin [28]

T	$\rho_{\sigma L}$, exp	$\rho_{\sigma L}$, eq(2)	Dev1	$\rho_{\sigma L}$, SWEOS	Dev2	Wt1	Wt2
K	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mol} \cdot \text{dm}^{-3}$	%	$\text{mol} \cdot \text{dm}^{-3}$	%		
130.000	24.5580	24.5632	0.021	24.5708	0.052	0.0	0.0
135.000	24.0410	24.0415	0.002	24.0466	0.023	0.0	0.0
140.000	23.5000	23.4956	-0.019	23.4984	-0.007	0.0	0.0
145.000	22.9320	22.9210	-0.048	22.9221	-0.043	0.0	0.0
150.000	22.3290	22.3123	-0.075	22.3124	-0.074	0.0	0.0
155.000	21.6860	21.6624	-0.109	21.6622	-0.110	0.0	0.0
160.000	20.9910	20.9618	-0.139	20.9617	-0.140	0.0	0.0
165.000	20.2340	20.1966	-0.185	20.1966	-0.185	0.0	0.0
170.000	19.3870	19.3457	-0.213	19.3451	-0.216	0.0	0.0
175.000	18.4170	18.3730	-0.239	18.3706	-0.252	0.0	0.0
180.000	17.2490	17.2070	-0.243	17.2044	-0.258	0.0	0.0
184.000	16.0540	16.0205	-0.209	16.0263	-0.172	0.0	0.0
186.000	15.2860	15.2622	-0.156	15.2793	-0.044	0.0	0.0
188.000	14.2840	14.2672	-0.118	14.3028	0.131	0.0	0.0

Number of Points (Ref. 28) 14

AAD1-%	0.127,	BIAS1-%	-0.124,	RMS1-%	0.086	
AAD	0.024,	BIAS1	-0.023,	RMS1	0.016	$\text{mol} \cdot \text{dm}^{-3}$
AAD2-%	0.122,	BIAS2-%	-0.093,	RMS2-%	0.114	
AAD	0.023,	BIAS2	-0.018,	RMS2	0.021	$\text{mol} \cdot \text{dm}^{-3}$

Data from Ricci and Scafe [29]

T	$\rho_{\sigma L}$, exp	$\rho_{\sigma L}$, eq(2)	Dev1	$\rho_{\sigma L}$, SWEOS	Dev2	Wt1	Wt2
K	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mol} \cdot \text{dm}^{-3}$	%	$\text{mol} \cdot \text{dm}^{-3}$	%		
185.030	15.7100	15.6501	-0.381	15.6609	-0.313	0.0	0.0
186.030	15.3020	15.2495	-0.343	15.2668	-0.230	0.0	0.0
187.031	14.8360	14.7919	-0.297	14.8176	-0.124	0.0	0.0
188.031	14.2850	14.2486	-0.255	14.2845	-0.004	0.0	0.0
189.032	13.5780	13.5505	-0.202	13.5976	0.145	0.0	0.0
190.032	12.4740	12.4496	-0.196	12.4963	0.178	0.0	0.0

Data from Ricci and Scafe [29] continued

Number of Points (Ref. 29) 6

AAD1-%	0.279,	BIAS1-%	-0.279,	RMS1-%	0.069	
AAD1	0.041,	BIAS1	-0.041,	RMS1	0.013	mol·dm ⁻³
AAD2-%	0.166,	BIAS2-%	-0.058,	RMS2-%	0.182	
AAD2	0.024,	BIAS2	-0.010,	RMS2	0.027	mol·dm ⁻³

Data from Goodwin [30]

T	$\rho_{\sigma L}$, exp	$\rho_{\sigma L}$, eq(2)	Dev1	$\rho_{\sigma L}$, SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
150.000	22.3320	22.3123	-0.088	22.3124	-0.088	0.0	0.0
175.000	18.4200	18.3730	-0.255	18.3706	-0.268	0.0	0.0
180.000	17.2540	17.2070	-0.272	17.2044	-0.287	0.0	0.0
184.000	16.0600	16.0205	-0.246	16.0263	-0.210	0.0	0.0

Number of Points (Ref. 30) 4

AAD1-%	0.215,	BIAS1-%	-0.215,	RMS1-%	0.074	
AAD1	0.038,	BIAS1	-0.038,	RMS1	0.011	mol·dm ⁻³
AAD2-%	0.213,	BIAS2-%	-0.213,	RMS2-%	0.078	
AAD2	0.038,	BIAS2	-0.038,	RMS2	0.012	mol·dm ⁻³

Data from Goodwin [31]

T	$\rho_{\sigma L}$, exp	$\rho_{\sigma L}$, eq(2)	Dev1	$\rho_{\sigma L}$, SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
93.512	27.9100	27.9078	-0.008	27.9105	0.002	0.0	0.0
97.173	27.6050	27.5952	-0.035	27.6029	-0.007	0.0	0.0
101.434	27.2430	27.2275	-0.057	27.2392	-0.014	0.0	0.0
105.165	26.9160	26.9011	-0.055	26.9150	-0.004	0.0	0.0
109.611	26.5270	26.5058	-0.080	26.5207	-0.024	0.0	0.0

Data from Goodwin [31] (continued)

T	$\rho_{\sigma L}$, exp	$\rho_{\sigma L}$, eq(2)	Dev1	$\rho_{\sigma L}$, SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
113.772	26.1460	26.1284	-0.067	26.1430	-0.011	0.0	0.0
117.746	25.7820	25.7601	-0.085	25.7736	-0.033	0.0	0.0
121.893	25.3880	25.3663	-0.086	25.3781	-0.039	0.0	0.0
125.825	24.9990	24.9827	-0.065	24.9926	-0.026	0.0	0.0
129.657	24.6110	24.5982	-0.052	24.6060	-0.020	0.0	0.0
133.773	24.1860	24.1717	-0.059	24.1773	-0.036	0.0	0.0
133.878	24.1760	24.1606	-0.064	24.1661	-0.041	0.0	0.0
139.352	23.5780	23.5679	-0.043	23.5709	-0.030	0.0	0.0
145.448	22.8800	22.8679	-0.053	22.8689	-0.048	0.0	0.0
151.553	22.1300	22.1152	-0.067	22.1152	-0.067	0.0	0.0
157.199	21.3790	21.3612	-0.083	21.3610	-0.084	0.0	0.0
163.659	20.4280	20.4092	-0.092	20.4092	-0.092	0.0	0.0
169.326	19.4920	19.4665	-0.131	19.4660	-0.133	0.0	0.0
175.053	18.3900	18.3618	-0.153	18.3594	-0.166	0.0	0.0

Number of Points (Ref. 31) 19

AAD1-%	0.070,	BIAS1-%	-0.070,	RMS1-%	0.031	
AAD1	0.016,	BIAS1	-0.016,	RMS1	0.006	mol·dm ⁻³
AAD2-%	0.046,	BIAS2-%	-0.046,	RMS2-%	0.044	
AAD2	0.010,	BIAS2	-0.010,	RMS2	0.008	mol·dm ⁻³

Data from Jansoone et al. [32]

T	$\rho_{\sigma L}$, exp	$\rho_{\sigma L}$, eq(2)	Dev1	$\rho_{\sigma L}$, SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
187.469	14.5820	14.5672	-0.102	14.5971	0.103	0.0	0.0
189.311	13.3000	13.3068	0.051	13.3566	0.425	0.0	0.0
189.707	12.8790	12.8935	0.112	12.9448	0.511	0.0	0.0
190.048	12.3970	12.4237	0.215	12.4698	0.587	0.0	0.0
190.316	11.8240	11.8772	0.450	11.9008	0.650	0.0	0.0
190.442	11.3670	11.4597	0.815	11.4466	0.701	0.0	0.0
190.515	10.7960	11.0288	2.157	10.9573	1.494	0.0	0.0

Data from Jansoone et al. [32] (continued)

Number of Points (Ref. 32) 7

AAD1-%	0.557,	BIAS1-%	0.528,	RMS1-%	0.721	
AAD1	0.063,	BIAS1	0.059,	RMS1	0.078	mol·dm ⁻³
AAD2-%	0.639,	BIAS2-%	0.639,	RMS2-%	0.394	
AAD2	0.076,	BIAS2	0.076,	RMS2	0.041	mol·dm ⁻³

Data from eq (2)

T	$\rho_{\sigma L}$, exp	$\rho_{\sigma L}$, eq(2)	Dev1	$\rho_{\sigma L}$, SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
91.0	28.12075	28.12075	-	28.11919	-0.006	-	17.390
96.0	27.69569	27.69569	-	27.70194	0.023	-	10.963
101.0	27.26517	27.26517	-	27.27660	0.042	-	7.354
106.0	26.82746	26.82746	-	26.84162	0.053	-	5.201
111.0	26.38069	26.38069	-	26.39559	0.056	-	3.850
116.0	25.92291	25.92291	-	25.93700	0.054	-	2.964
121.0	25.45195	25.45195	-	25.46417	0.048	-	2.362
126.0	24.96542	24.96542	-	24.97517	0.039	-	1.941
131.0	24.46062	24.46062	-	24.46769	0.029	-	1.639
136.0	23.93442	23.93442	-	23.93895	0.019	-	49.669
141.0	23.38312	23.38312	-	23.38551	0.010	-	44.004
146.0	22.80217	22.80217	-	22.80303	0.004	-	199.223
151.0	22.18586	22.18586	-	22.18588	0.000	-	184.268
156.0	21.52672	21.52672	-	21.52651	-0.001	-	174.141
161.0	20.81447	20.81447	-	20.81438	0.000	-	168.363
166.0	20.03418	20.03418	-	20.03409	0.000	-	167.007
171.0	19.16248	19.16248	-	19.16155	-0.005	-	170.897
176.0	18.15860	18.15860	-	18.15590	-0.015	-	182.282
181.0	16.93856	16.93856	-	16.93686	-0.010	-	206.862
186.0	15.26221	15.26221	-	15.27930	0.112	-	260.343

Number of Points (eq. (2)) 20

AAD1-%	- ,	BIAS1-%	- ,	RMS1-%	-	
AAD1	- ,	BIAS1	- ,	RMS1	-	
AAD2-%	0.026,	BIAS2-%	0.023,	RMS2-%	0.031	
AAD2	0.006,	BIAS2	0.005,	RMS2	0.006	mol·dm ⁻³

Total Points 177 for Ancillary Equation

AAD1-% 0.111, BIAS1-% -0.055, RMS1-% 0.214
AAD1 0.020, BIAS1 -0.013, RMS1 0.029 mol·dm⁻³

Total Points 197 for Equation of State

AAD2-% 0.114, BIAS2-% -0.001, RMS2-% 0.211
AAD2 0.019, BIAS2 -0.003, RMS2 0.033 mol·dm⁻³

Total Points 76 from Refs. 6, 20-22 for Ancillary Equation

AAD1-% 0.052, BIAS1-% -0.040, RMS1-% 0.054
AAD1 0.012, BIAS1 -0.010, RMS1 0.012 mol·dm⁻³

Total Points 76 from Refs. 6, 20-22 for Equation of State

AAD1-% 0.102, BIAS1-% 0.000, RMS1-% 0.186
AAD1 0.017, BIAS1 -0.002, RMS1 0.025 mol·dm⁻³

TABLE A3

COMPARISONS FOR SATURATED VAPOR DENSITIES

Notes for Table A3. The numeral 1 associated with quantities refers to comparisons with eq (3); the numeral 2 refers to comparisons with the SWEOS. Similarly, Wt1 refers to weighting for the development of eq (3), and Wt2 refers to weighting of the saturated vapor densities in the development of the SWEOS. For the points generated from eq (3), in the last part of the table, statistics relative to eq (3) have no meaning; these points are therefore excluded from the totals.

Data from Kleinrahm and Wagner [6]

T	ρ_{sv} , exp	ρ_{sv} , eq(3)	Dev1	ρ_{sv} , SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
90.685	0.015 63	0.015 64	0.034	0.015 65	0.155	1.0	0.0
91.000	0.016 23	0.016 23	-0.012	0.016 25	0.104	1.0	0.0
95.000	0.025 43	0.025 42	-0.041	0.025 43	0.018	1.0	0.0
100.000	0.042 16	0.042 14	-0.047	0.042 15	-0.025	1.0	0.0
105.000	0.066 28	0.066 30	0.028	0.066 30	0.035	1.0	0.0
110.000	0.099 77	0.099 81	0.045	0.099 82	0.053	1.0	0.0
111.631	0.113 10	0.113 12	0.017	0.113 13	0.028	1.0	0.0
115.000	0.144 75	0.144 79	0.029	0.144 83	0.052	1.0	0.0
120.000	0.203 49	0.203 54	0.026	0.203 63	0.070	1.0	0.0
125.000	0.278 63	0.278 62	-0.003	0.278 81	0.063	1.0	0.0
130.000	0.373 02	0.372 91	-0.030	0.373 22	0.052	1.0	0.0
135.000	0.490 01	0.489 71	-0.062	0.490 14	0.027	1.0	0.0
140.000	0.633 24	0.632 89	-0.055	0.633 43	0.030	1.0	0.0
145.000	0.807 50	0.807 15	-0.043	0.807 71	0.025	1.0	0.0
150.000	1.018 33	1.018 30	-0.003	1.018 76	0.042	1.0	0.0
155.000	1.273 35	1.273 83	0.037	1.274 06	0.056	1.0	0.0
160.000	1.582 93	1.583 83	0.057	1.583 75	0.052	1.0	0.0
165.000	1.961 49	1.962 64	0.059	1.962 28	0.040	1.0	0.0
170.000	2.430 79	2.432 20	0.058	2.431 73	0.039	1.0	0.0
175.000	3.028 90	3.029 52	0.020	3.029 25	0.012	1.0	0.0
180.000	3.828 69	3.827 39	-0.034	3.827 36	-0.035	1.0	0.0
182.000	4.238 42	4.236 04	-0.056	4.235 79	-0.062	1.0	0.0
184.000	4.729 87	4.726 28	-0.076	4.725 28	-0.097	1.0	0.0
186.000	5.347 68	5.343 67	-0.075	5.340 76	-0.129	1.0	0.0
187.000	5.732 94	5.729 03	-0.068	5.724 44	-0.148	1.0	0.0

Data from Kleinrahm and Wagner [6] (continued)

T	$\rho_{\sigma v}$, exp	$\rho_{\sigma v}$, eq(3)	Dev1	$\rho_{\sigma v}$, SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
188.000	6.202 44	6.199 74	-0.044	6.192 76	-0.156	1.0	0.0
189.000	6.820 73	6.821 13	0.006	6.811 37	-0.137	1.0	0.0
189.500	7.237 74	7.241 06	0.046	7.230 89	-0.095	1.0	0.0
189.800	7.556 57	7.562 03	0.072	7.553 44	-0.041	1.0	0.0
190.000	7.820 23	7.826 92	0.085	7.821 73	0.019	1.0	0.0
190.100	7.976 69	7.983 80	0.089	7.981 91	0.065	1.0	0.0
190.200	8.156 83	8.165 49	0.106	8.168 94	0.148	1.0	0.0
190.300	8.375 62	8.385 08	0.113	8.397 75	0.264	1.0	0.0
190.400	8.660 47	8.672 58	0.140	8.703 06	0.492	1.0	0.0
190.450	8.854 95	8.866 51	0.131	8.913 33	0.659	1.0	0.0
190.500	9.129 22	9.139 30	0.110	9.214 75	0.937	1.0	0.0
190.530	9.396 00	9.408 46	0.133	9.514 12	1.257	1.0	0.0
190.551	10.139 00	10.139 00	0.000	10.139 00	0.000	1.0	0.0

Number of Points (Ref. 6) 38

AAD1-%	0.055,	BIAS1-%	0.021,	RMS1-%	0.063
AAD1	0.003,	BIAS1	0.002,	RMS1	0.004 mol·dm ⁻³
AAD2-%	0.150,	BIAS2-%	0.102,	RMS2-%	0.282
AAD2	0.011,	BIAS2	0.008,	RMS2	0.026 mol·dm ⁻³

Data from Goodwin [3]

T	$\rho_{\sigma v}$, exp	$\rho_{\sigma v}$, eq(3)	Dev1	$\rho_{\sigma v}$, SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
94.000	0.022 90	0.022 81	-0.384	0.022 83	-0.313	0.0	0.0
100.000	0.042 20	0.042 14	-0.141	0.042 15	-0.120	0.0	0.0
106.000	0.072 20	0.072 19	-0.016	0.072 19	-0.010	0.0	0.0
112.000	0.116 20	0.116 31	0.091	0.116 32	0.104	0.0	0.0
118.000	0.178 10	0.178 23	0.074	0.178 29	0.109	0.0	0.0
124.000	0.262 10	0.262 17	0.026	0.262 33	0.087	0.0	0.0
130.000	0.373 00	0.372 91	-0.024	0.373 22	0.058	0.0	0.0
136.000	0.516 40	0.516 10	-0.059	0.516 56	0.030	0.0	0.0
142.000	0.699 20	0.698 57	-0.090	0.699 13	-0.011	0.0	0.0
148.000	0.930 10	0.928 98	-0.121	0.929 49	-0.065	0.0	0.0

Data from Goodwin [3] (continued)

T	$\rho_{\sigma v}$, exp	$\rho_{\sigma v}$, eq(3)	Dev1	$\rho_{\sigma v}$, SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
154.000	1.220 90	1.218 73	-0.178	1.219 02	-0.154	0.0	0.0
160.000	1.585 20	1.583 83	-0.087	1.583 75	-0.091	0.0	0.0
169.067	2.344 10	2.336 30	-0.333	2.335 83	-0.353	0.0	0.0
169.270	2.364 00	2.356 81	-0.304	2.356 34	-0.324	0.0	0.0
169.417	2.381 00	2.371 78	-0.387	2.371 31	-0.407	0.0	0.0
169.601	2.400 60	2.390 67	-0.414	2.390 20	-0.433	0.0	0.0
169.794	2.418 80	2.410 66	-0.336	2.410 19	-0.356	0.0	0.0
173.088	2.791 60	2.782 59	-0.323	2.782 21	-0.336	0.0	0.0
173.290	2.814 70	2.807 49	-0.256	2.807 12	-0.269	0.0	0.0
173.489	2.840 00	2.832 28	-0.272	2.831 92	-0.284	0.0	0.0
173.473	2.842 30	2.830 28	-0.423	2.829 92	-0.436	0.0	0.0
173.675	2.864 30	2.855 69	-0.301	2.855 34	-0.313	0.0	0.0
173.857	2.887 70	2.878 83	-0.307	2.878 49	-0.319	0.0	0.0
177.094	3.343 40	3.332 77	-0.318	3.332 64	-0.322	0.0	0.0
177.328	3.379 50	3.369 12	-0.307	3.369 01	-0.310	0.0	0.0
181.389	4.126 90	4.103 90	-0.557	4.103 76	-0.561	0.0	0.0
181.768	4.204 20	4.185 03	-0.456	4.184 83	-0.461	0.0	0.0
183.514	4.618 90	4.597 76	-0.458	4.597 02	-0.474	0.0	0.0
184.285	4.826 30	4.804 97	-0.442	4.803 78	-0.467	0.0	0.0
184.510	4.887 60	4.868 98	-0.381	4.867 63	-0.409	0.0	0.0
186.319	5.479 50	5.459 46	-0.366	5.456 09	-0.427	0.0	0.0
188.545	6.527 80	6.512 37	-0.236	6.503 83	-0.367	0.0	0.0

Number of Points (Ref. 3) 32

AAD1-%	0.265,	BIAS1-%	-0.253,	RMS1-%	0.168
AAD1	0.008,	BIAS1	-0.008,	RMS1	0.007 mol·dm ⁻³
AAD2-%	0.274,	BIAS2-%	-0.250,	RMS2-%	0.194
AAD2	0.009,	BIAS2	-0.009,	RMS2	0.008 mol·dm ⁻³

Data from Ricci and Scafe [29]

T	$\rho_{\sigma v}$, exp	$\rho_{\sigma v}$, eq(3)	Dev1	$\rho_{\sigma v}$, SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
185.030	5.038 00	5.023 89	-0.280	5.022 10	-0.316	0.0	0.0
186.030	5.384 00	5.354 31	-0.552	5.351 36	-0.606	0.0	0.0
187.031	5.786 00	5.742 13	-0.758	5.737 48	-0.839	0.0	0.0
188.031	6.275 00	6.216 23	-0.937	6.209 16	-1.049	0.0	0.0
189.032	6.918 00	6.845 03	-1.055	6.835 19	-1.197	0.0	0.0
190.032	7.960 00	7.874 93	-1.069	7.870 63	-1.123	0.0	0.0

Number of Points (Ref. 29) 6

AAD1-%	0.775,	BIAS1-%	-0.775,	RMS1-%	0.285
AAD1	0.051,	BIAS1	-0.051,	RMS1	0.024 mol·dm ⁻³
AAD2-%	0.855,	BIAS2-%	-0.855,	RMS2-%	0.311
AAD2	0.055,	BIAS2	-0.055,	RMS2	0.026 mol·dm ⁻³

Data from Jansoone et al. [32]

T	$\rho_{\sigma v}$, exp	$\rho_{\sigma v}$, eq(3)	Dev1	$\rho_{\sigma v}$, SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
189.785	7.551 00	7.544 14	-0.091	7.535 40	-0.207	0.0	0.0
190.066	7.935 00	7.928 11	-0.087	7.924 93	-0.127	0.0	0.0
190.299	8.392 00	8.382 63	-0.112	8.395 17	0.038	0.0	0.0
190.500	9.161 00	9.139 30	-0.237	9.214 75	0.587	0.0	0.0
190.524	9.686 00	9.340 56	-3.566	9.439 01	-2.550	0.0	0.0

Number of Points (Ref. 32) 5

AAD1-%	0.819,	BIAS1-%	-0.819,	RMS1-%	1.375
AAD1	0.078,	BIAS1	-0.078,	RMS1	0.134 mol·dm ⁻³
AAD2-%	0.702,	BIAS2-%	-0.452,	RMS2-%	1.085
AAD2	0.066,	BIAS2	-0.043,	RMS2	0.105 mol·dm ⁻³

Data from Verbeke [26]

T	$\rho_{\sigma V}$, exp	$\rho_{\sigma V}$, eq(3)	Dev1	$\rho_{\sigma V}$, SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
190.070	8.000 00	7.934 53	-0.818	7.931 48	-0.856	0.0	0.0
190.170	8.170 00	8.107 78	-0.762	8.109 33	-0.743	0.0	0.0
190.270	8.360 00	8.313 99	-0.550	8.323 30	-0.439	0.0	0.0
190.370	8.620 00	8.575 86	-0.512	8.599 53	-0.237	0.0	0.0
190.470	9.000 00	8.961 86	-0.424	9.018 02	0.200	0.0	0.0

Number of Points (Ref. 26) 5

AAD1-%	0.613,	BIAS1-%	-0.613,	RMS1-%	0.151
AAD1	0.051,	BIAS1	-0.051,	RMS1	0.011 mol·dm ⁻³
AAD2-%	0.495,	BIAS2-%	-0.415,	RMS2-%	0.378
AAD2	0.041,	BIAS2	-0.034,	RMS2	0.031 mol·dm ⁻³

Data from eq (3)

T	$\rho_{\sigma V}$, exp	$\rho_{\sigma V}$, eq(3)	Dev1	$\rho_{\sigma V}$, SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
91.0	1.622 81E-02	1.622 81E-02	-	1.624 68E-02	0.115	-	46595.385
96.0	2.825 47E-02	2.825 47E-02	-	2.826 86E-02	0.049	-	25531.209
101.0	4.631 83E-02	4.631 83E-02	-	4.632 59E-02	0.017	-	14913.515
106.0	7.218 88E-02	7.218 88E-02	-	7.219 25E-02	0.005	-	9199.929
111.0	1.078 22E-01	1.078 22E-01	-	1.078 33E-01	0.010	-	5947.908
116.0	1.553 63E-01	1.553 63E-01	-	1.554 04E-01	0.027	-	4004.906
121.0	2.171 65E-01	2.171 65E-01	-	2.172 70E-01	0.048	-	2793.881
126.0	2.958 44E-01	2.958 44E-01	-	2.960 50E-01	0.070	-	2010.580
131.0	3.943 53E-01	3.943 53E-01	-	3.946 86E-01	0.084	-	1487.113
136.0	5.160 96E-01	5.160 96E-01	-	5.165 55E-01	0.089	-	1127.035
141.0	6.650 93E-01	6.650 93E-01	-	6.656 38E-01	0.082	-	1500.000
146.0	8.462 19E-01	8.462 19E-01	-	8.467 63E-01	0.064	-	1500.000
151.0	1.065 57E+00	1.065 57E+00	-	1.066 00E+00	0.040	-	1500.000
156.0	1.331 08E+00	1.331 08E+00	-	1.331 27E+00	0.014	-	1500.000
161.0	1.653 52E+00	1.653 52E+00	-	1.653 39E+00	-0.008	-	1500.000

Data from eq. (3) (continued)

T	$\rho_{\sigma V}$, exp	$\rho_{\sigma V}$, eq(3)	Dev1	$\rho_{\sigma V}$, SWEOS	Dev2	Wt1	Wt2
K	mol·dm ⁻³	mol·dm ⁻³	%	mol·dm ⁻³	%		
166.0	2.048 40E+00	2.048 40E+00	-	2.048 00E+00	-0.020	-	3750.000
171.0	2.539 84E+00	2.539 84E+00	-	2.539 39E+00	-0.018	-	3750.000
176.0	3.169 62E+00	3.169 62E+00	-	3.169 42E+00	-0.006	-	3750.000
181.0	4.023 30E+00	4.023 30E+00	-	4.023 21E+00	-0.002	-	3750.000
186.0	5.343 67E+00	5.343 67E+00	-	5.340 76E+00	-0.054	-	3750.000

Number of Points (eq (3)) 20

AAD1-%	-	BIAS1-%	-	RMS1-%	-
AAD1	-	BIAS1	-	RMS1	-
AAD2-%	0.041,	BIAS2-%	0.030,	RMS2-%	0.043
AAD2	0.354,	BIAS2	-0.064,	RMS2	0.707 mol·dm ⁻³

Total Points 86 for Ancillary Equation

AAD1-%	0.260,	BIAS1-%	-0.222,	RMS1-%	0.454
AAD1	0.015,	BIAS1	-0.013,	RMS1	0.041 mol·dm ⁻³

Total Points 106 for Equation of State

AAD2-%	0.250,	BIAS2-%	-0.123,	RMS2-%	0.418
AAD2	0.012,	BIAS2	-0.011,	RMS2	0.037 mol·dm ⁻³

TABLE A4

COMPARISONS OF EXPERIMENTAL AND CALCULATED PVT DATA

Notes for Table A4. The first column marked Dev in the tables refers to deviations between the experimental pressure and the pressure calculated using the SWEOS and the experimental temperature and density. The statistics for these deviations are given under the Pressure heading. The second Dev column refers to deviations between the experimental density and the density calculated using the SWEOS and the experimental temperature and pressure. The statistics for these deviations are given under the Density heading. The weights in the tables are for the least squares determination of the coefficients in the equation of state. Some of the tabulated densities in Ref.[37] (and included in this table) were near the two-phase boundary and are based on alternative correlations rather than being direct experimental determinations. This also applies to the data Ref.[44] at temperatures above 250 K.

Data from Achtermann et al. [33]

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
323.15	1.070	1.069	-0.011	0.4035	0.4036	0.011	0.2263
323.15	1.550	1.550	-0.017	0.5882	0.5883	0.017	0.1566
323.15	2.021	2.021	-0.019	0.7716	0.7717	0.019	0.1204
323.15	2.467	2.467	-0.026	0.9471	0.9474	0.027	0.0989
323.15	3.047	3.046	-0.033	1.1779	1.1783	0.034	0.0803
323.15	3.559	3.558	-0.038	1.3844	1.3849	0.040	0.0690
323.15	4.026	4.024	-0.047	1.5746	1.5753	0.049	0.0611
323.15	4.512	4.509	-0.049	1.7746	1.7755	0.052	0.0546
323.15	5.026	5.023	-0.058	1.9886	1.9898	0.062	0.0492
323.15	5.528	5.524	-0.061	2.1993	2.2007	0.065	0.0448
323.15	6.000	5.996	-0.064	2.3996	2.4013	0.068	0.0413
323.15	6.546	6.541	-0.066	2.6329	2.6348	0.071	0.0379
323.15	7.037	7.032	-0.068	2.8448	2.8469	0.073	0.0353
323.15	8.049	8.043	-0.069	3.2863	3.2888	0.075	0.0309
323.15	9.027	9.021	-0.066	3.7180	3.7206	0.072	0.0276
323.15	10.067	10.062	-0.056	4.1816	4.1841	0.060	0.0247
323.15	11.072	11.068	-0.042	4.6321	4.6341	0.045	0.0224
323.15	12.070	12.067	-0.027	5.0801	5.0816	0.029	0.0205
323.15	13.054	13.052	-0.011	5.5210	5.5216	0.011	0.0189
323.15	14.079	14.080	0.006	5.9777	5.9774	-0.006	0.0174

Data from Achtermann et al. [33] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
323.15	15.092	15.095	0.022	6.4243	6.4229	-0.022	0.0161
323.15	16.068	16.073	0.029	6.8484	6.8464	-0.029	0.0150
323.15	17.081	17.088	0.042	7.2813	7.2783	-0.042	0.0140
323.15	18.084	18.093	0.050	7.7011	7.6973	-0.049	0.0131
323.15	18.988	18.999	0.055	8.0706	8.0664	-0.052	0.0123
323.15	20.142	20.154	0.060	8.5292	8.5245	-0.055	0.0114
323.15	21.125	21.138	0.063	8.9078	8.9028	-0.056	0.0108
323.15	22.103	22.116	0.061	9.2728	9.2679	-0.053	0.0101
323.15	23.109	23.123	0.058	9.6360	9.6312	-0.050	0.0095
323.15	24.101	24.113	0.054	9.9816	9.9771	-0.045	0.0090
323.15	25.107	25.118	0.046	10.3196	10.3158	-0.037	0.0085
323.15	26.126	26.136	0.040	10.6497	10.6464	-0.031	0.0080
323.15	27.139	27.148	0.033	10.9656	10.9628	-0.025	0.0076
323.15	28.112	28.120	0.028	11.2581	11.2557	-0.021	0.0072
323.15	28.668	28.675	0.024	11.4203	11.4183	-0.017	0.0070

Number of Points (Ref. 33) 35

PRESSURE:	AAD-%	0.043	BIAS-%	-0.004	RMS-%	0.046	
	AAD	0.006	BIAS	0.003	RMS	0.007	MPa
DENSITY :	AAD-%	0.042	BIAS-%	0.008	RMS-%	0.046	
	AAD	0.002	BIAS	-0.001	RMS	0.003	mol·dm ⁻³

Data from Achtermann et al. [34]

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
273.15	0.102	0.102	-0.072	0.0449	0.0449	0.072	0.0000
273.15	0.625	0.625	-0.010	0.2794	0.2794	0.010	0.0000
273.15	1.086	1.086	0.004	0.4909	0.4909	-0.004	0.0000
273.15	1.590	1.589	-0.010	0.7273	0.7274	0.010	0.0000
273.15	2.102	2.102	-0.014	0.9739	0.9740	0.015	0.0000

Data from Achtermann et al. [34] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
273.15	2.568	2.567	-0.018	1.2038	1.2040	0.019	0.0000
273.15	3.061	3.060	-0.029	1.4527	1.4532	0.032	0.0000
273.15	3.542	3.541	-0.024	1.7018	1.7022	0.026	0.0000
273.15	4.046	4.045	-0.026	1.9691	1.9697	0.029	0.0000
273.15	4.466	4.465	-0.033	2.1968	2.1976	0.036	0.0000
273.15	5.026	5.024	-0.044	2.5074	2.5086	0.049	0.0000
273.15	5.492	5.490	-0.047	2.7729	2.7744	0.053	0.0000
273.15	6.013	6.008	-0.077	3.0748	3.0775	0.088	0.0000
273.15	6.544	6.539	-0.086	3.3911	3.3945	0.100	0.0000
273.15	6.967	6.961	-0.088	3.6477	3.6515	0.103	0.0000
273.15	7.191	7.184	-0.096	3.7853	3.7896	0.113	0.0000
273.15	8.586	8.585	-0.007	4.6745	4.6749	0.008	0.0000
273.15	7.297	7.294	-0.050	3.8534	3.8556	0.058	0.0000
273.15	6.185	6.180	-0.077	3.1764	3.1792	0.089	0.0000
273.15	5.224	5.220	-0.088	2.6184	2.6210	0.100	0.0000
273.15	4.398	4.394	-0.089	2.1584	2.1605	0.100	0.0000
273.15	3.692	3.688	-0.087	1.7792	1.7809	0.096	0.0000
273.15	3.090	3.087	-0.079	1.4667	1.4680	0.085	0.0000
273.15	2.580	2.578	-0.069	1.2090	1.2099	0.074	0.0000
273.15	2.149	2.148	-0.066	0.9966	0.9973	0.070	0.0000
273.15	1.788	1.787	-0.060	0.8215	0.8220	0.062	0.0000
273.15	1.485	1.484	-0.050	0.6772	0.6776	0.052	0.0000
273.15	1.231	1.231	-0.049	0.5582	0.5585	0.050	0.0000
273.15	1.020	1.020	-0.053	0.4601	0.4603	0.054	0.0000
273.15	0.844	0.844	-0.035	0.3793	0.3794	0.035	0.0000
273.15	0.699	0.698	-0.053	0.3126	0.3128	0.054	0.0000
273.15	0.577	0.577	-0.045	0.2577	0.2578	0.045	0.0000
273.15	0.477	0.477	-0.038	0.2124	0.2125	0.039	0.0000
273.15	0.394	0.394	-0.036	0.1751	0.1752	0.037	0.0000
273.15	0.325	0.325	-0.048	0.1443	0.1444	0.048	0.0000
273.15	0.269	0.269	0.027	0.1190	0.1190	-0.027	0.0000
273.15	0.221	0.222	0.052	0.0981	0.0980	-0.052	0.0000
273.15	0.183	0.183	-0.027	0.0808	0.0808	0.027	0.0000
283.15	0.236	0.236	-0.027	0.1008	0.1008	0.027	0.0000
283.15	0.331	0.331	0.006	0.1418	0.1418	-0.006	0.0000

Data from Achtermann et al. [34] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
283.15	0.426	0.426	-0.010	0.1826	0.1826	0.010	0.0000
283.15	0.526	0.526	-0.029	0.2258	0.2259	0.030	0.0000
283.15	0.623	0.623	-0.035	0.2682	0.2683	0.035	0.0000
283.15	0.718	0.718	-0.023	0.3096	0.3097	0.023	0.0000
283.15	0.913	0.913	-0.032	0.3954	0.3955	0.033	0.0000
283.15	1.109	1.109	-0.037	0.4821	0.4823	0.038	0.0000
283.15	1.280	1.279	-0.052	0.5582	0.5585	0.053	0.0000
283.15	1.611	1.610	-0.047	0.7078	0.7081	0.049	0.0000
283.15	1.638	1.637	-0.054	0.7198	0.7202	0.056	0.0000
283.15	2.100	2.098	-0.060	0.9320	0.9326	0.063	0.0000
283.15	2.156	2.155	-0.056	0.9582	0.9588	0.058	0.0000
283.15	2.591	2.590	-0.062	1.1626	1.1634	0.066	0.0000
283.15	3.070	3.067	-0.074	1.3914	1.3925	0.079	0.0000
283.15	3.154	3.152	-0.063	1.4324	1.4334	0.067	0.0000
283.15	3.555	3.552	-0.075	1.6284	1.6297	0.081	0.0000
283.15	4.043	4.040	-0.074	1.8717	1.8732	0.081	0.0000
283.15	4.105	4.103	-0.065	1.9034	1.9048	0.071	0.0000
283.15	4.541	4.538	-0.069	2.1255	2.1271	0.075	0.0000
283.15	5.014	5.010	-0.069	2.3707	2.3725	0.076	0.0000
283.15	5.515	5.512	-0.064	2.6359	2.6378	0.072	0.0000
283.15	5.884	5.880	-0.066	2.8343	2.8364	0.074	0.0000
283.15	5.999	5.995	-0.069	2.8965	2.8987	0.077	0.0000
283.15	6.509	6.504	-0.068	3.1761	3.1786	0.077	0.0000
283.15	6.722	6.718	-0.059	3.2951	3.2973	0.067	0.0000
283.15	6.991	6.988	-0.052	3.4461	3.4482	0.060	0.0000
283.15	7.477	7.473	-0.046	3.7216	3.7236	0.053	0.0000
283.15	7.531	7.528	-0.036	3.7529	3.7544	0.041	0.0000
283.15	8.466	8.467	0.009	4.2973	4.2969	-0.010	0.0000
283.15	7.160	7.158	-0.021	3.5425	3.5434	0.024	0.0000
283.15	6.041	6.038	-0.037	2.9201	2.9213	0.042	0.0000
283.15	5.082	5.080	-0.038	2.4072	2.4082	0.042	0.0000
283.15	4.264	4.262	-0.035	1.9843	1.9851	0.039	0.0000
283.15	3.568	3.567	-0.030	1.6357	1.6362	0.032	0.0000
283.15	2.979	2.978	-0.023	1.3483	1.3486	0.025	0.0000
283.15	2.482	2.482	-0.021	1.1114	1.1116	0.022	0.0000

Data from Achtermann et al. [34] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
283.15	2.064	2.064	-0.005	0.9162	0.9162	0.005	0.0000
283.15	1.714	1.714	-0.005	0.7552	0.7552	0.005	0.0000
283.15	1.422	1.422	-0.004	0.6225	0.6225	0.004	0.0000
283.15	1.178	1.178	0.012	0.5132	0.5131	-0.012	0.0000
283.15	0.976	0.975	-0.001	0.4230	0.4230	0.001	0.0000
283.15	0.807	0.807	0.023	0.3487	0.3486	-0.024	0.0000
283.15	0.667	0.667	-0.013	0.2874	0.2874	0.013	0.0000
283.15	0.551	0.551	-0.007	0.2369	0.2369	0.007	0.0000
283.15	0.455	0.455	0.012	0.1953	0.1953	-0.013	0.0000
283.15	0.376	0.376	0.025	0.1610	0.1610	-0.025	0.0000
283.15	0.310	0.310	-0.019	0.1327	0.1327	0.019	0.0000
283.15	0.256	0.256	0.018	0.1094	0.1094	-0.018	0.0000
283.15	0.211	0.211	0.031	0.0902	0.0902	-0.031	0.0000
283.15	0.174	0.174	-0.050	0.0743	0.0743	0.050	0.0000
283.15	0.144	0.144	0.084	0.0613	0.0612	-0.085	0.0000
293.15	0.098	0.098	0.035	0.0405	0.0405	-0.035	0.0000
293.15	0.243	0.243	-0.029	0.1002	0.1002	0.029	0.0000
293.15	0.353	0.353	-0.013	0.1458	0.1458	0.013	0.0000
293.15	0.433	0.433	0.006	0.1793	0.1793	-0.006	0.0000
293.15	0.524	0.524	-0.012	0.2171	0.2171	0.012	0.0000
293.15	0.637	0.637	-0.020	0.2644	0.2645	0.020	0.0000
293.15	0.734	0.734	-0.016	0.3051	0.3051	0.016	0.0000
293.15	0.931	0.931	-0.019	0.3886	0.3887	0.020	0.0000
293.15	1.137	1.137	-0.024	0.4763	0.4764	0.024	0.0000
293.15	1.312	1.312	-0.032	0.5515	0.5517	0.033	0.0000
293.15	1.621	1.621	-0.036	0.6853	0.6856	0.037	0.0000
293.15	1.908	1.908	-0.038	0.8110	0.8113	0.040	0.0000
293.15	2.313	2.312	-0.035	0.9903	0.9907	0.037	0.0000
293.15	2.642	2.641	-0.042	1.1384	1.1389	0.044	0.0000
293.15	3.080	3.079	-0.037	1.3380	1.3385	0.039	0.0000
293.15	3.565	3.564	-0.038	1.5629	1.5635	0.041	0.0000
293.15	4.064	4.063	-0.038	1.7983	1.7990	0.040	0.0000
293.15	4.265	4.263	-0.049	1.8940	1.8950	0.053	0.0000
293.15	4.540	4.538	-0.048	2.0267	2.0278	0.052	0.0000
293.15	5.024	5.022	-0.050	2.2625	2.2637	0.055	0.0000

Data from Achtermann et al. [34] (continued)

T	P, exp	P, cal	Dev	ρ , exp	ρ , cal	Dev	Wt
K	MPa	MPa	%	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mol} \cdot \text{dm}^{-3}$	%	
293.15	5.514	5.511	-0.042	2.5052	2.5063	0.046	0.0000
293.15	6.005	6.002	-0.049	2.7521	2.7536	0.054	0.0000
293.15	6.493	6.490	-0.039	3.0016	3.0029	0.043	0.0000
293.15	6.979	6.977	-0.036	3.2536	3.2549	0.040	0.0000
293.15	7.466	7.463	-0.036	3.5087	3.5101	0.041	0.0000
293.15	7.705	7.702	-0.037	3.6353	3.6368	0.042	0.0000
293.15	8.409	8.406	-0.036	4.0120	4.0136	0.040	0.0000
293.15	7.083	7.079	-0.055	3.3073	3.3094	0.062	0.0000
293.15	5.954	5.951	-0.061	2.7263	2.7281	0.068	0.0000
293.15	4.994	4.991	-0.061	2.2474	2.2489	0.066	0.0000
293.15	4.179	4.176	-0.054	1.8526	1.8537	0.058	0.0000
293.15	3.489	3.487	-0.046	1.5271	1.5278	0.049	0.0000
293.15	2.907	2.906	-0.044	1.2588	1.2594	0.046	0.0000
293.15	2.419	2.418	-0.059	1.0377	1.0383	0.062	0.0000
293.15	2.009	2.008	-0.051	0.8554	0.8559	0.053	0.0000
293.15	1.667	1.666	-0.047	0.7051	0.7054	0.048	0.0000
293.15	1.381	1.381	-0.040	0.5812	0.5814	0.041	0.0000
293.15	1.144	1.143	-0.031	0.4791	0.4793	0.032	0.0000
293.15	0.946	0.946	-0.022	0.3949	0.3950	0.023	0.0000
293.15	0.782	0.782	-0.023	0.3255	0.3256	0.023	0.0000
293.15	0.646	0.646	-0.035	0.2683	0.2684	0.035	0.0000
293.15	0.534	0.534	-0.011	0.2212	0.2212	0.012	0.0000
293.15	0.441	0.441	-0.027	0.1823	0.1823	0.027	0.0000
293.15	0.364	0.364	-0.009	0.1503	0.1503	0.009	0.0000
293.15	0.300	0.300	-0.034	0.1239	0.1239	0.034	0.0000
293.15	0.248	0.248	-0.016	0.1021	0.1021	0.017	0.0000
293.15	0.204	0.205	0.026	0.0842	0.0842	-0.026	0.0000
293.15	0.169	0.169	0.017	0.0694	0.0694	-0.017	0.0000
293.15	0.139	0.139	0.001	0.0572	0.0572	-0.001	0.0000

Number of Points (Ref. 34) 139

PRESSURE:	AAD-%	0.040	BIAS-%	-0.034	RMS-%	0.030	
	AAD	0.001	BIAS	-0.001	RMS	0.002	MPa
DENSITY :	AAD-%	0.043	BIAS-%	0.037	RMS-%	0.033	
	AAD	0.001	BIAS	0.001	RMS	0.001	$\text{mol} \cdot \text{dm}^{-3}$

Data from Cheng [35]

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
111.23	28.700	33.440	16.514	27.9096	27.7278	-0.651	0.0136
111.23	40.200	44.534	10.780	28.3046	28.1549	-0.529	0.2020
111.23	51.900	57.667	11.113	28.7274	28.5470	-0.628	0.1794
111.23	72.600	79.897	10.052	29.3600	29.1621	-0.674	0.1516
121.19	21.800	22.251	2.068	26.7237	26.7019	-0.081	0.0183
121.19	33.500	34.321	2.452	27.2628	27.2285	-0.126	0.0155
121.19	74.600	75.071	0.631	28.6780	28.6640	-0.049	0.1730
121.19	94.200	94.341	0.150	29.2141	29.2104	-0.013	0.1506
121.19	114.400	113.820	-0.507	29.7000	29.7138	0.046	0.1336
131.79	46.500	48.655	4.634	27.1518	27.0645	-0.322	0.2489
131.79	60.700	63.311	4.301	27.7008	27.6082	-0.335	0.2133
131.79	74.800	77.646	3.805	28.1770	28.0865	-0.321	0.1877
131.79	89.200	91.881	3.006	28.6041	28.5267	-0.271	0.1680
131.79	104.800	107.675	2.743	29.0360	28.9603	-0.261	0.1507
143.82	48.300	49.093	1.642	26.4131	26.3774	-0.135	0.2861
143.82	70.500	70.968	0.664	27.2926	27.2756	-0.062	0.2236
143.82	96.800	96.598	-0.208	28.1373	28.1434	0.022	0.1792
156.96	49.500	48.046	-2.937	25.5297	25.6039	0.291	0.3400
156.96	61.700	61.235	-0.754	26.1575	26.1780	0.078	0.2839
156.96	76.900	75.511	-1.806	26.7451	26.7982	0.199	0.2417
156.96	95.100	93.085	-2.119	27.3748	27.4417	0.244	0.2049
167.61	41.500	41.589	0.214	24.4618	24.4562	-0.023	0.4340
167.61	56.000	55.754	-0.439	25.2653	25.2779	0.050	0.3423
167.61	75.100	74.609	-0.654	26.1370	26.1575	0.078	0.2687
167.61	93.600	92.773	-0.883	26.8384	26.8679	0.110	0.2234
179.29	48.800	49.037	0.486	24.1604	24.1455	-0.062	0.4358
179.29	75.800	75.419	-0.503	25.5493	25.5664	0.067	0.2951
179.29	100.300	99.289	-1.008	26.5111	26.5477	0.138	0.2296
192.87	33.400	34.083	2.045	22.0605	21.9933	-0.304	0.0015
192.87	52.900	53.319	0.792	23.5849	23.5573	-0.117	0.0009
192.87	71.400	71.610	0.294	24.6427	24.6319	-0.044	0.0007
192.87	97.900	97.370	-0.542	25.7998	25.8208	0.081	0.0005
212.00	40.100	39.993	-0.268	21.2404	21.2514	0.052	0.4820
212.00	58.600	58.230	-0.632	22.7739	22.7998	0.114	0.3094
212.00	74.600	73.651	-1.273	23.7417	23.7949	0.224	0.2378

Data from Cheng [35] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
212.00	95.000	93.595	-1.479	24.7464	24.8095	0.255	0.1832
225.07	42.800	42.659	-0.330	20.6101	20.6252	0.073	0.5187
225.07	62.500	61.376	-1.799	22.2519	22.3331	0.365	0.3269
225.07	82.300	80.755	-1.877	23.4797	23.5647	0.362	0.2362
225.07	108.700	106.345	-2.167	24.7219	24.8216	0.403	0.1728
237.57	30.200	30.295	0.314	17.9437	17.9260	-0.098	0.0034
237.57	60.600	60.209	-0.645	21.4638	21.4951	0.146	0.3722
237.57	94.600	93.635	-1.021	23.5793	23.6283	0.208	0.2156
249.43	41.100	41.437	0.820	18.8076	18.7619	-0.243	0.7017
249.43	58.100	57.853	-0.425	20.6016	20.6238	0.108	0.4320
249.43	74.400	73.885	-0.692	21.8579	21.8932	0.161	0.3118
249.43	94.200	93.131	-1.135	23.0256	23.0828	0.249	0.2327
261.55	40.700	40.850	0.369	17.9147	17.8923	-0.125	0.8045
261.55	53.300	53.246	-0.102	19.4666	19.4724	0.030	0.5348
261.55	68.000	67.150	-1.250	20.7512	20.8194	0.329	0.3842
261.55	82.600	81.065	-1.858	21.7628	21.8625	0.458	0.2981
261.55	100.100	97.875	-2.222	22.7583	22.8763	0.518	0.2337
278.71	34.800	35.181	1.093	15.7754	15.6977	-0.492	0.0040
278.71	50.000	50.473	0.945	18.1752	18.1163	-0.324	0.4391
278.71	62.400	62.920	0.834	19.5160	19.4667	-0.253	0.3145
278.71	77.400	77.392	-0.011	20.7211	20.7217	0.003	0.2339
278.71	99.900	99.329	-0.571	22.1288	22.1607	0.144	0.1668
293.41	46.500	46.390	-0.236	16.7983	16.8144	0.096	0.5525
293.41	64.000	63.485	-0.805	18.8466	18.8972	0.269	0.3379
293.41	79.100	78.868	-0.293	20.1776	20.1952	0.087	0.2462
293.41	94.700	93.829	-0.920	21.2089	21.2631	0.256	0.1930
309.29	36.900	36.877	-0.061	14.2227	14.2275	0.033	0.8834
309.29	51.600	51.431	-0.327	16.6694	16.6923	0.137	0.5110
309.29	66.700	67.047	0.521	18.4570	18.4231	-0.184	0.3384
309.29	84.700	84.449	-0.297	19.9283	19.9468	0.093	0.2406
309.29	105.800	105.101	-0.661	21.2721	21.3122	0.189	0.1769

Number of Points (Ref. 35) 66

PRESSURE:	AAD-%	1.803	BIAS-%	0.721	RMS-%	3.315	
	AAD	1.080	BIAS	0.205	RMS	1.739	MPa
DENSITY :	AAD-%	0.204	BIAS-%	0.001	RMS-%	0.261	
	AAD	0.049	BIAS	-0.002	RMS	0.065	mol·dm ⁻³

Data from Douslin et al. [36]

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
273.15	1.638	1.637	-0.029	0.7500	0.7502	0.030	0.0150
298.14	1.802	1.801	-0.028	0.7500	0.7502	0.029	0.0135
303.14	1.835	1.834	-0.021	0.7500	0.7502	0.021	0.0133
323.14	1.966	1.965	-0.008	0.7500	0.7501	0.008	0.0124
348.14	2.129	2.129	-0.005	0.7500	0.7500	0.006	0.0114
373.15	2.293	2.293	-0.002	0.7500	0.7500	0.002	0.0106
398.16	2.456	2.456	-0.003	0.7500	0.7500	0.003	0.0098
273.15	2.156	2.155	-0.040	1.0000	1.0004	0.042	0.0114
298.14	2.379	2.378	-0.033	1.0000	1.0003	0.034	0.0103
303.14	2.423	2.422	-0.036	1.0000	1.0004	0.037	0.0101
323.14	2.601	2.600	-0.023	1.0000	1.0002	0.024	0.0094
348.14	2.822	2.822	-0.018	1.0000	1.0002	0.018	0.0086
373.15	3.043	3.043	-0.012	1.0000	1.0001	0.012	0.0080
398.16	3.264	3.263	-0.007	1.0000	1.0001	0.007	0.0074
273.15	3.154	3.152	-0.052	1.5000	1.5008	0.056	0.0079
298.14	3.499	3.498	-0.046	1.5000	1.5007	0.048	0.0071
303.14	3.569	3.567	-0.053	1.5000	1.5008	0.056	0.0069
323.14	3.843	3.842	-0.029	1.5000	1.5005	0.031	0.0064
348.14	4.185	4.184	-0.024	1.5000	1.5004	0.025	0.0058
373.15	4.527	4.526	-0.020	1.5000	1.5003	0.020	0.0054
398.16	4.868	4.867	-0.021	1.5000	1.5003	0.021	0.0050
273.15	4.105	4.102	-0.068	2.0000	2.0015	0.076	0.0061
298.14	4.580	4.578	-0.057	2.0000	2.0012	0.062	0.0054
303.14	4.675	4.672	-0.059	2.0000	2.0013	0.064	0.0053
323.14	5.053	5.050	-0.052	2.0000	2.0011	0.055	0.0049
348.14	5.522	5.521	-0.025	2.0000	2.0005	0.026	0.0044
373.15	5.992	5.990	-0.041	2.0000	2.0008	0.042	0.0041
398.16	6.458	6.457	-0.021	2.0000	2.0004	0.022	0.0038
273.15	5.014	5.010	-0.069	2.5000	2.5019	0.077	0.0051
298.14	5.626	5.623	-0.061	2.5000	2.5017	0.067	0.0045
303.14	5.748	5.745	-0.064	2.5000	2.5017	0.069	0.0044
323.14	6.234	6.231	-0.050	2.5000	2.5013	0.054	0.0040
348.14	6.839	6.836	-0.040	2.5000	2.5010	0.041	0.0036
373.15	7.442	7.439	-0.047	2.5000	2.5012	0.049	0.0033
398.16	8.041	8.039	-0.023	2.5000	2.5006	0.023	0.0030

Data from Douslin et al. [36] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
273.15	5.884	5.881	-0.055	3.0000	3.0019	0.063	0.0044
298.14	6.641	6.638	-0.057	3.0000	3.0019	0.063	0.0038
303.14	6.794	6.788	-0.083	3.0000	3.0027	0.091	0.0037
323.14	7.393	7.389	-0.051	3.0000	3.0016	0.055	0.0034
348.14	8.139	8.136	-0.043	3.0000	3.0014	0.045	0.0030
373.15	8.884	8.879	-0.052	3.0000	3.0016	0.054	0.0027
398.16	9.623	9.619	-0.039	3.0000	3.0012	0.040	0.0025
273.15	6.722	6.719	-0.050	3.5000	3.5020	0.058	0.0038
298.14	7.631	7.627	-0.046	3.5000	3.5018	0.051	0.0033
303.14	7.815	7.808	-0.085	3.5000	3.5033	0.094	0.0032
323.14	8.532	8.528	-0.048	3.5000	3.5018	0.052	0.0029
348.14	9.428	9.424	-0.043	3.5000	3.5016	0.046	0.0026
373.15	10.320	10.315	-0.054	3.5000	3.5019	0.055	0.0024
398.16	11.207	11.202	-0.048	3.5000	3.5017	0.049	0.0022
273.15	7.531	7.529	-0.027	4.0000	4.0013	0.031	0.0034
298.14	8.599	8.596	-0.036	4.0000	4.0016	0.041	0.0029
303.14	8.814	8.809	-0.065	4.0000	4.0029	0.072	0.0029
323.14	9.658	9.655	-0.041	4.0000	4.0018	0.044	0.0026
348.14	10.709	10.706	-0.031	4.0000	4.0013	0.032	0.0023
373.15	11.758	11.752	-0.048	4.0000	4.0020	0.049	0.0021
398.16	12.799	12.793	-0.048	4.0000	4.0019	0.048	0.0019
273.15	8.316	8.315	-0.005	4.5000	4.5003	0.006	0.0031
298.14	9.551	9.549	-0.020	4.5000	4.5010	0.022	0.0027
303.14	9.800	9.795	-0.056	4.5000	4.5028	0.062	0.0026
323.14	10.778	10.773	-0.049	4.5000	4.5024	0.053	0.0023
348.14	11.992	11.988	-0.035	4.5000	4.5016	0.037	0.0020
373.15	13.201	13.196	-0.039	4.5000	4.5018	0.039	0.0018
398.16	14.408	14.399	-0.066	4.5000	4.5029	0.065	0.0017
273.15	9.080	9.083	0.030	5.0000	4.9982	-0.036	0.0029
298.14	10.491	10.491	0.003	5.0000	4.9998	-0.003	0.0024
303.14	10.774	10.772	-0.027	5.0000	5.0015	0.029	0.0023
323.14	11.891	11.888	-0.030	5.0000	5.0016	0.032	0.0021
348.14	13.278	13.274	-0.029	5.0000	5.0015	0.030	0.0018
373.15	14.658	14.653	-0.036	5.0000	5.0018	0.036	0.0016
398.16	16.035	16.025	-0.060	5.0000	5.0029	0.058	0.0015

Data from Douslin et al. [36] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
273.15	9.832	9.837	0.051	5.5000	5.4967	-0.061	0.0027
298.14	11.426	11.428	0.013	5.5000	5.4992	-0.014	0.0022
303.14	11.745	11.744	-0.007	5.5000	5.5004	0.007	0.0021
323.14	13.003	13.005	0.014	5.5000	5.4992	-0.015	0.0019
348.14	14.575	14.571	-0.024	5.5000	5.5014	0.025	0.0017
373.15	16.132	16.129	-0.021	5.5000	5.5012	0.021	0.0015
398.16	17.689	17.678	-0.059	5.5000	5.5031	0.057	0.0013
273.15	10.568	10.580	0.118	6.0000	5.9916	-0.141	0.0025
298.14	12.358	12.363	0.034	6.0000	5.9978	-0.037	0.0020
303.14	12.716	12.717	0.010	6.0000	5.9993	-0.011	0.0020
323.14	14.126	14.130	0.025	6.0000	5.9984	-0.026	0.0017
348.14	15.890	15.885	-0.032	6.0000	6.0019	0.032	0.0015
373.15	17.631	17.629	-0.009	6.0000	6.0005	0.009	0.0013
398.16	19.370	19.365	-0.026	6.0000	6.0015	0.025	0.0012
273.15	11.306	11.320	0.124	6.5000	6.4905	-0.146	0.0023
298.14	13.294	13.302	0.058	6.5000	6.4959	-0.063	0.0019
303.14	13.692	13.696	0.031	6.5000	6.4978	-0.033	0.0018
323.14	15.269	15.268	-0.010	6.5000	6.5007	0.010	0.0016
348.14	17.220	17.220	0.004	6.5000	6.4997	-0.004	0.0014
373.15	19.159	19.162	0.015	6.5000	6.4990	-0.015	0.0012
398.16	21.101	21.093	-0.042	6.5000	6.5025	0.039	0.0011
273.15	12.049	12.059	0.079	7.0000	6.9936	-0.092	0.0021
298.14	14.241	14.251	0.067	7.0000	6.9950	-0.071	0.0017
303.14	14.681	14.687	0.041	7.0000	6.9970	-0.043	0.0017
323.14	16.421	16.425	0.025	7.0000	6.9982	-0.026	0.0015
348.14	18.587	18.585	-0.008	7.0000	7.0006	0.008	0.0013
373.15	20.735	20.732	-0.011	7.0000	7.0007	0.010	0.0011
398.16	22.871	22.869	-0.008	7.0000	7.0005	0.007	0.0010
273.15	12.785	12.803	0.141	7.5000	7.4880	-0.160	0.0020
298.14	15.204	15.215	0.070	7.5000	7.4945	-0.073	0.0016
303.14	15.678	15.695	0.105	7.5000	7.4919	-0.108	0.0016
323.14	17.597	17.608	0.064	7.5000	7.4953	-0.063	0.0014
348.14	19.981	19.986	0.024	7.5000	7.4983	-0.023	0.0012
373.15	22.344	22.349	0.025	7.5000	7.4983	-0.022	0.0010
398.16	24.705	24.701	-0.017	7.5000	7.5011	0.015	0.0009

Data from Douslin et al. [36] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
273.15	13.541	13.558	0.129	8.0000	7.9886	-0.143	0.0019
298.14	16.187	16.200	0.079	8.0000	7.9936	-0.080	0.0015
303.14	16.713	16.726	0.076	8.0000	7.9939	-0.076	0.0014
323.14	18.814	18.823	0.047	8.0000	7.9964	-0.045	0.0012
348.14	21.422	21.430	0.036	8.0000	7.9974	-0.033	0.0011
373.15	24.008	24.021	0.055	8.0000	7.9961	-0.048	0.0009
398.16	26.602	26.599	-0.013	8.0000	8.0009	0.011	0.0008
273.15	14.309	14.330	0.147	8.5000	8.4866	-0.158	0.0017
298.14	17.198	17.214	0.091	8.5000	8.4924	-0.089	0.0014
303.14	17.774	17.788	0.082	8.5000	8.4933	-0.079	0.0013
323.14	20.067	20.078	0.054	8.5000	8.4958	-0.050	0.0011
348.14	22.919	22.925	0.025	8.5000	8.4982	-0.022	0.0010
373.15	25.743	25.755	0.049	8.5000	8.4964	-0.042	0.0009
398.16	28.576	28.571	-0.017	8.5000	8.5012	0.014	0.0008
273.15	15.109	15.124	0.099	9.0000	8.9908	-0.102	0.0016
298.14	18.247	18.262	0.084	9.0000	8.9928	-0.080	0.0013
303.14	18.873	18.888	0.077	9.0000	8.9935	-0.072	0.0012
323.14	21.376	21.381	0.023	9.0000	8.9981	-0.021	0.0011
348.14	24.477	24.480	0.016	9.0000	8.9988	-0.014	0.0009
373.15	27.543	27.562	0.069	9.0000	8.9949	-0.057	0.0008
398.16	30.621	30.628	0.022	9.0000	8.9984	-0.018	0.0007
273.15	15.931	15.949	0.113	9.5000	9.4893	-0.112	0.0015
298.14	19.342	19.354	0.062	9.5000	9.4946	-0.057	0.0012
303.14	20.012	20.033	0.109	9.5000	9.4907	-0.098	0.0011
323.14	22.737	22.740	0.016	9.5000	9.4987	-0.014	0.0010
348.14	26.102	26.106	0.013	9.5000	9.4990	-0.011	0.0008
373.15	29.448	29.452	0.014	9.5000	9.4989	-0.012	0.0007
398.16	32.786	32.780	-0.020	9.5000	9.5015	0.016	0.0006
273.15	16.798	16.810	0.075	10.0000	9.9928	-0.072	0.0014
298.14	20.483	20.498	0.078	10.0000	9.9932	-0.068	0.0011
303.14	21.210	21.234	0.112	10.0000	9.9903	-0.097	0.0010
323.14	24.153	24.166	0.051	10.0000	9.9958	-0.042	0.0009
348.14	27.805	27.811	0.024	10.0000	9.9981	-0.019	0.0008
373.15	31.425	31.436	0.034	10.0000	9.9974	-0.026	0.0007
398.16	35.049	35.040	-0.027	10.0000	10.0021	0.021	0.0059

Data from Douslin et al. [36] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
273.15	17.700	17.719	0.104	10.5000	10.4902	-0.094	0.0013
298.14	21.694	21.704	0.047	10.5000	10.4959	-0.039	0.0010
303.14	22.480	22.499	0.082	10.5000	10.4929	-0.068	0.0010
323.14	25.657	25.668	0.042	10.5000	10.4965	-0.033	0.0008
348.14	29.601	29.608	0.024	10.5000	10.4981	-0.018	0.0007
373.15	33.510	33.525	0.045	10.5000	10.4965	-0.034	0.0006
398.16	37.430	37.420	-0.027	10.5000	10.5021	0.020	0.0054
273.15	18.678	18.682	0.023	11.0000	10.9978	-0.020	0.0012
298.14	22.969	22.982	0.057	11.0000	10.9950	-0.045	0.0009
303.14	23.829	23.840	0.043	11.0000	10.9963	-0.034	0.0009
323.14	27.254	27.259	0.017	11.0000	10.9986	-0.013	0.0008
348.14	31.503	31.509	0.020	11.0000	10.9984	-0.015	0.0006
373.15	35.730	35.734	0.013	11.0000	10.9990	-0.009	0.0055
398.16	39.952	39.935	-0.044	11.0000	11.0034	0.031	0.0049
273.15	19.705	19.713	0.038	11.5000	11.4965	-0.031	0.0011
298.14	24.345	24.344	-0.006	11.5000	11.5005	0.004	0.0008
303.14	25.251	25.268	0.067	11.5000	11.4943	-0.050	0.0008
323.14	28.954	28.950	-0.014	11.5000	11.5011	0.010	0.0007
348.14	33.510	33.528	0.053	11.5000	11.4958	-0.037	0.0006
373.15	38.087	38.077	-0.025	11.5000	11.5020	0.017	0.0051
273.15	20.821	20.821	0.000	12.0000	12.0000	0.000	0.0010
298.14	25.795	25.803	0.029	12.0000	11.9975	-0.021	0.0008
303.14	26.788	26.796	0.029	12.0000	11.9975	-0.021	0.0007
323.14	30.755	30.757	0.004	12.0000	11.9997	-0.003	0.0006
348.14	35.665	35.679	0.039	12.0000	11.9969	-0.026	0.0053
373.15	40.593	40.569	-0.059	12.0000	12.0047	0.039	0.0046
273.15	22.028	22.021	-0.030	12.5000	12.5026	0.021	0.0009
298.14	27.379	27.373	-0.023	12.5000	12.5019	0.015	0.0007
303.14	28.425	28.440	0.052	12.5000	12.4957	-0.034	0.0007
323.14	32.697	32.693	-0.012	12.5000	12.5010	0.008	0.0006
348.14	37.999	37.978	-0.055	12.5000	12.5044	0.035	0.0048
473.19	3.924	3.924	-0.006	1.0000	1.0001	0.006	0.0061
473.19	7.854	7.852	-0.031	2.0000	2.0006	0.030	0.0031
473.19	11.832	11.826	-0.056	3.0000	3.0017	0.055	0.0020
473.19	15.904	15.893	-0.064	4.0000	4.0025	0.062	0.0015

Data from Douslin et al. [36] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
473.19	20.121	20.108	-0.063	5.0000	5.0030	0.059	0.0012
473.19	24.542	24.528	-0.055	6.0000	6.0030	0.050	0.0009
473.19	29.239	29.222	-0.058	7.0000	7.0035	0.050	0.0008
473.19	34.287	34.263	-0.072	8.0000	8.0047	0.059	0.0006
473.19	39.759	39.738	-0.053	9.0000	9.0037	0.041	0.0052
523.21	4.363	4.363	-0.012	1.0000	1.0001	0.012	0.0055
523.21	8.780	8.777	-0.038	2.0000	2.0007	0.037	0.0027
523.21	13.294	13.287	-0.054	3.0000	3.0016	0.052	0.0018
523.21	17.960	17.945	-0.087	4.0000	4.0033	0.082	0.0013
523.21	22.835	22.808	-0.119	5.0000	5.0054	0.109	0.0010
523.21	27.975	27.941	-0.122	6.0000	6.0065	0.108	0.0008
523.21	33.457	33.419	-0.114	7.0000	7.0067	0.096	0.0007
523.21	39.363	39.324	-0.100	8.0000	8.0064	0.080	0.0054
573.22	4.802	4.801	-0.017	1.0000	1.0002	0.017	0.0050
573.22	9.703	9.699	-0.037	2.0000	2.0007	0.036	0.0024
573.22	14.751	14.743	-0.055	3.0000	3.0016	0.053	0.0016
573.22	20.005	19.986	-0.093	4.0000	4.0035	0.087	0.0012
573.22	25.527	25.493	-0.131	5.0000	5.0059	0.118	0.0009
573.22	31.384	31.335	-0.156	6.0000	6.0081	0.135	0.0007
573.22	37.639	37.592	-0.125	7.0000	7.0072	0.103	0.0058
623.22	5.240	5.238	-0.032	1.0000	1.0003	0.031	0.0046
623.22	10.625	10.619	-0.056	2.0000	2.0011	0.055	0.0022
623.22	16.207	16.193	-0.085	3.0000	3.0024	0.081	0.0014
623.22	22.049	22.020	-0.133	4.0000	4.0049	0.123	0.0010
623.22	28.216	28.167	-0.173	5.0000	5.0077	0.154	0.0008
623.22	34.777	34.713	-0.183	6.0000	6.0094	0.156	0.0006

Number of Points (Ref. 36) 201

PRESSURE:	AAD-%	0.048	BIAS-%	-0.009	RMS-%	0.059	
	AAD	0.009	BIAS	-0.001	RMS	0.013	MPa
DENSITY :	AAD-%	0.046	BIAS-%	0.009	RMS-%	0.057	
	AAD	0.003	BIAS	0.000	RMS	0.004	mol·dm ⁻³

Data from Gammon and Douslin [37]

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
323.15	24.595	24.602	0.027	10.1474	10.1452	-0.022	0.0001
298.15	2.378	2.377	-0.032	0.9998	1.0001	0.033	0.0010
298.15	5.627	5.623	-0.061	2.5000	2.5017	0.067	0.0004
298.15	10.491	10.491	-0.003	4.9996	4.9998	0.003	0.0002
298.15	15.205	15.216	0.072	7.5002	7.4946	-0.075	0.0002
298.15	19.418	19.432	0.072	9.5344	9.5282	-0.065	0.0001
298.15	20.702	20.715	0.061	10.0914	10.0860	-0.053	0.0001
273.15	16.178	16.195	0.102	9.6452	9.6355	-0.100	0.0001
248.15	12.816	12.870	0.423	9.8009	9.7544	-0.474	0.0002
223.15	9.320	9.363	0.463	9.9547	9.8857	-0.693	0.0003
198.15	5.704	5.711	0.118	10.1081	10.0518	-0.557	0.0006
193.05	0.782	0.782	0.014	0.5168	0.5167	-0.015	0.0032
193.05	1.563	1.565	0.069	1.1071	1.1062	-0.079	0.0016
193.05	2.244	2.247	0.128	1.7074	1.7047	-0.160	0.0012
193.05	2.820	2.824	0.142	2.3052	2.3007	-0.197	0.0010
193.05	3.306	3.311	0.172	2.9109	2.9031	-0.267	0.0009
193.05	3.703	3.710	0.195	3.5146	3.5025	-0.346	0.0008
193.05	4.025	4.034	0.216	4.1234	4.1050	-0.445	0.0008
193.05	4.281	4.290	0.215	4.7353	4.7103	-0.527	0.0007
193.05	4.478	4.486	0.185	5.3479	5.3181	-0.557	0.0007
193.05	4.626	4.634	0.166	5.9688	5.9310	-0.633	0.0007
193.05	4.729	4.735	0.131	6.5599	6.5175	-0.646	0.0007
193.05	4.806	4.810	0.089	7.1780	7.1360	-0.585	0.0007
193.05	4.859	4.862	0.047	7.7943	7.7612	-0.424	0.0007
193.05	4.897	4.897	0.010	8.4106	8.4004	-0.122	0.0007
193.05	4.924	4.924	-0.009	9.0278	9.0390	0.124	0.0007
193.05	4.946	4.946	-0.004	9.6448	9.6509	0.063	0.0007
193.05	4.962	4.963	0.017	10.1433	10.1192	-0.237	0.0007
193.05	4.966	4.967	0.020	10.2656	10.2373	-0.276	0.0007
193.05	4.988	4.990	0.049	10.8790	10.8200	-0.543	0.0007
193.05	5.016	5.020	0.089	11.4941	11.4142	-0.695	0.0007
191.45	4.587	4.591	0.099	6.5658	6.5274	-0.584	0.0000
191.45	4.646	4.649	0.053	7.1849	7.1510	-0.471	0.0000
191.45	4.683	4.684	0.008	7.8031	7.7947	-0.108	0.0000
191.45	4.705	4.704	-0.019	8.4225	8.4593	0.437	0.0000

Data from Gammon and Douslin [37] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
191.45	4.717	4.716	-0.026	9.0460	9.1297	0.926	0.0000
191.45	4.725	4.724	-0.018	9.6692	9.7436	0.770	0.0000
191.45	4.730	4.730	0.002	10.1732	10.1671	-0.060	0.0000
191.45	4.731	4.731	0.005	10.2951	10.2770	-0.176	0.0000
191.45	4.738	4.739	0.031	10.9028	10.8054	-0.893	0.0000
191.45	4.748	4.751	0.062	11.5131	11.3877	-1.090	0.0000
190.85	4.533	4.537	0.087	6.5680	6.5310	-0.564	0.0000
190.85	4.586	4.588	0.042	7.1876	7.1567	-0.431	0.0000
190.85	4.616	4.616	0.001	7.8070	7.8050	-0.026	0.0000
190.85	4.632	4.631	-0.018	8.4302	8.4869	0.672	0.0000
190.85	4.638	4.637	-0.019	9.0767	9.2125	1.496	0.0000
190.85	4.641	4.641	-0.012	9.7495	9.8937	1.479	0.0000
190.85	4.643	4.643	-0.002	10.2668	10.2893	0.220	0.0000
190.85	4.643	4.643	0.002	10.3899	10.3650	-0.239	0.0000
190.85	4.646	4.646	0.015	10.9572	10.8366	-1.101	0.0000
190.85	4.650	4.651	0.033	11.5304	11.4050	-1.088	0.0000
190.63	4.513	4.517	0.078	6.5688	6.5346	-0.520	0.0000
190.63	4.564	4.565	0.039	7.1886	7.1586	-0.418	0.0000
190.63	4.592	4.592	0.000	7.8086	7.8086	0.000	0.0000
190.63	4.605	4.604	-0.015	8.4349	8.4958	0.722	0.0000
190.63	4.609	4.609	-0.009	9.1376	9.2686	1.433	0.0000
190.63	4.610	4.610	0.004	10.0202	9.8346	-1.852	0.0000
190.63	4.611	4.611	0.005	10.6490	10.4918	-1.476	0.0000
190.63	4.611	4.611	0.010	10.7652	10.4918	-2.540	0.0000
190.63	4.612	4.612	0.002	11.1070	11.0773	-0.267	0.0000
190.63	4.615	4.615	0.015	11.5501	11.4704	-0.690	0.0000
190.56	4.507	4.510	0.083	6.5691	6.5324	-0.558	0.0000
190.56	4.556	4.558	0.038	7.1890	7.1593	-0.413	0.0000
190.56	4.584	4.584	0.000	7.8092	7.8088	-0.005	0.0000
190.56	4.596	4.595	-0.012	8.4377	8.4896	0.615	0.0000
190.56	4.600	4.600	-0.003	9.1450	9.2024	0.628	0.0000
190.56	4.601	4.601	0.000	10.1650	10.1392	-0.254	0.0000
190.56	4.601	4.601	-0.010	10.4400	10.9536	4.919	0.0000
190.56	4.601	4.601	-0.005	10.5100	10.8181	2.932	0.0000
190.56	4.602	4.601	-0.012	11.0320	11.2174	1.680	0.0000

Data from Gammon and Douslin [37] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
190.56	4.603	4.604	0.006	11.5780	11.5414	-0.316	0.0000
190.50	0.771	0.771	0.039	0.5172	0.5170	-0.041	0.0032
190.50	1.538	1.539	0.085	1.1081	1.1070	-0.098	0.0017
190.50	2.203	2.206	0.126	1.7090	1.7063	-0.159	0.0012
190.50	2.760	2.765	0.161	2.3075	2.3023	-0.226	0.0010
190.50	3.226	3.232	0.189	2.9139	2.9052	-0.300	0.0000
190.50	3.603	3.610	0.203	3.5185	3.5054	-0.372	0.0000
190.50	3.902	3.910	0.210	4.1282	4.1093	-0.457	0.0000
190.50	4.133	4.141	0.195	4.7411	4.7164	-0.521	0.0000
190.50	4.304	4.311	0.163	5.3548	5.3249	-0.559	0.0000
190.50	4.425	4.430	0.124	5.9769	5.9421	-0.582	0.0000
190.50	4.501	4.505	0.083	6.5693	6.5320	-0.567	0.0000
190.50	4.550	4.552	0.037	7.1893	7.1598	-0.411	0.0000
190.50	4.577	4.577	0.001	7.8097	7.8080	-0.021	0.0000
190.50	4.589	4.588	-0.010	8.4412	8.4898	0.575	0.0000
190.43	4.495	4.499	0.079	6.5696	6.5338	-0.545	0.0000
190.43	4.543	4.545	0.035	7.1896	7.1607	-0.402	0.0000
190.43	4.569	4.569	0.001	7.8103	7.8086	-0.022	0.0000
190.43	4.580	4.579	-0.008	8.4416	8.4823	0.483	0.0000
190.25	4.287	4.293	0.157	5.3555	5.3261	-0.548	0.0000
190.25	4.405	4.410	0.118	5.9777	5.9436	-0.570	0.0000
190.25	4.479	4.482	0.078	6.5703	6.5340	-0.553	0.0000
190.25	4.525	4.526	0.034	7.1905	7.1610	-0.410	0.0000
190.25	4.549	4.549	0.002	7.8122	7.8073	-0.063	0.0000
189.65	3.861	3.869	0.202	4.1298	4.1112	-0.450	0.0000
189.65	4.083	4.091	0.188	4.7430	4.7183	-0.521	0.0000
189.65	4.245	4.252	0.148	5.3571	5.3283	-0.537	0.0000
189.65	4.357	4.362	0.108	5.9796	5.9464	-0.555	0.0000
189.65	4.424	4.427	0.069	6.5726	6.5365	-0.549	0.0000
189.65	4.463	4.465	0.030	7.1938	7.1614	-0.450	0.0000
188.15	0.761	0.761	0.062	0.5176	0.5173	-0.066	0.0016
188.15	1.515	1.516	0.090	1.1089	1.1077	-0.104	0.0008
188.15	2.164	2.168	0.158	1.7104	1.7070	-0.201	0.0006
188.15	2.705	2.710	0.178	2.3096	2.3038	-0.253	0.0005
188.15	3.153	3.159	0.204	2.9168	2.9071	-0.333	0.0000

Data from Gammon and Douslin [37] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
188.15	3.509	3.516	0.215	3.5221	3.5077	-0.409	0.0000
188.15	3.787	3.795	0.209	4.1327	4.1127	-0.485	0.0000
188.15	3.995	4.002	0.177	4.7465	4.7217	-0.522	0.0000
188.15	4.140	4.146	0.132	5.3612	5.3325	-0.535	0.0000
188.15	4.235	4.239	0.086	5.9846	5.9525	-0.536	0.0000
183.15	0.738	0.739	0.102	0.5184	0.5178	-0.109	0.0017
183.15	1.465	1.466	0.104	1.1108	1.1095	-0.121	0.0009
183.15	2.083	2.086	0.156	1.7135	1.7100	-0.204	0.0006
183.15	2.587	2.592	0.200	2.3140	2.3072	-0.296	0.0005
183.15	2.994	3.001	0.222	2.9228	2.9116	-0.384	0.0005
183.15	3.307	3.314	0.215	3.5298	3.5138	-0.454	0.0000
183.15	3.537	3.543	0.175	4.1424	4.1224	-0.483	0.0000
173.15	0.694	0.694	0.048	0.5192	0.5189	-0.052	0.0018
173.15	1.363	1.365	0.140	1.1143	1.1124	-0.168	0.0010
173.15	1.914	1.918	0.206	1.7193	1.7145	-0.282	0.0007
173.15	2.344	2.349	0.235	2.3220	2.3131	-0.382	0.0006
163.15	0.649	0.650	0.053	0.5204	0.5201	-0.058	0.0019
163.15	1.259	1.262	0.168	1.1175	1.1152	-0.208	0.0011
163.15	1.740	1.743	0.190	1.7223	1.7175	-0.280	0.0008
153.15	0.604	0.604	0.063	0.5215	0.5211	-0.070	0.0021
143.15	0.557	0.558	0.068	0.5223	0.5219	-0.077	0.0023
190.50	4.592	4.592	-0.009	11.1700	11.3105	1.258	0.0000
190.50	4.594	4.594	-0.005	11.5750	11.6031	0.242	0.0000
190.43	4.582	4.582	-0.009	11.5100	11.5827	0.631	0.0000
190.43	4.584	4.582	-0.032	11.5750	11.7644	1.636	0.0000
190.25	4.557	4.556	-0.033	12.0406	12.1414	0.837	0.0000
189.65	4.472	4.469	-0.076	12.9613	13.0260	0.499	0.0000
188.15	4.267	4.263	-0.094	14.1950	14.2176	0.159	0.0000
185.91	3.977	3.981	0.111	15.3297	15.3186	-0.072	0.0000
183.15	3.642	3.663	0.571	16.3353	16.3056	-0.182	0.0000
183.15	3.642	3.663	0.563	16.3353	16.3061	-0.179	0.0000
178.15	3.092	3.138	1.512	17.7013	17.6660	-0.199	0.0001
173.15	2.606	2.668	2.360	18.7794	18.7493	-0.160	0.0000
170.75	2.394	2.460	2.767	19.2357	19.2083	-0.142	0.0000
163.15	1.804	1.883	4.381	20.5098	20.4886	-0.103	0.0000

Data from Gammon and Douslin [37] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
155.44	1.321	1.412	6.862	21.6202	21.6029	-0.080	0.0000
153.15	1.197	1.291	7.792	21.9245	21.9082	-0.074	0.0000
143.15	0.753	0.849	12.744	23.1510	23.1390	-0.052	0.0000
140.02	0.643	0.738	14.700	23.5070	23.4962	-0.046	0.0000
133.15	0.443	0.529	19.524	24.2514	24.2432	-0.034	0.0001
125.09	0.271	0.348	28.161	25.0715	25.0655	-0.024	0.0001
123.15	0.239	0.313	30.974	25.2616	25.2561	-0.022	0.0001
113.15	0.115	0.186	61.893	26.2044	26.2001	-0.017	0.0001
190.37	4.572	4.572	0.000	8.4443	8.4441	-0.003	0.0000
190.35	4.569	4.570	0.006	8.4332	8.4024	-0.365	0.0000
190.03	4.523	4.524	0.011	7.8149	7.7887	-0.335	0.0000
189.50	4.448	4.449	0.034	7.1947	7.1554	-0.546	0.0000
188.70	4.336	4.339	0.063	6.5765	6.5362	-0.614	0.0000
187.60	4.189	4.193	0.092	5.9865	5.9491	-0.624	0.0000
186.10	3.993	3.999	0.137	5.3671	5.3312	-0.669	0.0000
184.15	3.751	3.758	0.170	4.7560	4.7259	-0.634	0.0000
181.55	3.451	3.456	0.142	4.1324	4.1151	-0.418	0.0000
174.25	2.699	2.703	0.169	2.9218	2.9118	-0.341	0.0006
169.15	2.241	2.245	0.190	2.3197	2.3121	-0.326	0.0007
162.65	1.730	1.733	0.190	1.7217	1.7168	-0.282	0.0008
155.05	1.173	1.175	0.172	1.1192	1.1167	-0.221	0.0011
138.15	0.533	0.533	0.071	0.5217	0.5213	-0.081	0.0024
190.85	4.533	4.537	0.089	6.5670	6.5291	-0.577	0.0000
190.85	4.586	4.588	0.041	7.1850	7.1551	-0.416	0.0000
190.85	4.616	4.616	0.001	7.8010	7.7989	-0.027	0.0000
190.85	4.631	4.631	-0.018	8.4170	8.4730	0.665	0.0000
190.85	4.638	4.637	-0.021	9.0330	9.1792	1.619	0.0000
190.85	4.641	4.641	-0.014	9.6500	9.8155	1.715	0.0000
190.85	4.643	4.642	-0.005	10.1480	10.2117	0.628	0.0000
190.85	4.643	4.643	-0.002	10.2700	10.2893	0.188	0.0000
190.85	4.645	4.646	0.013	10.8860	10.7816	-0.959	0.0000
190.85	4.650	4.651	0.032	11.5030	11.3776	-1.090	0.0000
190.43	4.495	4.498	0.080	6.5680	6.5318	-0.551	0.0000
190.43	4.543	4.545	0.036	7.1870	7.1571	-0.416	0.0000
190.43	4.569	4.569	0.001	7.8030	7.8008	-0.028	0.0000

Data from Gammon and Douslin [37] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
190.43	4.580	4.579	-0.008	8.4190	8.4589	0.474	0.0000
190.56	4.507	4.510	0.082	6.5680	6.5315	-0.556	0.0000
190.56	4.556	4.558	0.036	7.1860	7.1576	-0.396	0.0000
190.56	4.583	4.583	0.000	7.8020	7.8016	-0.005	0.0000
190.56	4.596	4.595	-0.012	8.4180	8.4701	0.619	0.0000
190.56	4.600	4.599	-0.006	9.0350	9.1223	0.967	0.0000
190.56	4.600	4.600	0.004	9.6510	9.4440	-2.145	0.0000
190.56	4.601	4.601	-0.004	10.1500	10.7195	5.610	0.0000
190.56	4.601	4.601	0.000	10.2720	10.1392	-1.293	0.0000
190.56	4.601	4.601	-0.011	10.8880	11.1261	2.186	0.0000
190.56	4.603	4.603	0.001	11.5050	11.5014	-0.031	0.0000
189.65	4.424	4.427	0.068	6.5710	6.5354	-0.542	0.0000
189.65	4.463	4.464	0.031	7.1900	7.1567	-0.463	0.0000
190.63	4.513	4.517	0.078	6.5670	6.5327	-0.522	0.0000
190.63	4.563	4.565	0.038	7.1860	7.1569	-0.405	0.0000
190.63	4.591	4.591	0.000	7.8020	7.8017	-0.004	0.0000
190.63	4.604	4.604	-0.015	8.4180	8.4778	0.710	0.0000
190.63	4.609	4.609	-0.013	9.0350	9.2010	1.838	0.0000
190.63	4.610	4.610	-0.001	9.6510	9.6743	0.241	0.0000
190.63	4.611	4.611	-0.004	10.1490	10.3218	1.702	0.0000
190.63	4.611	4.611	0.001	10.2720	10.2259	-0.449	0.0000
190.63	4.612	4.612	-0.006	10.8870	10.9885	0.932	0.0000
190.63	4.614	4.615	0.013	11.5040	11.4316	-0.629	0.0000
190.25	4.478	4.482	0.077	6.5690	6.5329	-0.549	0.0000
190.25	4.525	4.526	0.032	7.1870	7.1591	-0.388	0.0000
190.25	4.548	4.549	0.003	7.8040	7.7986	-0.069	0.0000
191.45	4.587	4.591	0.098	6.5640	6.5258	-0.583	0.0000
191.45	4.646	4.649	0.055	7.1830	7.1483	-0.483	0.0000
191.45	4.683	4.683	0.008	7.7990	7.7900	-0.115	0.0000
191.45	4.704	4.704	-0.019	8.4140	8.4509	0.438	0.0000
191.45	4.717	4.715	-0.027	9.0300	9.1159	0.951	0.0000
191.45	4.724	4.724	-0.018	9.6460	9.7179	0.746	0.0000
191.45	4.729	4.729	0.001	10.1450	10.1415	-0.035	0.0000
191.45	4.731	4.731	0.004	10.2670	10.2518	-0.148	0.0000
191.45	4.738	4.739	0.030	10.8820	10.7848	-0.893	0.0000

Data from Gammon and Douslin [37] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
191.45	4.748	4.751	0.061	11.4990	11.3741	-1.087	0.0000
190.50	4.501	4.505	0.083	6.5680	6.5311	-0.562	0.0000
190.50	4.550	4.552	0.037	7.1860	7.1563	-0.414	0.0000
190.50	4.577	4.577	0.001	7.8030	7.8006	-0.030	0.0000
190.50	4.588	4.588	-0.011	8.4190	8.4685	0.588	0.0000
190.50	4.591	4.592	0.004	9.0350	8.9704	-0.715	0.0000
190.50	4.594	4.593	-0.006	11.5050	11.5478	0.372	0.0000

Number of Points (Ref. 37) 217

PRESSURE:	AAD-%	0.963	BIAS-%	0.956	RMS-%	5.384	
	AAD	0.007	BIAS	0.007	RMS	0.018	MPa
DENSITY :	AAD-%	0.533	BIAS-%	-0.084	RMS-%	0.842	
	AAD	0.046	BIAS	-0.001	RMS	0.084	mol·dm ⁻³

Data from Goodwin [38]

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
176.00	2.796	2.798	0.060	2.9954	2.9918	-0.120	0.0544
180.00	2.933	2.935	0.066	2.9936	2.9899	-0.123	0.0510
184.00	3.068	3.070	0.052	2.9918	2.9891	-0.092	0.0000
188.00	3.201	3.202	0.042	2.9901	2.9880	-0.070	0.0000
192.00	3.332	3.333	0.032	2.9883	2.9868	-0.051	0.0000
196.00	3.461	3.462	0.022	2.9866	2.9856	-0.033	24.7201
200.00	3.589	3.590	0.017	2.9848	2.9840	-0.026	23.6115
204.00	3.716	3.716	0.016	2.9831	2.9823	-0.024	22.6052
208.00	3.842	3.842	0.014	2.9813	2.9807	-0.020	21.6863
212.00	3.967	3.967	0.017	2.9796	2.9789	-0.023	20.8446
216.00	4.091	4.091	0.014	2.9779	2.9773	-0.019	20.0692
220.00	4.214	4.215	0.010	2.9761	2.9757	-0.013	19.3528
225.00	4.367	4.368	0.012	2.9739	2.9735	-0.015	18.5313
230.00	4.520	4.520	0.009	2.9717	2.9714	-0.011	17.7803
240.00	4.822	4.822	-0.003	2.9675	2.9676	0.004	16.4562

Data from Goodwin [38] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
250.00	5.120	5.120	-0.004	2.9630	2.9632	0.005	15.3274
260.00	5.416	5.415	-0.010	2.9585	2.9589	0.012	14.3516
270.00	5.709	5.708	-0.012	2.9540	2.9544	0.014	0.0450
280.00	6.000	5.998	-0.018	2.9495	2.9501	0.020	0.0425
290.00	6.287	6.287	-0.005	2.9450	2.9452	0.006	0.0403
300.00	6.575	6.572	-0.035	2.9402	2.9414	0.039	0.0383
184.00	3.516	3.531	0.444	3.9782	3.9350	-1.085	0.0000
188.00	3.710	3.724	0.374	3.9756	3.9430	-0.819	0.0000
192.00	3.899	3.912	0.327	3.9731	3.9469	-0.657	0.0000
196.00	4.090	4.097	0.165	3.9705	3.9581	-0.310	22.0316
200.00	4.275	4.280	0.110	3.9683	3.9605	-0.195	20.8002
204.00	4.456	4.460	0.104	3.9654	3.9584	-0.176	19.7117
208.00	4.635	4.639	0.094	3.9629	3.9568	-0.153	18.7340
212.00	4.812	4.817	0.091	3.9604	3.9548	-0.142	17.8526
216.00	4.988	4.993	0.087	3.9579	3.9526	-0.132	17.0531
220.00	5.163	5.168	0.087	3.9554	3.9503	-0.128	16.3251
225.00	5.380	5.385	0.085	3.9522	3.9474	-0.121	15.5011
230.00	5.595	5.600	0.088	3.9491	3.9443	-0.121	14.7598
240.00	6.020	6.026	0.089	3.9427	3.9381	-0.116	13.4790
250.00	6.441	6.446	0.088	3.9364	3.9320	-0.112	12.4111
260.00	6.857	6.862	0.082	3.9300	3.9260	-0.100	11.5065
270.00	7.268	7.274	0.082	3.9235	3.9196	-0.098	0.0358
280.00	7.676	7.682	0.083	3.9170	3.9132	-0.096	0.0335
290.00	8.080	8.087	0.075	3.9104	3.9071	-0.085	0.0316
300.00	8.482	8.488	0.068	3.9038	3.9008	-0.075	0.0298
188.00	4.028	4.041	0.343	4.9304	4.8761	-1.101	0.0000
192.00	4.277	4.292	0.354	4.9270	4.8800	-0.952	0.0000
196.00	4.522	4.537	0.335	4.9236	4.8845	-0.793	20.7942
200.00	4.764	4.778	0.297	4.9202	4.8888	-0.638	19.4180
204.00	5.004	5.016	0.250	4.9169	4.8925	-0.496	18.2088
208.00	5.241	5.251	0.200	4.9135	4.8953	-0.371	17.1392
212.00	5.474	5.484	0.182	4.9102	4.8945	-0.320	16.1910
216.00	5.705	5.715	0.178	4.9069	4.8922	-0.298	15.3436
220.00	5.933	5.945	0.195	4.9035	4.8882	-0.313	14.5828
225.00	6.218	6.229	0.176	4.8994	4.8862	-0.270	13.7288

Data from Goodwin [38] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
230.00	6.500	6.511	0.171	4.8952	4.8829	-0.251	12.9716
240.00	7.056	7.068	0.166	4.8868	4.8757	-0.228	11.6871
250.00	7.606	7.618	0.158	4.8784	4.8683	-0.206	10.6391
260.00	8.149	8.162	0.153	4.8699	4.8606	-0.191	9.7686
270.00	8.687	8.699	0.145	4.8614	4.8529	-0.174	0.0301
280.00	9.219	9.232	0.137	4.8527	4.8450	-0.160	0.0280
290.00	9.747	9.759	0.125	4.8441	4.8372	-0.142	0.0262
300.00	10.270	10.282	0.117	4.8354	4.8291	-0.130	0.0246
192.00	4.537	4.546	0.193	5.9478	5.9012	-0.784	0.0000
196.00	4.849	4.860	0.216	5.9435	5.9027	-0.686	20.0683
200.00	5.155	5.167	0.231	5.9392	5.9024	-0.620	18.5422
204.00	5.458	5.470	0.230	5.9350	5.9028	-0.542	17.2123
208.00	5.758	5.770	0.215	5.9307	5.9034	-0.460	16.0467
212.00	6.054	6.067	0.213	5.9264	5.9016	-0.419	15.0219
216.00	6.347	6.361	0.215	5.9222	5.8988	-0.395	14.1148
220.00	6.638	6.653	0.225	5.9179	5.8949	-0.389	13.3081
225.00	6.999	7.014	0.224	5.9126	5.8910	-0.364	12.4163
230.00	7.357	7.373	0.225	5.9072	5.8867	-0.347	11.6346
240.00	8.064	8.083	0.231	5.8965	5.8772	-0.328	10.3317
250.00	8.763	8.783	0.228	5.8857	5.8680	-0.302	9.2910
260.00	9.454	9.475	0.220	5.8749	5.8586	-0.277	8.4427
270.00	10.138	10.160	0.209	5.8640	5.8493	-0.251	0.0258
280.00	10.816	10.837	0.200	5.8531	5.8395	-0.232	0.0238
290.00	11.487	11.509	0.184	5.8422	5.8300	-0.208	0.0221
300.00	12.153	12.174	0.167	5.8312	5.8205	-0.184	0.0207
192.00	4.685	4.687	0.050	6.9818	6.9571	-0.354	0.0000
196.00	5.066	5.072	0.124	6.9765	6.9384	-0.546	19.6268
200.00	5.441	5.450	0.168	6.9712	6.9321	-0.561	17.9586
204.00	5.811	5.822	0.189	6.9659	6.9295	-0.524	16.5074
208.00	6.177	6.190	0.203	6.9607	6.9267	-0.489	15.2439
212.00	6.541	6.555	0.208	6.9555	6.9243	-0.448	14.1394
216.00	6.901	6.917	0.220	6.9502	6.9202	-0.432	13.1713
220.00	7.259	7.276	0.229	6.9450	6.9159	-0.418	12.3179
225.00	7.703	7.722	0.239	6.9384	6.9104	-0.403	11.3861
230.00	8.144	8.164	0.251	6.9317	6.9042	-0.397	10.5795

Data from Goodwin [38] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
240.00	9.016	9.040	0.272	6.9186	6.8917	-0.388	9.2574
250.00	9.879	9.906	0.271	6.9053	6.8806	-0.357	8.2230
260.00	10.732	10.761	0.272	6.8920	6.8688	-0.337	7.3956
270.00	11.579	11.608	0.250	6.8786	6.8583	-0.295	0.0224
280.00	12.417	12.446	0.234	6.8653	6.8471	-0.265	0.0205
290.00	13.249	13.277	0.214	6.8521	6.8360	-0.234	0.0190
300.00	14.074	14.101	0.191	6.8389	6.8250	-0.204	0.0176
192.00	4.753	4.754	0.018	7.9789	7.9598	-0.238	0.0000
196.00	5.201	5.206	0.101	7.9726	7.9253	-0.593	19.3188
200.00	5.642	5.651	0.176	7.9664	7.9110	-0.695	17.5209
204.00	6.078	6.092	0.223	7.9601	7.9055	-0.687	15.9544
208.00	6.512	6.528	0.248	7.9539	7.9033	-0.636	14.5935
212.00	6.944	6.962	0.250	7.9476	7.9031	-0.560	13.4110
216.00	7.373	7.392	0.263	7.9413	7.8994	-0.528	12.3843
220.00	7.800	7.821	0.273	7.9350	7.8952	-0.502	11.4881
225.00	8.329	8.353	0.288	7.9271	7.8888	-0.484	10.5213
230.00	8.857	8.882	0.291	7.9192	7.8832	-0.454	9.6936
240.00	9.901	9.931	0.305	7.9034	7.8699	-0.424	8.3608
250.00	10.936	10.969	0.303	7.8876	7.8570	-0.387	7.3402
260.00	11.961	11.996	0.292	7.8718	7.8443	-0.349	6.5379
270.00	12.978	13.014	0.276	7.8561	7.8315	-0.313	0.0196
280.00	13.986	14.022	0.257	7.8405	7.8186	-0.279	0.0179
290.00	14.985	15.021	0.237	7.8251	7.8056	-0.249	0.0164
300.00	15.977	16.012	0.217	7.8100	7.7927	-0.221	0.0152
192.00	4.789	4.788	-0.012	9.0890	9.1140	0.274	0.0000
196.00	5.308	5.311	0.051	9.0817	9.0489	-0.361	19.0038
200.00	5.824	5.831	0.118	9.0743	9.0286	-0.504	17.0385
204.00	6.336	6.348	0.187	9.0669	9.0135	-0.589	15.3320
208.00	6.850	6.864	0.205	9.0595	9.0121	-0.523	13.8561
212.00	7.361	7.379	0.231	9.0520	9.0063	-0.505	12.5916
216.00	7.871	7.891	0.254	9.0445	9.0000	-0.492	11.5063
220.00	8.380	8.402	0.262	9.0369	8.9953	-0.461	10.5709
225.00	9.013	9.038	0.280	9.0275	8.9873	-0.445	9.5774
230.00	9.644	9.671	0.286	9.0180	8.9801	-0.420	8.7405
240.00	10.897	10.930	0.300	8.9990	8.9638	-0.392	7.4207

Data from Goodwin [38] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
250.00	12.140	12.177	0.306	8.9801	8.9473	-0.365	6.4348
260.00	13.373	13.413	0.304	8.9614	8.9310	-0.339	5.6753
270.00	14.597	14.639	0.288	8.9429	8.9156	-0.305	0.0169
280.00	15.811	15.855	0.274	8.9249	8.9001	-0.278	0.0153
290.00	17.017	17.060	0.254	8.9072	8.8850	-0.249	0.0140
300.00	18.215	18.256	0.228	8.8900	8.8707	-0.216	0.0129
192.00	4.810	4.811	0.017	10.2380	10.1955	-0.415	0.0000
196.00	5.402	5.404	0.031	10.2296	10.2096	-0.196	18.6281
200.00	5.998	6.003	0.075	10.2210	10.1922	-0.282	16.4207
204.00	6.598	6.606	0.118	10.2123	10.1790	-0.326	14.5265
208.00	7.199	7.210	0.151	10.2036	10.1690	-0.339	12.9269
212.00	7.801	7.815	0.175	10.1947	10.1604	-0.336	11.5846
216.00	8.404	8.420	0.193	10.1858	10.1523	-0.329	10.4578
220.00	9.006	9.024	0.199	10.1769	10.1454	-0.309	9.5067
225.00	9.757	9.778	0.217	10.1657	10.1346	-0.305	8.5167
230.00	10.507	10.530	0.224	10.1545	10.1248	-0.292	7.6992
240.00	11.998	12.028	0.244	10.1321	10.1033	-0.284	6.4401
250.00	13.481	13.516	0.257	10.1100	10.0822	-0.275	5.5235
260.00	14.954	14.993	0.255	10.0882	10.0624	-0.256	4.8311
270.00	16.417	16.458	0.255	10.0671	10.0425	-0.244	0.0143
280.00	17.870	17.913	0.242	10.0466	10.0242	-0.223	0.0129
290.00	19.313	19.358	0.229	10.0271	10.0066	-0.204	0.0117
300.00	20.747	20.791	0.211	10.0081	9.9898	-0.183	0.0107
192.00	4.832	4.831	-0.026	11.1113	11.1567	0.408	0.0000
196.00	5.485	5.484	-0.035	11.1019	11.1205	0.167	18.1729
200.00	6.151	6.150	-0.018	11.0923	11.0983	0.054	15.6984
204.00	6.825	6.825	-0.005	11.0825	11.0837	0.011	13.6401
208.00	7.502	7.503	0.021	11.0725	11.0682	-0.039	11.9618
212.00	8.177	8.184	0.085	11.0625	11.0472	-0.138	10.5985
216.00	8.861	8.866	0.061	11.0523	11.0424	-0.089	9.4759
220.00	9.542	9.549	0.076	11.0422	11.0309	-0.102	8.5500
225.00	10.391	10.401	0.098	11.0294	11.0162	-0.120	7.6027
230.00	11.240	11.253	0.115	11.0167	11.0022	-0.132	6.8329
240.00	12.934	12.951	0.133	10.9914	10.9763	-0.138	5.6668
250.00	14.617	14.641	0.161	10.9667	10.9497	-0.155	4.8327

Data from Goodwin [38] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
260.00	16.291	16.319	0.175	10.9428	10.9254	-0.159	4.2102
270.00	17.955	17.987	0.179	10.9198	10.9028	-0.156	0.0124
280.00	19.607	19.643	0.182	10.8978	10.8811	-0.154	0.0112
290.00	21.250	21.287	0.177	10.8769	10.8612	-0.145	0.0101
300.00	22.883	22.920	0.164	10.8570	10.8428	-0.131	0.0093
192.00	4.869	4.869	0.003	12.0697	12.0670	-0.022	0.0000
196.00	5.603	5.604	0.021	12.0591	12.0517	-0.062	17.2314
200.00	6.357	6.359	0.021	12.0482	12.0429	-0.044	14.4081
204.00	7.122	7.123	0.027	12.0370	12.0317	-0.044	12.2259
208.00	7.891	7.894	0.038	12.0256	12.0191	-0.054	10.5450
212.00	8.665	8.669	0.039	12.0142	12.0083	-0.049	9.2315
216.00	9.443	9.445	0.026	12.0026	11.9989	-0.031	8.1869
220.00	10.220	10.223	0.029	11.9912	11.9874	-0.032	7.3423
225.00	11.191	11.196	0.041	11.9767	11.9717	-0.042	6.4936
230.00	12.162	12.168	0.054	11.9624	11.9562	-0.052	5.8141
240.00	14.099	14.110	0.079	11.9342	11.9258	-0.071	4.7997
250.00	16.026	16.043	0.109	11.9069	11.8960	-0.091	4.0834
260.00	17.943	17.966	0.130	11.8808	11.8684	-0.104	3.5529
270.00	19.849	19.877	0.142	11.8562	11.8432	-0.110	0.0105
280.00	21.744	21.776	0.147	11.8330	11.8198	-0.111	0.0094
290.00	23.629	23.663	0.143	11.8112	11.7988	-0.105	0.0085
300.00	25.503	25.537	0.133	11.7906	11.7792	-0.097	0.0078
192.00	4.946	4.948	0.052	12.9815	12.9612	-0.157	0.0000
196.00	5.779	5.785	0.106	12.9695	12.9450	-0.189	15.3489
200.00	6.633	6.640	0.111	12.9570	12.9371	-0.154	12.4178
204.00	7.499	7.506	0.085	12.9442	12.9313	-0.100	10.3465
208.00	8.373	8.377	0.058	12.9313	12.9234	-0.061	8.8342
212.00	9.250	9.253	0.036	12.9184	12.9138	-0.035	7.6910
216.00	10.130	10.132	0.011	12.9053	12.9040	-0.010	6.8008
220.00	11.012	11.011	-0.003	12.8923	12.8926	0.002	6.0902
225.00	12.111	12.112	0.004	12.8761	12.8757	-0.003	5.3835
230.00	13.212	13.213	0.008	12.8600	12.8591	-0.007	4.8216
240.00	15.406	15.411	0.032	12.8286	12.8255	-0.024	3.9876
250.00	17.590	17.601	0.060	12.7988	12.7932	-0.044	3.4004
260.00	19.764	19.779	0.079	12.7708	12.7637	-0.056	2.9657

Data from Goodwin [38] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
270.00	21.926	21.946	0.091	12.7448	12.7369	-0.062	0.0088
280.00	24.075	24.099	0.099	12.7206	12.7121	-0.066	0.0079
290.00	26.213	26.239	0.097	12.6980	12.6898	-0.065	0.0072
300.00	28.339	28.363	0.087	12.6767	12.6694	-0.057	0.0066
192.00	5.205	5.224	0.368	14.2336	14.1765	-0.401	0.0000
196.00	6.221	6.235	0.223	14.2188	14.1907	-0.198	10.8128
200.00	7.245	7.258	0.179	14.2038	14.1836	-0.142	8.7028
204.00	8.279	8.289	0.130	14.1886	14.1750	-0.096	7.2808
208.00	9.318	9.325	0.083	14.1733	14.1651	-0.058	6.2584
212.00	10.361	10.365	0.039	14.1580	14.1543	-0.026	5.4884
216.00	11.404	11.406	0.019	14.1427	14.1409	-0.012	4.8884
220.00	12.448	12.449	0.006	14.1275	14.1269	-0.004	4.4078
225.00	13.752	13.752	0.003	14.1089	14.1086	-0.002	3.9272
230.00	15.053	15.055	0.009	14.0906	14.0898	-0.005	3.5428
240.00	17.651	17.655	0.024	14.0557	14.0537	-0.014	2.9670
250.00	20.235	20.244	0.045	14.0234	14.0196	-0.027	2.5562
260.00	22.806	22.821	0.066	13.9939	13.9886	-0.038	2.2482
270.00	25.363	25.383	0.076	13.9669	13.9607	-0.044	0.0067
280.00	27.907	27.929	0.078	13.9421	13.9358	-0.045	0.0061
290.00	30.433	30.458	0.080	13.9190	13.9126	-0.046	0.0055
300.00	32.948	32.969	0.062	13.8972	13.8923	-0.035	0.0051
190.00	5.187	5.211	0.473	15.3796	15.3396	-0.260	0.0000
194.00	6.379	6.404	0.394	15.3621	15.3305	-0.205	7.3227
198.00	7.586	7.607	0.275	15.3444	15.3231	-0.139	6.0330
202.00	8.801	8.816	0.171	15.3267	15.3136	-0.085	5.1393
206.00	10.020	10.029	0.091	15.3088	15.3019	-0.045	4.4823
210.00	11.238	11.244	0.058	15.2911	15.2867	-0.029	3.9786
215.00	12.760	12.764	0.037	15.2692	15.2665	-0.018	3.4931
220.00	14.279	14.284	0.033	15.2478	15.2422	-0.016	3.1171
230.00	17.313	17.318	0.030	15.2072	15.2049	-0.015	2.5722
240.00	20.329	20.340	0.056	15.1701	15.1660	-0.027	2.1958
250.00	23.331	23.348	0.070	15.1369	15.1317	-0.034	1.9195
260.00	26.318	26.338	0.077	15.1069	15.1012	-0.038	1.7078
270.00	29.286	29.309	0.079	15.0797	15.0738	-0.039	0.0051
280.00	32.240	32.260	0.062	15.0546	15.0500	-0.031	0.0047

Data from Goodwin [38] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
290.00	35.168	35.189	0.061	15.0313	15.0268	-0.030	0.0430
186.00	4.562	4.581	0.423	16.2733	16.2502	-0.142	0.0000
190.00	5.908	5.931	0.396	16.2543	16.2319	-0.138	0.0000
194.00	7.268	7.292	0.325	16.2348	16.2159	-0.116	4.7079
198.00	8.636	8.658	0.251	16.2151	16.2002	-0.092	4.0524
202.00	10.005	10.027	0.225	16.1953	16.1817	-0.084	3.5641
206.00	11.375	11.398	0.198	16.1755	16.1633	-0.076	3.1859
210.00	12.745	12.768	0.179	16.1562	16.1450	-0.069	2.8837
215.00	14.440	14.480	0.276	16.1328	16.1152	-0.109	2.5822
220.00	16.161	16.188	0.172	16.1098	16.0987	-0.069	2.3408
230.00	19.563	19.595	0.166	16.0677	16.0567	-0.068	1.9781
240.00	22.944	22.984	0.176	16.0302	16.0184	-0.074	1.7178
250.00	26.311	26.354	0.162	15.9971	15.9861	-0.069	1.5211
260.00	29.654	29.702	0.162	15.9676	15.9564	-0.070	1.3671
270.00	32.976	33.026	0.153	15.9408	15.9301	-0.067	0.0041
182.00	4.132	4.164	0.761	17.2858	17.2607	-0.145	0.0000
186.00	5.695	5.724	0.505	17.2636	17.2444	-0.111	0.0000
190.00	7.268	7.292	0.334	17.2416	17.2277	-0.081	16.4604
194.00	8.835	8.863	0.325	17.2194	17.2048	-0.085	2.8998
198.00	10.408	10.436	0.266	17.1973	17.1847	-0.073	2.5967
202.00	11.977	12.007	0.245	17.1754	17.1633	-0.071	2.3554
206.00	13.546	13.575	0.214	17.1539	17.1429	-0.064	2.1583
210.00	15.108	15.141	0.219	17.1331	17.1215	-0.068	1.9940
215.00	17.060	17.094	0.196	17.1084	17.0976	-0.063	1.8231
220.00	19.003	19.040	0.192	17.0848	17.0740	-0.063	1.6815
230.00	22.872	22.915	0.188	17.0424	17.0313	-0.065	1.4589
240.00	26.719	26.766	0.176	17.0056	16.9948	-0.063	1.2916
250.00	30.544	30.589	0.146	16.9731	16.9639	-0.054	1.1609
260.00	34.336	34.382	0.136	16.9441	16.9353	-0.052	1.0558
176.00	3.217	3.267	1.543	18.3840	18.3568	-0.148	14.9925
180.00	5.044	5.087	0.848	18.3570	18.3368	-0.110	0.0000
184.00	6.869	6.914	0.648	18.3320	18.3134	-0.102	0.0000
188.00	8.691	8.740	0.572	18.3070	18.2883	-0.102	10.2954
192.00	10.509	10.560	0.490	18.2810	18.2633	-0.097	1.8752
196.00	12.323	12.377	0.440	18.2560	18.2389	-0.094	1.7245

Data from Goodwin [38] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
200.00	14.131	14.189	0.407	18.2320	18.2151	-0.093	1.5985
205.00	16.386	16.444	0.353	18.2030	18.1874	-0.086	1.4674
210.00	18.631	18.687	0.298	18.1750	18.1611	-0.076	1.3585
215.00	20.869	20.925	0.270	18.1500	18.1368	-0.073	1.2655
220.00	23.100	23.155	0.240	18.1270	18.1149	-0.067	1.1854
225.00	25.324	25.379	0.217	18.1060	18.0947	-0.063	1.1155
230.00	27.539	27.590	0.185	18.0860	18.0760	-0.055	1.0542
235.00	29.748	29.796	0.163	18.0680	18.0590	-0.050	0.9996
240.00	31.949	31.998	0.153	18.0520	18.0434	-0.048	0.9506
245.00	34.140	34.184	0.128	18.0360	18.0286	-0.041	0.9068
170.00	2.637	2.753	4.431	19.5060	19.4631	-0.220	9.4880
174.00	4.774	4.887	2.363	19.4750	19.4379	-0.190	8.5028
178.00	6.901	7.021	1.743	19.4460	19.4101	-0.184	7.7238
182.00	9.012	9.146	1.487	19.4170	19.3802	-0.189	7.0969
186.00	11.113	11.259	1.312	19.3880	19.3509	-0.191	6.5806
190.00	13.206	13.357	1.144	19.3590	19.3231	-0.186	6.1472
194.00	15.291	15.449	1.031	19.3320	19.2968	-0.182	1.1547
198.00	17.367	17.534	0.963	19.3070	19.2717	-0.183	1.0894
202.00	19.435	19.608	0.891	19.2830	19.2484	-0.180	1.0320
205.00	20.984	21.158	0.831	19.2660	19.2324	-0.174	0.9932
210.00	23.558	23.734	0.750	19.2400	19.2080	-0.167	0.9351
215.00	26.121	26.297	0.677	19.2160	19.1857	-0.158	0.8841
220.00	28.676	28.855	0.624	19.1950	19.1658	-0.152	0.8385
225.00	31.221	31.397	0.562	19.1750	19.1478	-0.142	0.7979
230.00	33.754	33.930	0.521	19.1570	19.1309	-0.136	0.7612
164.00	2.029	2.115	4.230	20.4250	20.4016	-0.115	6.7743
168.00	4.469	4.532	1.405	20.3890	20.3734	-0.077	6.2045
172.00	6.882	6.949	0.975	20.3570	20.3416	-0.076	5.7318
176.00	9.270	9.345	0.807	20.3240	20.3080	-0.079	5.3435
180.00	11.639	11.724	0.733	20.2920	20.2748	-0.085	5.0142
184.00	13.997	14.082	0.608	20.2600	20.2438	-0.080	4.7326
188.00	16.342	16.432	0.553	20.2310	20.2147	-0.080	4.4836
192.00	18.678	18.783	0.566	20.2060	20.1879	-0.090	0.8519
196.00	21.008	21.095	0.411	20.1780	20.1639	-0.070	0.8132
200.00	23.332	23.415	0.354	20.1550	20.1421	-0.064	0.7773

Data from Goodwin [38] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
204.00	25.649	25.727	0.303	20.1340	20.1224	-0.058	0.7448
208.00	27.960	28.033	0.262	20.1150	20.1045	-0.052	0.7149
212.00	30.263	30.327	0.212	20.0970	20.0881	-0.044	0.6876
216.00	32.557	32.610	0.163	20.0800	20.0729	-0.035	0.6626
220.00	34.843	34.890	0.135	20.0650	20.0589	-0.030	0.6392
158.00	1.984	2.061	3.912	21.3710	21.3554	-0.073	4.7922
162.00	4.754	4.809	1.155	21.3320	21.3217	-0.048	4.4733
166.00	7.475	7.533	0.775	21.2940	21.2838	-0.048	4.2049
170.00	10.160	10.238	0.769	21.2580	21.2450	-0.061	3.9735
174.00	12.829	12.917	0.691	21.2230	21.2090	-0.066	3.7727
178.00	15.481	15.571	0.585	21.1890	21.1754	-0.064	3.5961
182.00	18.122	18.214	0.507	21.1580	21.1448	-0.063	3.4368
186.00	20.756	20.839	0.402	21.1290	21.1175	-0.054	3.2930
190.00	23.382	23.457	0.321	21.1030	21.0931	-0.047	3.1609
194.00	26.003	26.070	0.258	21.0800	21.0715	-0.041	0.6078
198.00	28.612	28.672	0.210	21.0590	21.0516	-0.035	0.5853
202.00	31.214	31.265	0.165	21.0400	21.0339	-0.029	0.5645
206.00	33.804	33.843	0.116	21.0220	21.0175	-0.021	0.5453
152.00	1.459	1.545	5.871	22.1250	22.1110	-0.063	3.7607
156.00	4.509	4.560	1.124	22.0800	22.0722	-0.035	3.5533
160.00	7.492	7.566	0.987	22.0400	22.0292	-0.049	3.3697
164.00	10.440	10.539	0.949	22.0010	21.9872	-0.063	3.2104
168.00	13.369	13.471	0.760	21.9620	21.9485	-0.061	3.0715
172.00	16.277	16.407	0.797	21.9290	21.9125	-0.075	2.9423
176.00	19.176	19.271	0.498	21.8920	21.8803	-0.053	2.8317
180.00	22.065	22.153	0.400	21.8620	21.8516	-0.048	2.7257
184.00	24.952	25.033	0.325	21.8360	21.8268	-0.042	2.6265
188.00	27.831	27.897	0.237	21.8120	21.8048	-0.033	2.5348
192.00	30.702	30.756	0.178	21.7910	21.7852	-0.027	0.4898
196.00	33.558	33.604	0.139	21.7720	21.7672	-0.022	0.4738
146.00	1.313	1.383	5.358	22.8730	22.8636	-0.041	2.9682
140.00	1.226	1.278	4.205	23.5700	23.5643	-0.024	2.4063
150.00	4.670	4.690	0.427	22.8240	22.8215	-0.011	2.8326
154.00	7.946	8.000	0.674	22.7820	22.7755	-0.028	2.7080
158.00	11.174	11.248	0.671	22.7390	22.7303	-0.038	2.6005

Data from Goodwin [38] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
162.00	14.381	14.461	0.559	22.6980	22.6890	-0.040	2.5038
166.00	17.571	17.649	0.444	22.6600	22.6516	-0.037	2.4150
170.00	20.755	20.825	0.335	22.6260	22.6188	-0.032	2.3320
174.00	23.933	23.993	0.250	22.5960	22.5900	-0.027	2.2539
178.00	27.111	27.157	0.170	22.5700	22.5655	-0.020	2.1800
182.00	30.277	30.302	0.082	22.5460	22.5436	-0.010	2.1112
186.00	33.428	33.440	0.035	22.5250	22.5239	-0.005	2.0461
144.00	4.891	4.882	-0.181	23.5180	23.5189	0.004	2.3137
148.00	8.450	8.476	0.311	23.4720	23.4693	-0.011	2.2280
152.00	11.953	12.005	0.438	23.4260	23.4208	-0.022	2.1526
156.00	15.435	15.499	0.414	23.3830	23.3769	-0.026	2.0832
160.00	18.907	18.962	0.291	23.3430	23.3379	-0.022	2.0189
164.00	22.376	22.419	0.192	23.3080	23.3041	-0.017	1.9573
168.00	25.844	25.877	0.128	23.2780	23.2751	-0.012	1.8981
172.00	29.304	29.330	0.090	23.2520	23.2498	-0.010	1.8416
176.00	32.758	32.760	0.005	23.2280	23.2279	-0.001	1.7886
134.00	0.686	0.773	12.615	24.1830	24.1747	-0.034	27.0410
138.00	4.638	4.625	-0.286	24.1250	24.1262	0.005	1.9628
142.00	8.463	8.494	0.370	24.0760	24.0732	-0.012	1.8992
146.00	12.224	12.286	0.505	24.0270	24.0216	-0.022	1.8431
150.00	15.966	16.035	0.434	23.9810	23.9751	-0.024	1.7911
154.00	19.704	19.770	0.335	23.9400	23.9346	-0.023	1.7413
134.00	0.584	0.679	16.256	24.1740	24.1648	-0.038	27.1442
136.00	2.577	2.572	-0.207	24.1410	24.1415	0.002	2.0050
138.00	4.526	4.517	-0.185	24.1150	24.1158	0.003	1.9707
140.00	6.451	6.454	0.049	24.0900	24.0897	-0.001	1.9380
142.00	8.335	8.383	0.578	24.0660	24.0617	-0.018	1.9066
144.00	10.213	10.292	0.773	24.0420	24.0350	-0.029	1.8771
146.00	12.094	12.171	0.632	24.0170	24.0103	-0.028	1.8501
148.00	13.970	14.053	0.594	23.9940	23.9869	-0.030	1.8232
150.00	15.837	15.917	0.500	23.9710	23.9643	-0.028	1.7977
152.00	17.705	17.785	0.451	23.9500	23.9433	-0.028	1.7722
154.00	19.575	19.660	0.437	23.9310	23.9240	-0.029	1.7468
156.00	21.442	21.518	0.357	23.9120	23.9058	-0.026	1.7226
158.00	23.289	23.359	0.303	23.8930	23.8874	-0.024	1.6996

Data from Goodwin [38] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
160.00	25.164	25.222	0.231	23.8770	23.8724	-0.019	1.6758
162.00	27.032	27.081	0.184	23.8620	23.8581	-0.016	1.6525
164.00	28.896	28.952	0.194	23.8490	23.8447	-0.018	1.6292
166.00	30.769	30.809	0.129	23.8360	23.8330	-0.013	1.6068
168.00	32.639	32.665	0.080	23.8240	23.8220	-0.008	1.5848
170.00	34.499	34.508	0.028	23.8120	23.8113	-0.003	1.5636
130.00	0.729	0.760	4.250	24.6050	24.6023	-0.011	1.8011
132.00	2.823	2.760	-2.227	24.5720	24.5774	0.022	1.7764
134.00	4.878	4.820	-1.195	24.5460	24.5509	0.020	1.7485
136.00	6.889	6.846	-0.635	24.5190	24.5226	0.015	1.7232
138.00	8.864	8.874	0.111	24.4940	24.4932	-0.003	1.6982
140.00	10.843	10.880	0.348	24.4690	24.4660	-0.012	1.6746
142.00	12.818	12.852	0.272	24.4430	24.4402	-0.011	1.6530
144.00	14.786	14.829	0.290	24.4190	24.4156	-0.014	1.6314
146.00	16.752	16.796	0.267	24.3960	24.3925	-0.014	1.6103
148.00	18.722	18.757	0.185	24.3740	24.3714	-0.011	1.5898
150.00	20.692	20.724	0.153	24.3540	24.3516	-0.010	1.5691
152.00	22.664	22.685	0.091	24.3350	24.3335	-0.006	1.5489
154.00	24.612	24.641	0.120	24.3170	24.3148	-0.009	1.5291
156.00	26.591	26.608	0.064	24.3010	24.2998	-0.005	1.5091
158.00	28.567	28.570	0.012	24.2860	24.2858	-0.001	1.4894
160.00	30.546	30.545	-0.002	24.2730	24.2730	0.000	1.4697
162.00	32.515	32.505	-0.033	24.2600	24.2607	0.003	1.4507
164.00	34.492	34.464	-0.083	24.2480	24.2500	0.008	1.4319
126.00	0.479	0.549	14.402	24.9960	24.9905	-0.022	21.6203
128.00	2.674	2.617	-2.151	24.9600	24.9645	0.018	1.6028
130.00	4.828	4.774	-1.109	24.9330	24.9371	0.017	1.5799
132.00	6.944	6.894	-0.719	24.9050	24.9088	0.015	1.5591
134.00	9.021	9.017	-0.044	24.8790	24.8793	0.001	1.5384
136.00	11.090	11.102	0.105	24.8520	24.8511	-0.003	1.5196
138.00	13.149	13.176	0.209	24.8260	24.8240	-0.008	1.5012
140.00	15.205	15.241	0.239	24.8010	24.7984	-0.011	1.4834
142.00	17.262	17.296	0.200	24.7770	24.7745	-0.010	1.4659
144.00	19.322	19.343	0.109	24.7540	24.7525	-0.006	1.4488
146.00	21.386	21.411	0.119	24.7340	24.7322	-0.007	1.4311

Data from Goodwin [38] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
148.00	23.459	23.473	0.058	24.7150	24.7141	-0.004	1.4137
148.00	23.456	23.458	0.008	24.7140	24.7139	-0.001	1.4142
150.00	25.529	25.529	-0.002	24.6970	24.6970	0.000	1.3966
152.00	27.602	27.595	-0.026	24.6810	24.6815	0.002	1.3793
154.00	29.668	29.658	-0.035	24.6660	24.6667	0.003	1.3623
156.00	31.735	31.718	-0.052	24.6520	24.6531	0.004	1.3455
158.00	33.803	33.776	-0.080	24.6390	24.6407	0.007	1.3290
122.00	0.348	0.471	35.275	25.3860	25.3771	-0.035	19.4872
124.00	2.617	2.618	0.034	25.3480	25.3479	0.000	1.4471
126.00	4.881	4.876	-0.116	25.3200	25.3204	0.002	1.4283
128.00	7.036	7.122	1.213	25.2930	25.2870	-0.024	1.4102
130.00	9.222	9.341	1.297	25.2660	25.2577	-0.033	1.3933
132.00	11.404	11.535	1.148	25.2390	25.2301	-0.035	1.3774
134.00	13.579	13.702	0.910	25.2120	25.2037	-0.033	1.3624
134.00	13.581	13.687	0.780	25.2110	25.2038	-0.028	1.3629
136.00	15.717	15.828	0.707	25.1840	25.1766	-0.029	1.3487
138.00	17.880	17.989	0.610	25.1600	25.1528	-0.029	1.3339
140.00	20.043	20.141	0.487	25.1370	25.1306	-0.025	1.3193
142.00	22.214	22.299	0.381	25.1160	25.1105	-0.022	1.3046
144.00	24.387	24.466	0.326	25.0970	25.0919	-0.020	1.2897
146.00	26.564	26.642	0.294	25.0800	25.0751	-0.020	1.2745
148.00	28.746	28.814	0.236	25.0640	25.0598	-0.017	1.2596
150.00	30.928	30.982	0.173	25.0490	25.0457	-0.013	1.2449
152.00	33.099	33.146	0.143	25.0350	25.0321	-0.012	1.2304
154.00	35.273	35.308	0.101	25.0220	25.0199	-0.009	0.0081
118.00	0.474	0.575	21.302	25.7770	25.7703	-0.026	17.5736
120.00	2.849	2.830	-0.649	25.7390	25.7402	0.005	1.3061
122.00	5.181	5.192	0.204	25.7100	25.7093	-0.003	1.2907
124.00	7.430	7.540	1.482	25.6820	25.6749	-0.028	1.2760
126.00	9.720	9.860	1.446	25.6540	25.6451	-0.035	1.2622
128.00	12.001	12.135	1.118	25.6250	25.6166	-0.033	1.2497
130.00	14.285	14.413	0.902	25.5980	25.5900	-0.031	1.2371
132.00	16.555	16.712	0.948	25.5740	25.5643	-0.038	1.2239
134.00	18.832	18.984	0.808	25.5500	25.5407	-0.036	1.2113
136.00	21.106	21.196	0.426	25.5240	25.5186	-0.021	1.2002

Data from Goodwin [38] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
138.00	23.385	23.465	0.340	25.5030	25.4983	-0.019	1.1877
138.00	23.345	23.465	0.516	25.5030	25.4958	-0.028	1.1877
140.00	25.633	25.743	0.427	25.4840	25.4775	-0.025	1.1749
142.00	27.933	28.014	0.288	25.4660	25.4613	-0.018	1.1623
144.00	30.221	30.296	0.248	25.4500	25.4457	-0.017	1.1495
146.00	32.523	32.574	0.157	25.4350	25.4321	-0.011	1.1369
148.00	34.815	34.866	0.146	25.4220	25.4191	-0.011	1.1240
114.00	0.411	0.446	8.623	26.1420	26.1398	-0.008	16.0215
116.00	2.890	2.794	-3.317	26.1030	26.1088	0.022	1.1919
118.00	5.297	5.240	-1.070	26.0720	26.0754	0.013	1.1795
120.00	7.636	7.705	0.908	26.0440	26.0399	-0.016	1.1668
122.00	10.016	10.106	0.892	26.0140	26.0087	-0.020	1.1557
124.00	12.393	12.491	0.795	25.9850	25.9792	-0.022	1.1449
126.00	14.766	14.846	0.547	25.9560	25.9513	-0.018	1.1348
128.00	17.134	17.205	0.417	25.9290	25.9249	-0.016	1.1245
130.00	19.512	19.569	0.292	25.9040	25.9008	-0.012	1.1140
132.00	21.896	21.940	0.203	25.8810	25.8785	-0.010	1.1033
132.00	21.853	21.922	0.314	25.8800	25.8761	-0.015	1.1037
134.00	24.244	24.300	0.232	25.8590	25.8559	-0.012	1.0928
136.00	26.644	26.688	0.165	25.8400	25.8376	-0.009	1.0816
138.00	29.047	29.068	0.071	25.8220	25.8209	-0.004	1.0706
140.00	31.458	31.479	0.067	25.8070	25.8059	-0.004	1.0591
142.00	33.859	33.866	0.020	25.7920	25.7916	-0.001	1.0480
110.00	0.594	0.672	13.244	26.5190	26.5145	-0.017	14.5524
112.00	3.184	3.134	-1.578	26.4800	26.4828	0.011	1.0832
114.00	5.644	5.703	1.033	26.4490	26.4458	-0.012	1.0727
116.00	8.105	8.256	1.857	26.4190	26.4107	-0.031	1.0626
118.00	10.587	10.757	1.607	26.3880	26.3787	-0.035	1.0536
120.00	13.066	13.224	1.211	26.3570	26.3484	-0.033	1.0451
122.00	15.540	15.676	0.874	26.3270	26.3197	-0.028	1.0369
124.00	18.015	18.132	0.645	26.2990	26.2928	-0.023	1.0284
126.00	20.498	20.612	0.557	26.2740	26.2680	-0.023	1.0194
128.00	22.989	23.099	0.476	26.2510	26.2453	-0.022	1.0103
130.00	25.491	25.594	0.406	26.2300	26.2246	-0.020	1.0009
132.00	28.002	28.100	0.347	26.2110	26.2060	-0.019	0.9913

Data from Goodwin [38] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
134.00	30.521	30.597	0.247	26.1930	26.1892	-0.015	0.9818
134.00	30.497	30.577	0.263	26.1920	26.1879	-0.016	0.9821
136.00	33.019	33.086	0.206	26.1760	26.1726	-0.013	0.9724
106.00	1.202	1.190	-1.023	26.9010	26.9016	0.002	0.9905
108.00	3.899	3.809	-2.291	26.8640	26.8686	0.017	0.9830
110.00	6.459	6.507	0.749	26.8330	26.8305	-0.009	0.9741
112.00	9.030	9.150	1.324	26.8010	26.7949	-0.023	0.9662
114.00	11.612	11.735	1.056	26.7680	26.7618	-0.023	0.9592
116.00	14.187	14.303	0.817	26.7360	26.7302	-0.022	0.9524
118.00	16.765	16.875	0.652	26.7060	26.7006	-0.020	0.9455
120.00	19.354	19.471	0.606	26.6790	26.6732	-0.022	0.9380
122.00	21.954	22.054	0.452	26.6530	26.6482	-0.018	0.9307
124.00	24.582	24.664	0.333	26.6300	26.6260	-0.015	0.9229
124.00	24.568	24.684	0.475	26.6310	26.6254	-0.021	0.9226
126.00	27.205	27.304	0.364	26.6100	26.6053	-0.018	0.9146
128.00	29.851	29.955	0.349	26.5920	26.5871	-0.019	0.9060
130.00	32.502	32.576	0.228	26.5740	26.5705	-0.013	0.8979
132.00	35.142	35.232	0.256	26.5590	26.5548	-0.016	0.0059
102.00	0.847	0.888	4.818	27.2320	27.2300	-0.007	0.9166
104.00	3.649	3.565	-2.295	27.1920	27.1961	0.015	0.9108
106.00	6.303	6.367	1.008	27.1600	27.1569	-0.011	0.9031
108.00	8.951	9.109	1.756	27.1270	27.1195	-0.028	0.8963
110.00	11.622	11.790	1.447	27.0930	27.0850	-0.029	0.8904
112.00	14.294	14.453	1.113	27.0600	27.0525	-0.028	0.8847
114.00	16.961	17.119	0.931	27.0290	27.0216	-0.027	0.8788
116.00	19.648	19.812	0.833	27.0010	26.9934	-0.028	0.8724
116.00	19.647	19.812	0.838	27.0010	26.9934	-0.028	0.8724
118.00	22.357	22.532	0.785	26.9760	26.9679	-0.030	0.8656
120.00	25.086	25.239	0.608	26.9520	26.9450	-0.026	0.8589
122.00	27.828	27.977	0.535	26.9310	26.9243	-0.025	0.8518
124.00	30.590	30.725	0.442	26.9120	26.9059	-0.023	0.8444
126.00	33.342	33.486	0.432	26.8950	26.8886	-0.024	0.8369
98.00	1.244	1.232	-0.913	27.5880	27.5885	0.002	0.8411
100.00	4.141	4.034	-2.568	27.5480	27.5528	0.017	0.8361
102.00	6.870	6.970	1.467	27.5160	27.5115	-0.016	0.8294
104.00	9.627	9.797	1.765	27.4810	27.4734	-0.027	0.8241

Data from Goodwin [38] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
106.00	12.400	12.603	1.638	27.4470	27.4380	-0.033	0.8190
108.00	15.176	15.367	1.264	27.4130	27.4046	-0.031	0.8143
110.00	17.965	18.158	1.075	27.3820	27.3736	-0.031	0.8092
112.00	20.779	20.954	0.839	27.3530	27.3454	-0.028	0.8039
114.00	23.615	23.803	0.796	27.3280	27.3199	-0.030	0.7980
116.00	26.475	26.660	0.698	27.3050	27.2971	-0.029	0.7919
116.00	26.489	26.660	0.644	27.3050	27.2977	-0.027	0.7919
118.00	29.361	29.551	0.647	27.2850	27.2770	-0.029	0.7854
120.00	32.245	32.430	0.576	27.2660	27.2582	-0.029	0.7790
94.00	0.751	0.722	-3.843	27.9000	27.9012	0.004	0.7844
96.00	3.752	3.604	-3.930	27.8580	27.8643	0.022	0.7804
98.00	6.552	6.650	1.496	27.8250	27.8209	-0.015	0.7745
100.00	9.406	9.578	1.828	27.7890	27.7818	-0.026	0.7699
102.00	12.273	12.460	1.531	27.7530	27.7452	-0.028	0.7658
104.00	15.138	15.345	1.368	27.7190	27.7104	-0.031	0.7615
106.00	18.022	18.210	1.042	27.6860	27.6783	-0.028	0.7574
108.00	20.935	21.128	0.922	27.6570	27.6491	-0.029	0.7526
110.00	23.873	24.053	0.755	27.6300	27.6227	-0.027	0.7477
112.00	26.839	27.036	0.731	27.6070	27.5991	-0.029	0.7421
114.00	29.826	30.028	0.678	27.5860	27.5779	-0.029	0.7365
116.00	32.835	33.033	0.603	27.5670	27.5591	-0.029	0.7306
92.00	4.412	4.258	-3.488	28.2090	28.2151	0.022	0.7184
94.00	7.285	7.428	1.954	28.1750	28.1694	-0.020	0.7135
96.00	10.254	10.443	1.840	28.1370	28.1296	-0.026	0.7101
98.00	13.235	13.459	1.689	28.1010	28.0923	-0.031	0.7065
100.00	16.218	16.451	1.437	28.0660	28.0570	-0.032	0.7030
100.00	16.219	16.451	1.431	28.0660	28.0570	-0.032	0.7030
102.00	19.224	19.473	1.293	28.0340	28.0244	-0.034	0.6992
104.00	22.269	22.500	1.039	28.0040	27.9951	-0.032	0.6953
106.00	25.355	25.587	0.913	27.9780	27.9692	-0.032	0.6908
108.00	28.464	28.708	0.859	27.9550	27.9458	-0.033	0.6859
110.00	31.602	31.868	0.842	27.9350	27.9250	-0.036	0.6807
112.00	34.753	35.013	0.750	27.9160	27.9063	-0.035	0.6756
94.00	12.813	13.088	2.141	28.3910	28.3808	-0.036	0.6644
96.00	15.889	16.157	1.682	28.3540	28.3441	-0.035	0.6617

Data from Goodwin [38] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
98.00	18.989	19.282	1.545	28.3210	28.3102	-0.038	0.6584
100.00	22.134	22.412	1.256	28.2900	28.2798	-0.036	0.6550
102.00	25.322	25.631	1.219	28.2640	28.2528	-0.040	0.6508
104.00	28.544	28.859	1.102	28.2400	28.2287	-0.040	0.6465
106.00	31.805	32.125	1.006	28.2190	28.2075	-0.041	0.6419
108.00	35.057	35.404	0.991	28.2000	28.1877	-0.044	0.0042
96.50	22.494	22.708	0.954	28.5520	28.5445	-0.026	0.6194
97.00	23.313	23.534	0.950	28.5450	28.5373	-0.027	0.6185
98.00	24.964	25.177	0.850	28.5310	28.5236	-0.026	0.6168
100.00	28.284	28.539	0.902	28.5070	28.4982	-0.031	0.6128
100.00	28.293	28.539	0.869	28.5070	28.4985	-0.030	0.6128
102.00	31.643	31.942	0.943	28.4860	28.4758	-0.036	0.6085
104.00	35.009	35.327	0.908	28.4660	28.4552	-0.038	0.0040
Number of Points (Ref. 38)			554				
PRESSURE:	AAD-%	0.717	BIAS-%	0.585	RMS-%	2.258	
	AAD	0.060	BIAS	0.055	RMS	0.071	MPa
DENSITY :	AAD-%	0.117	BIAS-%	-0.112	RMS-%	0.170	
	AAD	0.012	BIAS	-0.012	RMS	0.012	mol·dm ⁻³

Data from Goodwin [39]

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
150.00	1.026	1.025	-0.054	1.0000	1.0007	0.069	52.0934
155.00	1.074	1.074	-0.029	1.0000	1.0004	0.036	49.2938
160.00	1.122	1.122	-0.014	1.0000	1.0002	0.017	46.8494
165.00	1.170	1.170	-0.004	1.0000	1.0000	0.004	44.6701
170.00	1.217	1.217	0.019	1.0000	0.9998	-0.022	42.7086
175.00	1.263	1.264	0.032	1.0000	0.9996	-0.038	40.9250
180.00	1.310	1.310	0.049	1.0000	0.9994	-0.056	39.2963
185.00	1.356	1.357	0.055	1.0000	0.9994	-0.063	37.7994
190.00	1.402	1.403	0.061	1.0000	0.9993	-0.069	36.4197
195.00	1.448	1.449	0.068	1.0000	0.9992	-0.077	35.1437

Data from Goodwin [39] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
200.00	1.494	1.495	0.071	1.0000	0.9992	-0.079	33.9585
205.00	1.539	1.540	0.071	1.0000	0.9992	-0.079	32.8545
210.00	1.585	1.586	0.063	1.0000	0.9993	-0.069	31.8223
215.00	1.631	1.632	0.060	1.0000	0.9993	-0.066	30.8569
220.00	1.676	1.677	0.052	1.0000	0.9994	-0.057	29.9501
225.00	1.722	1.722	0.044	1.0000	0.9995	-0.048	29.0973
230.00	1.767	1.767	0.038	1.0000	0.9996	-0.041	28.2939
235.00	1.812	1.813	0.033	1.0000	0.9996	-0.036	27.5355
240.00	1.857	1.858	0.024	1.0000	0.9997	-0.026	26.8176
245.00	1.902	1.903	0.018	1.0000	0.9998	-0.020	26.1377
250.00	1.947	1.948	0.009	1.0000	0.9999	-0.010	25.4921
255.00	1.992	1.992	0.003	1.0000	1.0000	-0.003	24.8789
260.00	2.037	2.037	-0.001	1.0000	1.0000	0.001	24.2957
265.00	2.082	2.082	-0.007	1.0000	1.0001	0.007	23.7397
270.00	2.127	2.127	-0.015	1.0000	1.0002	0.016	0.1160
170.00	2.062	2.067	0.260	2.0000	1.9921	-0.393	27.5425
175.00	2.166	2.172	0.276	2.0000	1.9920	-0.400	25.8633
180.00	2.270	2.276	0.277	2.0000	1.9922	-0.389	24.4071
185.00	2.372	2.378	0.272	2.0000	1.9926	-0.371	23.1233
190.00	2.474	2.480	0.262	2.0000	1.9930	-0.349	21.9789
195.00	2.575	2.581	0.254	2.0000	1.9934	-0.330	20.9509
200.00	2.675	2.681	0.240	2.0000	1.9939	-0.306	20.0206
205.00	2.775	2.781	0.223	2.0000	1.9944	-0.281	19.1741
210.00	2.874	2.880	0.207	2.0000	1.9949	-0.256	18.4006
215.00	2.973	2.978	0.187	2.0000	1.9955	-0.227	17.6899
220.00	3.072	3.077	0.166	2.0000	1.9960	-0.200	17.0351
225.00	3.170	3.174	0.145	2.0000	1.9965	-0.173	16.4292
230.00	3.268	3.272	0.127	2.0000	1.9970	-0.150	15.8672
235.00	3.365	3.369	0.107	2.0000	1.9975	-0.124	15.3439
240.00	3.463	3.466	0.085	2.0000	1.9980	-0.099	14.8554
245.00	3.560	3.563	0.066	2.0000	1.9985	-0.076	14.3984
250.00	3.657	3.659	0.050	2.0000	1.9989	-0.057	13.9699
255.00	3.754	3.755	0.034	2.0000	1.9992	-0.039	13.5672
260.00	3.850	3.851	0.020	2.0000	1.9996	-0.022	13.1879
265.00	3.947	3.947	0.006	2.0000	1.9999	-0.006	12.8300
270.00	4.043	4.042	-0.006	2.0000	2.0001	0.007	0.0625

Data from Goodwin [39] (continued)

Number of Points (Ref. 39) 46

PRESSURE:	AAD-%	0.091	BIAS-%	0.085	RMS-%	0.095	
	AAD	0.002	BIAS	0.002	RMS	0.002	MPa
DENSITY :	AAD-%	0.114	BIAS-%	-0.108	RMS-%	0.130	
	AAD	0.002	BIAS	-0.002	RMS	0.003	mol·dm ⁻³

Data from Kleinrahm et al. [7]

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
180.00	3.286	3.286	0.000	3.8273	3.8272	-0.001	1.4536
180.00	3.282	3.282	0.001	3.8140	3.8139	-0.002	1.4542
182.00	3.508	3.508	0.007	4.2332	4.2323	-0.022	1.3828
184.00	3.741	3.742	0.016	4.7252	4.7223	-0.060	1.3163
186.00	3.986	3.987	0.022	5.3386	5.3329	-0.106	1.2529
186.00	3.989	3.981	-0.184	15.2634	15.2826	0.125	0.7225
186.00	3.989	3.982	-0.184	15.2647	15.2838	0.125	0.7219
187.00	4.114	4.115	0.022	5.7225	5.7149	-0.133	1.2218
188.00	4.246	4.247	0.020	6.1997	6.1897	-0.161	1.1906
188.00	4.245	4.246	0.020	6.1893	6.1796	-0.157	1.1907
189.00	4.381	4.382	0.014	6.8197	6.8077	-0.175	1.1590
189.00	4.381	4.382	0.014	6.8158	6.8040	-0.172	1.1590
189.00	4.380	4.381	0.014	6.8030	6.7915	-0.169	1.1591
189.00	4.383	4.377	-0.118	13.5833	13.6338	0.372	1.1076
189.00	4.380	4.381	0.014	6.8028	6.7911	-0.171	1.1591
189.00	4.383	4.378	-0.119	13.5905	13.6406	0.368	1.1064
189.00	4.380	4.381	0.014	6.7987	6.7875	-0.165	1.1591
189.00	4.385	4.379	-0.118	13.6039	13.6526	0.358	1.1040
189.00	4.379	4.380	0.014	6.7843	6.7735	-0.160	1.1592
189.00	4.386	4.381	-0.116	13.6144	13.6617	0.348	1.1022
189.00	4.379	4.380	0.014	6.7838	6.7729	-0.161	1.1592
189.00	4.379	4.380	0.014	6.7823	6.7715	-0.160	1.1592
189.00	4.379	4.379	0.014	6.7688	6.7583	-0.156	1.1593
189.00	4.378	4.379	0.014	6.7665	6.7556	-0.160	1.1593
189.00	4.378	4.378	0.013	6.7543	6.7442	-0.149	1.1593

Data from Kleinrahm et al. [7] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
189.00	4.377	4.378	0.014	6.7486	6.7384	-0.150	1.1594
189.00	4.376	4.377	0.014	6.7307	6.7205	-0.150	1.1595
189.50	4.450	4.450	0.009	7.2303	7.2199	-0.145	1.1429
189.50	4.450	4.450	0.008	7.2124	7.2034	-0.125	1.1429
189.50	4.449	4.449	0.007	7.1939	7.1860	-0.109	1.1430
189.50	4.451	4.448	-0.074	13.1312	13.1832	0.396	1.1232
189.50	4.452	4.448	-0.075	13.1386	13.1902	0.393	1.1226
189.80	4.492	4.492	0.004	7.5430	7.5357	-0.098	1.1330
189.80	4.491	4.491	0.003	7.5151	7.5095	-0.073	1.1331
189.80	4.491	4.491	0.003	7.5131	7.5077	-0.071	1.1331
189.80	4.493	4.491	-0.046	12.7972	12.8460	0.382	1.1234
189.80	4.490	4.490	0.003	7.4848	7.4803	-0.060	1.1332
189.80	4.494	4.491	-0.047	12.8086	12.8566	0.375	1.1229
190.00	4.520	4.520	0.003	7.8171	7.8109	-0.079	1.1262
190.00	4.520	4.520	0.002	7.8018	7.7972	-0.058	1.1263
190.00	4.519	4.519	0.001	7.7588	7.7562	-0.034	1.1264
190.00	4.521	4.520	-0.028	12.5246	12.5673	0.341	1.1208
190.00	4.519	4.519	0.001	7.7547	7.7529	-0.023	1.1264
190.00	4.522	4.521	-0.028	12.5478	12.5888	0.326	1.1203
190.00	4.519	4.519	0.000	7.7206	7.7202	-0.005	1.1265
190.00	4.517	4.517	-0.001	7.6754	7.6765	0.014	1.1267
190.00	4.517	4.517	-0.001	7.6746	7.6761	0.020	1.1267
190.00	4.517	4.517	-0.001	7.6390	7.6409	0.025	1.1268
190.00	4.515	4.515	-0.002	7.5902	7.5934	0.042	1.1270
190.10	4.534	4.534	0.000	7.9530	7.9516	-0.018	1.1229
190.10	4.533	4.533	-0.001	7.9038	7.9056	0.024	1.1230
190.10	4.533	4.533	-0.002	7.8535	7.8579	0.057	1.1232
190.10	4.536	4.535	-0.018	12.3832	12.4172	0.275	1.1185
190.10	4.536	4.535	-0.018	12.4007	12.4339	0.268	1.1182
190.20	4.549	4.549	-0.001	8.1454	8.1492	0.047	1.1194
190.20	4.548	4.548	-0.003	8.0911	8.0998	0.107	1.1195
190.20	4.549	4.549	-0.011	12.1679	12.1958	0.230	1.1166
190.20	4.548	4.547	-0.004	8.0542	8.0661	0.147	1.1196
190.20	4.549	4.549	-0.010	12.1930	12.2179	0.204	1.1164
190.20	4.550	4.550	-0.009	12.2303	12.2521	0.178	1.1159
190.30	4.563	4.563	-0.003	8.3497	8.3653	0.187	1.1160

Data from Kleinrahm et al. [7] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	$\text{mol}\cdot\text{dm}^{-3}$	$\text{mol}\cdot\text{dm}^{-3}$	%	
190.30	4.562	4.562	-0.005	8.2945	8.3159	0.259	1.1161
190.30	4.563	4.563	-0.003	11.9523	11.9637	0.096	1.1139
190.30	4.562	4.562	-0.005	8.2935	8.3149	0.258	1.1161
190.30	4.564	4.564	-0.002	11.9815	11.9896	0.068	1.1137
190.30	4.562	4.562	-0.006	8.2513	8.2751	0.289	1.1162
190.30	4.564	4.564	-0.002	12.0102	12.0169	0.056	1.1135
190.30	4.561	4.561	-0.007	8.1952	8.2227	0.337	1.1163
190.40	4.577	4.577	-0.004	8.6113	8.6423	0.360	1.1125
190.40	4.577	4.577	-0.005	8.5691	8.6054	0.424	1.1125
190.40	4.578	4.578	0.003	11.6797	11.6626	-0.146	1.1109
190.40	4.577	4.577	-0.005	8.5692	8.6037	0.403	1.1125
190.40	4.578	4.578	0.003	11.6847	11.6656	-0.164	1.1109
190.40	4.577	4.576	-0.005	8.5346	8.5700	0.415	1.1126
190.40	4.578	4.578	0.003	11.7123	11.6921	-0.173	1.1108
190.40	4.576	4.576	-0.007	8.4785	8.5178	0.464	1.1127
190.40	4.578	4.578	0.003	11.7585	11.7425	-0.136	1.1106
190.45	4.585	4.584	-0.004	8.8037	8.8536	0.568	1.1107
190.45	4.584	4.584	-0.005	8.7457	8.8017	0.640	1.1108
190.45	4.585	4.585	0.005	11.5101	11.4657	-0.386	1.1094
190.45	4.584	4.584	-0.007	8.6968	8.7582	0.707	1.1108
190.45	4.585	4.585	0.006	11.5532	11.5069	-0.401	1.1093
190.45	4.584	4.583	-0.009	8.6074	8.6764	0.801	1.1109
190.45	4.585	4.586	0.007	11.6058	11.5590	-0.403	1.1092
190.50	4.592	4.592	-0.003	9.0651	9.1299	0.715	1.1089
190.50	4.592	4.592	0.004	11.2133	11.1347	-0.701	1.1080
190.50	4.592	4.591	-0.004	8.9909	9.0650	0.824	1.1089
190.50	4.592	4.592	0.006	11.3065	11.2207	-0.759	1.1078
190.50	4.591	4.591	-0.006	8.9139	9.0038	1.009	1.1090
190.50	4.592	4.593	0.007	11.3787	11.2962	-0.725	1.1077
190.50	4.591	4.591	-0.007	8.8552	8.9428	0.989	1.1090
190.50	4.592	4.593	0.008	11.4310	11.3476	-0.729	1.1076
190.50	4.591	4.591	-0.009	8.7960	8.8903	1.072	1.1091
190.53	4.596	4.596	-0.002	9.2923	9.3855	1.004	1.1078
190.53	4.596	4.596	0.004	11.0271	10.9014	-1.140	1.1070
190.53	4.596	4.596	-0.004	9.1939	9.2931	1.079	1.1078

Data from Kleinrahm et al. [7] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
190.53	4.596	4.597	0.005	11.1245	10.9995	-1.124	1.1069
190.53	4.596	4.596	-0.005	9.1130	9.2232	1.210	1.1079
190.53	4.597	4.597	0.007	11.2014	11.0814	-1.071	1.1068
190.53	4.596	4.595	-0.006	9.0545	9.1660	1.231	1.1079
190.53	4.597	4.597	0.008	11.3041	11.1964	-0.953	1.1067
189.00	3.669	3.670	0.015	3.7558	3.7547	-0.031	4.1515
189.00	3.935	3.937	0.045	4.3927	4.3877	-0.113	4.0086
189.00	3.935	3.937	0.044	4.3931	4.3882	-0.111	4.0086
189.00	3.937	3.938	0.045	4.3966	4.3917	-0.112	4.0080
189.00	4.115	4.117	0.046	4.9766	4.9693	-0.147	3.9381
189.00	4.246	4.247	0.036	5.5754	5.5668	-0.154	3.8992
189.00	4.332	4.333	0.019	6.1936	6.1860	-0.123	3.8769
189.00	4.363	4.363	0.010	6.5300	6.5242	-0.088	3.8686
189.00	4.398	4.393	-0.117	13.7266	13.7680	0.301	3.5996
189.00	4.424	4.419	-0.108	13.9141	13.9447	0.220	3.4452
189.00	4.460	4.456	-0.094	14.1253	14.1465	0.150	3.2276
189.00	4.526	4.523	-0.067	14.4189	14.4303	0.079	2.8674
189.00	4.704	4.704	-0.004	14.9556	14.9561	0.003	2.1654
189.00	4.729	4.729	0.002	15.0158	15.0156	-0.002	2.0910
189.00	5.006	5.009	0.053	15.5378	15.5337	-0.027	1.5272
189.00	5.061	5.064	0.059	15.6221	15.6177	-0.028	1.4506
189.00	5.062	5.065	0.059	15.6243	15.6199	-0.029	1.4486
189.00	5.063	5.067	0.059	15.6260	15.6216	-0.028	1.4471
189.00	5.505	5.511	0.094	16.1752	16.1698	-0.034	1.0390
190.55	3.736	3.736	0.019	3.7521	3.7507	-0.038	4.0531
190.55	4.015	4.017	0.045	4.3825	4.3778	-0.107	3.9002
190.55	4.016	4.018	0.046	4.3840	4.3792	-0.109	3.9000
190.55	4.017	4.019	0.043	4.3862	4.3817	-0.101	3.8995
190.55	4.217	4.220	0.052	4.9880	4.9803	-0.155	3.8172
190.55	4.368	4.370	0.047	5.6108	5.6006	-0.182	3.7685
190.55	4.463	4.464	0.027	6.1780	6.1691	-0.144	3.7411
190.55	4.535	4.535	0.005	6.8560	6.8533	-0.039	3.7194
190.55	4.573	4.572	-0.013	7.4905	7.5055	0.201	3.7052
190.55	4.593	4.592	-0.016	8.2224	8.2710	0.591	3.6952
190.55	4.593	4.592	-0.015	8.2268	8.2745	0.580	3.6951

Data from Kleinrahm et al. [7] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
190.55	4.594	4.593	-0.016	8.2945	8.3503	0.673	3.6945
190.55	4.595	4.595	-0.015	8.4257	8.4923	0.790	3.6934
190.55	4.597	4.596	-0.012	8.5869	8.6570	0.816	3.6924
190.55	4.598	4.597	-0.008	8.7544	8.8219	0.771	3.6916
190.55	4.599	4.599	0.000	9.3499	9.3421	-0.084	3.6898
190.55	4.600	4.600	0.001	9.8684	9.7154	-1.550	3.6889
190.55	4.600	4.600	0.001	10.4590	10.0083	-4.309	3.6882
190.55	4.600	4.600	0.003	10.5041	9.7155	-7.507	3.6881
190.55	4.600	4.600	0.003	10.7635	10.5900	-1.612	3.6877
190.55	4.601	4.601	0.009	11.3080	11.1972	-0.979	3.6857
190.55	4.601	4.601	0.010	11.3083	11.1972	-0.982	3.6857
190.55	4.601	4.601	0.009	11.3101	11.2030	-0.947	3.6857
190.55	4.606	4.607	0.016	11.8901	11.8407	-0.415	3.6777
190.55	4.609	4.610	0.018	12.0818	12.0438	-0.315	3.6714
190.55	4.627	4.628	0.009	12.5952	12.5864	-0.069	3.6302
190.55	4.672	4.672	-0.003	13.1974	13.1987	0.009	3.4780
190.55	4.764	4.764	-0.002	13.8216	13.8222	0.004	3.0837
190.55	4.896	4.896	0.010	14.3460	14.3444	-0.011	2.5578
190.55	4.925	4.926	0.017	14.4376	14.4351	-0.017	2.4568
190.55	5.135	5.137	0.044	14.9548	14.9502	-0.031	1.8966
190.55	5.441	5.444	0.066	15.4796	15.4744	-0.034	1.4155
190.55	5.442	5.445	0.066	15.4813	15.4761	-0.034	1.4141
190.55	5.442	5.446	0.067	15.4818	15.4766	-0.034	1.4137
190.55	5.977	5.981	0.073	16.1186	16.1142	-0.027	0.9846
193.00	3.839	3.840	0.017	3.7459	3.7447	-0.032	3.9082
193.00	4.140	4.142	0.044	4.3693	4.3650	-0.098	3.7420
193.00	4.141	4.143	0.045	4.3708	4.3665	-0.099	3.7417
193.00	4.141	4.143	0.045	4.3710	4.3666	-0.100	3.7416
193.00	4.368	4.371	0.060	4.9772	4.9692	-0.160	3.6437
193.00	4.543	4.546	0.061	5.5930	5.5816	-0.204	3.5816
193.00	4.663	4.665	0.051	6.1558	6.1426	-0.214	3.5437
193.00	4.769	4.771	0.030	6.8657	6.8539	-0.172	3.5095
193.00	4.835	4.835	0.003	7.5080	7.5063	-0.023	3.4856
193.00	4.880	4.879	-0.018	8.1773	8.1939	0.203	3.4651
193.00	4.906	4.904	-0.030	8.7009	8.7366	0.410	3.4513

Data from Kleinrahm et al. [7] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
193.00	4.928	4.926	-0.032	9.2741	9.3200	0.495	3.4375
193.00	4.930	4.928	-0.034	9.3316	9.3806	0.525	3.4361
193.00	4.944	4.942	-0.026	9.7518	9.7913	0.406	3.4261
193.00	4.954	4.953	-0.015	10.0802	10.1024	0.221	3.4180
193.00	4.968	4.968	-0.001	10.5090	10.5104	0.014	3.4057
193.00	4.996	4.997	0.023	11.2215	11.1975	-0.214	3.3760
193.00	4.996	4.998	0.025	11.2217	11.1956	-0.233	3.3760
193.00	4.997	4.998	0.025	11.2253	11.1994	-0.230	3.3758
193.00	5.029	5.031	0.037	11.8110	11.7831	-0.236	3.3303
193.00	5.042	5.044	0.043	11.9880	11.9596	-0.237	3.3094
193.00	5.089	5.091	0.046	12.4960	12.4747	-0.170	3.2159
193.00	5.173	5.175	0.048	13.1022	13.0878	-0.110	3.0004
193.00	5.330	5.333	0.056	13.8020	13.7915	-0.076	2.5546
193.00	5.522	5.526	0.064	14.3568	14.3483	-0.059	2.0887
193.00	5.522	5.526	0.068	14.3570	14.3479	-0.063	2.0885
193.00	5.816	5.820	0.066	14.9440	14.9376	-0.043	1.5960
193.00	6.109	6.113	0.060	15.3769	15.3721	-0.031	1.2821
193.00	6.123	6.127	0.061	15.3958	15.3909	-0.032	1.2697
193.00	6.123	6.127	0.070	15.3963	15.3907	-0.036	1.2694
193.00	6.127	6.130	0.063	15.4002	15.3953	-0.032	1.2668
193.00	6.704	6.707	0.042	16.0263	16.0237	-0.016	0.9138
Number of Points (Ref.7)			187				
PRESSURE:	AAD-%	0.026	BIAS-%	0.005	RMS-%	0.041	
	AAD	0.001	BIAS	0.000	RMS	0.002	MPa
DENSITY :	AAD-%	0.347	BIAS-%	-0.043	RMS-%	0.766	
	AAD	0.035	BIAS	-0.005	RMS	0.079	mol·dm ⁻³

Data from Kvalnes and Gaddy [40]

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
203.08	0.101	0.101	-0.022	0.0604	0.0604	0.023	0.2381
223.25	0.101	0.101	0.079	0.0549	0.0548	-0.080	0.2378
248.18	0.101	0.101	0.051	0.0493	0.0493	-0.051	0.2377
273.15	0.101	0.101	0.020	0.0447	0.0447	-0.020	0.2376
298.14	0.101	0.101	0.032	0.0410	0.0409	-0.032	0.2375
323.14	0.101	0.101	0.020	0.0378	0.0378	-0.020	0.2375
373.15	0.101	0.101	0.022	0.0327	0.0327	-0.022	0.2374
423.17	0.101	0.101	0.033	0.0288	0.0288	-0.033	0.2373
473.19	0.101	0.101	0.038	0.0258	0.0258	-0.038	0.2373
203.08	2.026	2.022	-0.214	1.3818	1.3853	0.251	0.0128
223.25	2.026	2.026	-0.010	1.2084	1.2085	0.011	0.0125
298.14	2.026	2.029	0.100	0.8479	0.8470	-0.103	0.0121
203.08	3.040	3.026	-0.465	2.2701	2.2841	0.616	0.0089
223.25	3.040	3.033	-0.211	1.9191	1.9239	0.251	0.0086
248.18	3.040	3.039	-0.037	1.6396	1.6402	0.041	0.0083
273.15	3.040	3.039	-0.013	1.4422	1.4424	0.014	0.0082
323.14	3.040	3.040	0.013	1.1757	1.1755	-0.013	0.0081
373.15	3.040	3.044	0.137	1.0004	0.9990	-0.139	0.0080
423.17	3.040	3.044	0.150	0.8729	0.8716	-0.151	0.0079
473.19	3.040	3.042	0.076	0.7750	0.7744	-0.076	0.0079
203.08	4.053	4.030	-0.573	3.4113	3.4421	0.905	0.0071
223.25	4.053	4.041	-0.298	2.7324	2.7429	0.385	0.0066
248.18	4.053	4.048	-0.120	2.2722	2.2753	0.139	0.0064
273.15	4.053	4.053	0.000	1.9734	1.9734	0.000	0.0062
298.14	4.053	4.051	-0.040	1.7541	1.7549	0.043	0.0061
323.14	4.053	4.050	-0.073	1.5853	1.5865	0.077	0.0061
203.08	5.066	5.028	-0.755	5.0533	5.1342	1.600	0.0061
223.25	5.066	5.052	-0.284	3.6845	3.6992	0.400	0.0055
273.15	5.066	5.066	0.002	2.5315	2.5315	-0.002	0.0050
373.15	5.066	5.070	0.080	1.6853	1.6839	-0.082	0.0048
423.17	5.066	5.068	0.033	1.4597	1.4592	-0.033	0.0048
473.19	5.066	5.068	0.034	1.2919	1.2914	-0.034	0.0047
203.08	6.079	5.994	-1.413	7.9718	8.3547	4.804	0.0000
223.25	6.079	6.076	-0.066	4.8339	4.8389	0.102	0.0047
248.18	6.079	6.070	-0.152	3.7047	3.7118	0.191	0.0044

Data from Kvalnes and Gaddy [40] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
273.15	6.079	6.078	-0.019	3.1161	3.1168	0.022	0.0042
298.14	6.079	6.069	-0.164	2.7184	2.7233	0.181	0.0041
323.14	6.079	6.079	-0.010	2.4349	2.4352	0.010	0.0041
423.17	6.079	6.076	-0.054	1.7532	1.7542	0.054	0.0040
473.19	6.079	6.083	0.058	1.5505	1.5496	-0.058	0.0040
203.08	6.586	6.418	-2.554	9.9825	10.7430	7.618	0.0000
203.08	7.093	6.898	-2.739	11.8896	12.4424	4.649	0.0000
223.25	7.093	7.076	-0.237	6.1880	6.2129	0.401	0.0041
203.08	8.106	7.910	-2.415	13.9974	14.2613	1.885	0.0027
223.25	8.106	8.073	-0.412	7.7710	7.8270	0.721	0.0036
248.18	8.106	8.091	-0.180	5.3793	5.3922	0.241	0.0034
273.15	8.106	8.103	-0.040	4.3636	4.3657	0.048	0.0032
298.14	8.106	8.092	-0.168	3.7389	3.7459	0.188	0.0031
323.14	8.106	8.099	-0.085	3.3109	3.3139	0.091	0.0031
223.25	9.119	9.057	-0.680	9.4350	9.5372	1.084	0.0032
203.08	10.132	9.971	-1.591	15.9266	16.0292	0.644	0.0013
223.25	10.132	10.035	-0.961	10.9398	11.0745	1.231	0.0027
248.18	10.132	10.110	-0.219	7.2518	7.2729	0.291	0.0027
273.15	10.132	10.127	-0.051	5.6949	5.6983	0.061	0.0026
298.14	10.132	10.114	-0.186	4.7990	4.8090	0.209	0.0025
323.14	10.132	10.113	-0.191	4.2048	4.2134	0.206	0.0025
203.08	12.159	11.801	-2.941	16.9027	17.0572	0.914	0.0009
223.25	12.159	11.974	-1.520	13.1053	13.2641	1.212	0.0018
248.18	12.159	12.113	-0.376	9.1316	9.1728	0.452	0.0021
273.15	12.159	12.144	-0.120	7.0576	7.0675	0.140	0.0021
298.14	12.159	12.139	-0.163	5.8806	5.8912	0.181	0.0021
323.14	12.159	12.138	-0.176	5.1120	5.1216	0.188	0.0020
203.08	14.185	13.801	-2.713	17.6716	17.7979	0.715	0.0006
223.25	14.185	13.983	-1.425	14.5471	14.6645	0.807	0.0012
248.18	14.185	14.097	-0.624	10.7931	10.8604	0.624	0.0017
273.15	14.185	14.168	-0.122	8.3962	8.4074	0.133	0.0018
298.14	14.185	14.164	-0.155	6.9544	6.9659	0.165	0.0018
323.14	14.185	14.165	-0.145	6.0156	6.0247	0.151	0.0017
203.08	16.212	15.811	-2.475	18.2771	18.3842	0.586	0.0005
223.25	16.212	15.959	-1.560	15.5520	15.6617	0.705	0.0009

Data from Kvalnes and Gaddy [40] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
248.18	16.212	16.064	-0.911	12.1465	12.2367	0.743	0.0013
273.15	16.212	16.181	-0.193	9.6370	9.6553	0.190	0.0015
298.14	16.212	16.192	-0.125	7.9959	8.0060	0.127	0.0015
323.14	16.212	16.197	-0.094	6.9022	6.9087	0.095	0.0015
203.08	18.238	17.796	-2.427	18.7731	18.8735	0.534	0.0004
223.25	18.238	17.996	-1.331	16.3483	16.4319	0.511	0.0007
248.18	18.238	18.046	-1.057	13.2422	13.3369	0.715	0.0011
273.15	18.238	18.210	-0.155	10.7591	10.7737	0.136	0.0012
298.14	18.238	18.207	-0.171	8.9743	8.9888	0.162	0.0013
323.14	18.238	18.236	-0.012	7.7605	7.7613	0.011	0.0013
373.15	18.238	18.222	-0.093	6.1946	6.2002	0.090	0.0013
203.08	20.265	19.834	-2.128	19.2104	19.2956	0.443	0.0003
223.25	20.265	19.970	-1.455	16.9754	17.0600	0.498	0.0005
248.18	20.265	20.077	-0.927	14.1547	14.2305	0.536	0.0008
273.15	20.265	20.192	-0.359	11.7211	11.7539	0.280	0.0010
298.14	20.265	20.231	-0.167	9.8855	9.9000	0.147	0.0011
323.14	20.265	20.257	-0.039	8.5699	8.5730	0.036	0.0011
373.15	20.265	20.226	-0.193	6.8403	6.8527	0.181	0.0011
423.17	20.265	20.223	-0.209	5.7691	5.7804	0.196	0.0011
473.19	20.265	20.264	-0.004	5.0362	5.0364	0.004	0.0011
203.08	25.331	24.836	-1.957	20.0834	20.1587	0.375	0.0003
223.25	25.331	25.035	-1.169	18.2033	18.2634	0.331	0.0004
248.18	25.331	25.075	-1.013	15.8229	15.8932	0.444	0.0005
273.15	25.331	25.244	-0.345	13.6614	13.6897	0.207	0.0007
298.14	25.331	25.228	-0.407	11.8074	11.8424	0.296	0.0008
323.14	25.331	25.286	-0.180	10.3753	10.3903	0.144	0.0008
373.15	25.331	25.284	-0.186	8.3661	8.3795	0.161	0.0009
473.19	25.331	25.327	-0.019	6.1747	6.1757	0.017	0.0009
203.08	30.398	29.824	-1.887	20.7751	20.8465	0.344	0.0002
223.25	30.398	29.983	-1.365	19.0983	19.1644	0.346	0.0003
248.18	30.398	30.131	-0.878	17.0282	17.0832	0.323	0.0004
273.15	30.398	30.351	-0.154	15.0985	15.1100	0.076	0.0005
298.14	30.398	30.281	-0.382	13.3339	13.3649	0.233	0.0006
323.14	30.398	30.340	-0.188	11.8878	11.9033	0.130	0.0006
373.15	30.398	30.363	-0.114	9.7327	9.7415	0.090	0.0007

Data from Kvalnes and Gaddy [40] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
423.17	30.398	30.321	-0.252	8.2645	8.2818	0.209	0.0007
473.19	30.398	30.391	-0.021	7.2389	7.2402	0.018	0.0007
203.08	40.530	39.804	-1.792	21.8555	21.9233	0.310	0.0014
223.25	40.530	40.012	-1.279	20.4443	20.5027	0.286	0.0018
248.18	40.530	40.102	-1.055	18.7101	18.7693	0.316	0.0024
273.15	40.530	40.410	-0.296	17.0890	17.1083	0.113	0.0030
298.14	40.530	40.425	-0.259	15.5568	15.5757	0.121	0.0036
323.14	40.530	40.427	-0.255	14.1884	14.2081	0.139	0.0040
373.15	40.530	40.479	-0.125	11.9825	11.9924	0.082	0.0046
423.17	40.530	40.529	-0.001	10.3595	10.3596	0.001	0.0049
473.19	40.530	40.506	-0.058	9.1334	9.1375	0.045	0.0051
203.08	50.662	49.319	-2.651	22.6623	22.7642	0.449	0.0011
223.25	50.662	49.860	-1.584	21.4329	21.5039	0.332	0.0014
248.18	50.662	50.183	-0.947	19.9277	19.9781	0.253	0.0017
273.15	50.662	50.566	-0.190	18.5015	18.5131	0.063	0.0021
298.14	50.662	50.485	-0.351	17.1164	17.1403	0.139	0.0025
323.14	50.662	50.455	-0.410	15.8521	15.8819	0.189	0.0028
373.15	50.662	50.647	-0.030	13.7377	13.7401	0.017	0.0033
423.17	50.662	50.652	-0.021	12.0596	12.0612	0.013	0.0036
473.19	50.662	50.667	0.010	10.7489	10.7482	-0.007	0.0038
203.08	60.795	59.213	-2.603	23.3595	23.4610	0.434	0.0009
223.25	60.795	59.670	-1.851	22.2294	22.3120	0.372	0.0011
248.18	60.795	60.029	-1.260	20.8623	20.9275	0.313	0.0014
273.15	60.795	60.540	-0.419	19.5733	19.5978	0.125	0.0016
298.14	60.795	60.439	-0.585	18.3049	18.3427	0.207	0.0019
323.14	60.795	60.499	-0.487	17.1425	17.1763	0.198	0.0021
373.15	60.795	60.800	0.009	15.1351	15.1345	-0.004	0.0025
423.17	60.795	60.738	-0.093	13.4603	13.4675	0.054	0.0028
473.19	60.795	60.847	0.085	12.1247	12.1182	-0.054	0.0030
203.08	70.928	69.131	-2.533	23.9593	24.0597	0.419	0.0008
223.25	70.928	69.689	-1.746	22.9158	22.9937	0.340	0.0009
248.18	70.928	69.916	-1.427	21.6406	21.7134	0.336	0.0011
203.08	81.060	78.381	-3.305	24.4532	24.5866	0.546	0.0007
223.25	81.060	78.917	-2.643	23.4668	23.5857	0.507	0.0008
248.18	81.060	79.631	-1.764	22.2968	22.3861	0.401	0.0009

Data from Kvalnes and Gaddy [40] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
273.15	81.060	80.241	-1.010	21.1776	21.2342	0.267	0.0011
298.14	81.060	80.515	-0.672	20.0986	20.1396	0.204	0.0012
323.14	81.060	80.330	-0.901	19.0498	19.1089	0.310	0.0014
373.15	81.060	81.013	-0.058	17.2471	17.2513	0.024	0.0016
423.17	81.060	81.168	0.134	15.6726	15.6626	-0.064	0.0018
473.19	81.060	81.307	0.305	14.3402	14.3169	-0.163	0.0020
203.08	91.192	88.026	-3.472	24.9162	25.0585	0.571	0.0006
223.25	91.192	88.642	-2.797	23.9838	24.1105	0.528	0.0007
248.18	91.192	89.104	-2.291	22.8600	22.9759	0.507	0.0008
203.08	101.325	97.494	-3.781	25.3295	25.4869	0.621	0.0006
223.25	101.325	98.496	-2.792	24.4555	24.5827	0.520	0.0006
248.18	101.325	99.324	-1.975	23.4023	23.5018	0.425	0.0007
273.15	101.325	99.432	-1.869	22.3609	22.4640	0.461	0.0008
298.14	101.325	100.156	-1.154	21.4062	21.4747	0.320	0.0009
323.14	101.325	100.284	-1.027	20.4723	20.5374	0.318	0.0010
373.15	101.325	101.337	0.012	18.8247	18.8238	-0.005	0.0012
423.17	101.325	101.519	0.192	17.3361	17.3220	-0.081	0.0013
473.19	101.325	101.808	0.476	16.0518	16.0158	-0.224	0.0014

Number of Points (Ref. 40) 158

PRESSURE:	AAD-%	0.714	BIAS-%	-0.686	RMS-%	0.925	MPa
	AAD	0.331	BIAS	-0.317	RMS	0.666	
DENSITY :	AAD-%	0.379	BIAS-%	0.359	RMS-%	0.827	mol·dm ⁻³
	AAD	0.049	BIAS	0.047	RMS	0.089	

Data from Mollerup [41]

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
310.00	0.154	0.154	0.001	0.0600	0.0600	-0.001	1.5600
310.00	0.435	0.435	-0.006	0.1700	0.1700	0.006	0.5541
310.00	0.714	0.714	-0.013	0.2800	0.2800	0.013	0.3385
310.00	0.990	0.990	-0.017	0.3900	0.3901	0.018	0.2445
310.00	2.484	2.483	-0.045	1.0000	1.0005	0.047	0.0985

Data from Mollerup [41] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
310.00	4.806	4.802	-0.076	2.0000	2.0016	0.081	0.0516
310.00	7.000	6.995	-0.081	3.0000	3.0027	0.088	0.0358
310.00	9.105	9.099	-0.061	4.0000	4.0027	0.067	0.0276
310.00	11.158	11.155	-0.023	5.0000	5.0013	0.025	0.0225
310.00	13.200	13.202	0.019	6.0000	5.9988	-0.020	0.0188
310.00	15.276	15.284	0.053	7.0000	6.9962	-0.054	0.0160
310.00	17.434	17.447	0.070	8.0000	7.9945	-0.068	0.0137
310.00	19.731	19.744	0.066	9.0000	8.9946	-0.060	0.0117
310.00	22.231	22.241	0.042	10.0000	9.9964	-0.036	0.0099
310.00	25.013	25.014	0.005	11.0000	10.9996	-0.004	0.0083
310.00	28.168	28.157	-0.040	12.0000	12.0033	0.028	0.0069
310.00	31.809	31.782	-0.086	13.0000	13.0070	0.054	0.0057
310.00	36.073	36.024	-0.134	14.0000	14.0105	0.075	0.0461
310.00	41.123	41.045	-0.190	15.0000	15.0142	0.095	0.0371
310.00	47.157	47.034	-0.262	16.0000	16.0188	0.118	0.0296
310.00	54.412	54.216	-0.360	17.0000	17.0249	0.146	0.0236
310.00	63.170	62.857	-0.495	18.0000	18.0329	0.183	0.0187
310.00	73.762	73.269	-0.668	19.0000	19.0430	0.226	0.0148

Number of Points (Ref. 41) 23

PRESSURE:	AAD-%	0.122	BIAS-%	-0.100	RMS-%	0.181	
	AAD	0.059	BIAS	-0.055	RMS	0.121	MPa
DENSITY :	AAD-%	0.066	BIAS-%	0.045	RMS-%	0.074	
	AAD	0.008	BIAS	0.006	RMS	0.012	mol·dm ⁻³

Data from Morris [42]

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
250.00	171.797	168.904	-1.684	26.0000	26.0864	0.332	0.0038
250.00	208.651	205.372	-1.572	27.0000	27.0816	0.302	0.0031
250.00	252.321	249.031	-1.304	28.0000	28.0687	0.245	0.0025
250.00	303.683	300.983	-0.889	29.0000	29.0476	0.164	0.0020
250.00	363.664	362.425	-0.341	30.0000	30.0186	0.062	0.0017

Data from Morris [42] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
250.00	433.220	434.637	0.327	31.0000	30.9818	-0.059	0.0014
250.00	513.328	518.973	1.100	32.0000	31.9376	-0.195	0.0011
265.91	189.546	186.791	-1.453	26.0000	26.0778	0.299	0.0036
265.91	228.152	225.295	-1.253	27.0000	27.0676	0.250	0.0029
265.91	273.660	271.212	-0.894	28.0000	28.0488	0.174	0.0024
265.91	326.938	325.678	-0.385	29.0000	29.0213	0.073	0.0019
265.91	388.902	389.929	0.264	30.0000	29.9852	-0.049	0.0016
265.91	460.501	465.293	1.041	31.0000	30.9409	-0.191	0.0013
265.91	542.705	553.181	1.930	32.0000	31.8884	-0.349	0.0011
281.82	206.953	204.514	-1.179	26.0000	26.0654	0.252	0.0034
281.82	247.258	245.062	-0.888	27.0000	27.0495	0.183	0.0028
281.82	294.549	293.257	-0.439	28.0000	28.0246	0.088	0.0023
281.82	349.689	350.267	0.165	29.0000	28.9907	-0.032	0.0018
281.82	413.585	417.367	0.915	30.0000	29.9477	-0.174	0.0015
281.82	487.179	495.937	1.798	31.0000	30.8959	-0.336	0.0013
281.82	571.437	587.447	2.802	32.0000	31.8355	-0.514	0.0011
297.73	188.335	186.301	-1.080	25.0000	25.0618	0.247	0.0040
297.73	224.024	222.104	-0.857	26.0000	26.0490	0.188	0.0033
297.73	265.977	264.708	-0.477	27.0000	27.0273	0.101	0.0026
297.73	315.000	315.199	0.063	28.0000	27.9964	-0.013	0.0022
297.73	371.949	374.779	0.761	29.0000	28.9560	-0.152	0.0018
297.73	437.726	444.767	1.609	30.0000	29.9063	-0.312	0.0015
297.73	513.267	526.592	2.596	31.0000	30.8472	-0.493	0.0012
297.73	599.534	621.785	3.711	32.0000	31.7792	-0.690	0.0010
313.64	145.261	143.802	-1.005	23.0000	23.0600	0.261	0.0059
313.64	171.962	170.302	-0.965	24.0000	24.0571	0.238	0.0047
313.64	203.566	201.936	-0.801	25.0000	25.0471	0.188	0.0038
313.64	240.772	239.589	-0.491	26.0000	26.0288	0.111	0.0031
313.64	284.327	284.258	-0.024	27.0000	27.0014	0.005	0.0025
313.64	335.034	337.062	0.605	28.0000	27.9645	-0.127	0.0021
313.64	393.743	399.239	1.396	29.0000	28.9178	-0.283	0.0017
313.64	461.351	472.149	2.340	30.0000	29.8614	-0.462	0.0014
313.64	538.790	557.273	3.430	31.0000	30.7954	-0.660	0.0012
313.64	627.020	656.206	4.655	32.0000	31.7200	-0.875	0.0010
329.55	157.527	156.197	-0.845	23.0000	23.0517	0.225	0.0056

Data from Morris [42] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
329.55	185.533	184.185	-0.726	24.0000	24.0440	0.183	0.0045
329.55	218.529	217.480	-0.480	25.0000	25.0289	0.116	0.0036
329.55	257.213	256.988	-0.088	26.0000	26.0052	0.020	0.0030
329.55	302.329	303.734	0.465	27.0000	26.9722	-0.103	0.0024
329.55	354.675	358.867	1.182	28.0000	27.9294	-0.252	0.0020
329.55	415.099	423.664	2.063	29.0000	28.8766	-0.425	0.0016
329.55	484.492	499.528	3.103	30.0000	29.8138	-0.621	0.0013
329.55	563.783	587.993	4.294	31.0000	30.7410	-0.835	0.0011
329.55	653.930	690.716	5.625	32.0000	31.6585	-1.067	0.0009
345.45	169.604	168.516	-0.641	23.0000	23.0401	0.174	0.0053
345.45	198.885	197.993	-0.448	24.0000	24.0277	0.116	0.0043
345.45	233.242	232.950	-0.125	25.0000	25.0077	0.031	0.0035
345.45	273.368	274.319	0.348	26.0000	25.9788	-0.082	0.0028
345.45	320.006	323.152	0.983	27.0000	26.9403	-0.221	0.0023
345.45	373.952	380.631	1.786	28.0000	27.8917	-0.387	0.0019
345.45	436.048	448.069	2.757	29.0000	28.8329	-0.576	0.0016
345.45	507.182	526.917	3.891	30.0000	29.7638	-0.787	0.0013
345.45	588.281	618.760	5.181	31.0000	30.6845	-1.018	0.0011
345.45	680.299	725.319	6.618	32.0000	31.5952	-1.265	0.0009
361.36	155.482	154.623	-0.552	22.0000	22.0357	0.162	0.0062
361.36	181.501	180.770	-0.403	23.0000	23.0257	0.112	0.0050
361.36	212.032	211.735	-0.140	24.0000	24.0088	0.037	0.0041
361.36	247.720	248.358	0.258	25.0000	24.9839	-0.064	0.0033
361.36	289.256	291.594	0.808	26.0000	25.9499	-0.193	0.0027
361.36	337.383	342.525	1.524	27.0000	26.9061	-0.348	0.0022
361.36	392.890	402.364	2.411	28.0000	27.8519	-0.529	0.0018
361.36	456.619	472.464	3.470	29.0000	28.7873	-0.734	0.0015
361.36	529.454	554.321	4.697	30.0000	29.7121	-0.960	0.0013
361.36	612.319	649.577	6.085	31.0000	30.6265	-1.205	0.0010
377.27	123.138	122.570	-0.461	20.0000	20.0313	0.157	0.0089
377.27	142.890	142.241	-0.454	21.0000	21.0303	0.144	0.0072
377.27	166.066	165.492	-0.346	22.0000	22.0227	0.103	0.0059
377.27	193.231	192.969	-0.135	23.0000	23.0088	0.038	0.0048
377.27	224.988	225.424	0.194	24.0000	23.9876	-0.052	0.0039
377.27	261.980	263.716	0.662	25.0000	24.9581	-0.168	0.0032

Data from Morris [42] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
377.27	304.898	308.825	1.288	26.0000	25.9191	-0.311	0.0026
377.27	354.480	361.862	2.083	27.0000	26.8701	-0.481	0.0021
377.27	411.515	424.076	3.052	28.0000	27.8104	-0.677	0.0018
377.27	476.842	496.858	4.198	29.0000	28.7401	-0.896	0.0015
377.27	551.340	581.750	5.516	30.0000	29.6590	-1.137	0.0012
377.27	635.931	680.448	7.000	31.0000	30.5673	-1.396	0.0010
393.18	131.568	131.135	-0.329	20.0000	20.0226	0.113	0.0084
393.18	152.288	151.874	-0.272	21.0000	21.0184	0.088	0.0068
393.18	176.513	176.314	-0.112	22.0000	22.0075	0.034	0.0056
393.18	204.805	205.123	0.155	23.0000	22.9898	-0.044	0.0045
393.18	237.766	239.068	0.548	24.0000	23.9645	-0.148	0.0037
393.18	276.039	279.032	1.085	25.0000	24.9305	-0.278	0.0030
393.18	320.311	326.021	1.783	26.0000	25.8867	-0.436	0.0025
393.18	371.320	381.175	2.654	27.0000	26.8326	-0.620	0.0020
393.18	429.852	445.776	3.704	28.0000	27.7677	-0.830	0.0017
393.18	496.743	521.257	4.935	29.0000	28.6918	-1.063	0.0014
393.18	572.870	609.208	6.343	30.0000	29.6050	-1.317	0.0012
393.18	659.151	711.378	7.923	31.0000	30.5074	-1.589	0.0010
409.09	139.898	139.665	-0.167	20.0000	20.0116	0.058	0.0080
409.09	161.574	161.468	-0.066	21.0000	21.0045	0.021	0.0065
409.09	186.832	187.098	0.142	22.0000	21.9904	-0.044	0.0053
409.09	216.234	217.238	0.464	23.0000	22.9692	-0.134	0.0043
409.09	250.380	252.676	0.917	24.0000	23.9399	-0.250	0.0036
409.09	289.910	294.316	1.520	25.0000	24.9015	-0.394	0.0029
409.09	335.512	343.190	2.288	26.0000	25.8531	-0.565	0.0024
409.09	387.922	400.469	3.234	27.0000	26.7940	-0.763	0.0020
409.09	447.923	467.471	4.364	28.0000	27.7240	-0.986	0.0016
409.09	516.347	545.668	5.678	29.0000	28.6428	-1.232	0.0014
409.09	594.071	636.698	7.175	30.0000	29.5504	-1.499	0.0011
409.09	682.008	742.367	8.850	31.0000	30.4470	-1.784	0.0009

Number of Points (Ref. 42) 105

PRESSURE:	AAD-%	1.920	BIAS-%	1.448	RMS-%	2.381	
	AAD	9.234	BIAS	8.254	RMS	13.539	MPa
DENSITY :	AAD-%	0.404	BIAS-%	-0.296	RMS-%	0.490	
	AAD	0.117	BIAS	-0.090	RMS	0.146	mol·dm ⁻³

Data from Robertson and Babb [43]

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
308.15	150.000	146.393	-2.404	23.2830	23.4257	0.613	0.0565
308.15	200.000	196.116	-1.942	24.9870	25.1008	0.455	0.0390
308.15	250.000	246.617	-1.353	26.3150	26.3940	0.300	0.0295
308.15	300.000	298.063	-0.646	27.4150	27.4527	0.137	0.0236
308.15	350.000	350.634	0.181	28.3630	28.3524	-0.037	0.0195
308.15	400.000	404.294	1.073	29.2000	29.1370	-0.216	0.0166
308.15	450.000	458.607	1.913	29.9470	29.8343	-0.376	0.0144
308.15	500.000	513.768	2.754	30.6260	30.4630	-0.532	0.0126
308.15	550.000	570.413	3.711	31.2570	31.0365	-0.706	0.0113
308.15	600.000	627.104	4.517	31.8340	31.5643	-0.847	0.0102
308.15	650.000	685.244	5.422	32.3790	32.0538	-1.004	0.0092
308.15	700.000	743.943	6.278	32.8890	32.5107	-1.150	0.0084
308.15	750.000	803.580	7.144	33.3720	32.9396	-1.296	0.0078
308.15	800.000	863.680	7.960	33.8280	33.3439	-1.431	0.0072
308.15	850.000	924.468	8.761	34.2620	33.7267	-1.562	0.0067
308.15	900.000	986.160	9.573	34.6780	34.0904	-1.695	0.0063
308.15	950.000	1048.447	10.363	35.0760	34.4370	-1.822	0.0059
308.15	1000.000	1111.850	11.185	35.4610	34.7683	-1.954	0.0055
373.15	150.000	148.343	-1.105	21.3950	21.4682	0.342	0.0673
373.15	200.000	198.476	-0.762	23.2870	23.3361	0.211	0.0454
373.15	250.000	250.036	0.014	24.7590	24.7581	-0.004	0.0336
373.15	300.000	302.723	0.908	25.9660	25.9091	-0.219	0.0264
373.15	350.000	356.570	1.877	26.9950	26.8782	-0.433	0.0215
373.15	400.000	411.449	2.862	27.8940	27.7167	-0.636	0.0181
373.15	450.000	467.275	3.839	28.6940	28.4570	-0.826	0.0155
373.15	500.000	524.219	4.844	29.4190	29.1205	-1.015	0.0136
373.15	550.000	582.028	5.823	30.0810	29.7225	-1.192	0.0120
373.15	600.000	641.355	6.893	30.6980	30.2740	-1.381	0.0107
373.15	650.000	701.979	7.997	31.2750	30.7833	-1.572	0.0097
373.15	700.000	763.076	9.011	31.8110	31.2569	-1.742	0.0088
373.15	750.000	825.771	10.103	32.3210	31.6997	-1.922	0.0080
373.15	800.000	888.271	11.034	32.7950	32.1159	-2.071	0.0074
373.15	850.000	952.608	12.072	33.2520	32.5085	-2.236	0.0069
373.15	900.000	1016.834	12.982	33.6810	32.8805	-2.377	0.0064
373.15	950.000	1082.015	13.896	34.0920	33.2340	-2.517	0.0060

Data from Robertson and Babb [43] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
473.15	400.000	418.622	4.655	26.1050	25.7974	-1.178	0.0203
473.15	450.000	476.456	5.879	26.9770	26.5925	-1.425	0.0172
473.15	500.000	535.369	7.074	27.7600	27.3012	-1.653	0.0149
473.15	550.000	595.615	8.294	28.4750	27.9409	-1.876	0.0131
473.15	600.000	657.070	9.512	29.1330	28.5242	-2.090	0.0116
473.15	650.000	719.455	10.685	29.7410	29.0605	-2.288	0.0104
473.15	700.000	784.058	12.008	30.3180	29.5572	-2.509	0.0094
473.15	750.000	849.146	13.220	30.8540	30.0199	-2.703	0.0085
473.15	800.000	915.944	14.493	31.3640	30.4532	-2.904	0.0078
473.15	850.000	983.869	15.749	31.8470	30.8608	-3.097	0.0072
473.15	900.000	1052.419	16.935	32.3030	31.2456	-3.273	0.0066
473.15	950.000	1121.878	18.092	32.7370	31.6103	-3.442	0.0061
473.15	1000.000	1192.522	19.252	33.1530	31.9570	-3.608	0.0057
Number of Points (Ref. 43)			53				
PRESSURE:	AAD-%	7.024	BIAS-%	6.714	RMS-%	5.581	MPa
	AAD	52.863	BIAS	52.260	RMS	51.540	
DENSITY :	AAD-%	1.394	BIAS-%	-1.317	RMS-%	1.070	mol·dm ⁻³
	AAD	0.437	BIAS	-0.418	RMS	0.347	

Data from Sivaraman and Gammon [44]

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
193.05	1.456	1.454	-0.077	1.0186	1.0195	0.088	0.0000
193.05	3.446	3.443	-0.090	3.0974	3.1019	0.145	0.0000
193.05	4.429	4.427	-0.051	5.1435	5.1509	0.144	0.0000
193.05	4.818	4.821	0.046	7.2853	7.2617	-0.324	0.0000
193.05	4.937	4.978	0.834	10.5749	9.3913	-11.193	0.0000
193.05	5.019	5.016	-0.058	11.4240	11.4766	0.460	0.0000
193.05	5.174	5.173	-0.032	13.0245	13.0344	0.076	0.0000
193.05	5.643	5.604	-0.696	14.5064	14.5900	0.577	0.0000
195.15	1.475	1.474	-0.072	1.0183	1.0191	0.082	0.0000
195.15	3.517	3.514	-0.099	3.0961	3.1010	0.157	0.0000

Data from Sivaraman and Gammon [44] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
193.05	5.019	5.016	-0.058	11.4240	11.4766	0.460	0.0000
193.05	5.174	5.173	-0.032	13.0245	13.0344	0.076	0.0000
193.05	5.643	5.604	-0.696	14.5064	14.5900	0.577	0.0000
195.15	1.475	1.474	-0.072	1.0183	1.0191	0.082	0.0000
195.15	3.517	3.514	-0.099	3.0961	3.1010	0.157	0.0000
195.15	4.564	4.564	-0.015	5.1447	5.1467	0.039	0.0000
195.15	5.028	5.035	0.126	7.2887	7.2401	-0.667	0.0000
195.15	5.217	5.244	0.510	9.7392	9.3377	-4.122	0.0000
195.15	5.379	5.398	0.347	11.6649	11.4880	-1.516	0.0000
195.15	5.617	5.604	-0.232	12.9654	13.0226	0.441	0.0000
195.15	6.197	6.155	-0.683	14.4934	14.5701	0.529	0.0000
200.15	1.520	1.519	-0.070	1.0171	1.0179	0.079	0.0000
200.15	3.683	3.680	-0.093	3.0919	3.0963	0.142	0.0000
200.15	4.882	4.883	0.026	5.1398	5.1368	-0.059	0.0000
200.15	5.344	5.352	0.140	6.5245	6.4968	-0.424	0.0000
200.15	5.884	5.902	0.299	9.4139	9.2974	-1.237	0.0000
200.15	6.252	6.250	-0.033	11.4638	11.4734	0.084	0.0000
200.15	6.684	6.654	-0.451	12.9066	12.9870	0.623	0.0000
200.15	7.523	7.480	-0.572	14.4680	14.5259	0.400	0.0000
210.15	1.610	1.608	-0.065	1.0147	1.0154	0.072	0.0000
210.15	3.982	3.978	-0.097	3.0540	3.0582	0.137	0.0000
210.15	5.498	5.500	0.040	5.1195	5.1157	-0.074	0.0000
210.15	6.475	6.489	0.211	7.2171	7.1821	-0.486	0.0000
210.15	7.202	7.215	0.176	9.2742	9.2367	-0.404	0.0000
210.15	7.973	7.959	-0.175	11.2795	11.3115	0.284	0.0000
210.15	8.839	8.802	-0.427	12.8555	12.9119	0.439	0.0000
210.15	10.170	10.137	-0.331	14.4030	14.4332	0.210	0.0000
223.15	1.725	1.724	-0.049	1.0117	1.0122	0.054	0.0000
223.15	4.378	4.373	-0.096	3.0313	3.0351	0.127	0.0000
223.15	6.273	6.275	0.034	5.0921	5.0894	-0.053	0.0000
223.15	7.678	7.692	0.185	7.1588	7.1357	-0.322	0.0000
223.15	8.859	8.872	0.152	9.1478	9.1251	-0.248	0.0000
223.15	10.227	10.216	-0.113	11.2105	11.2260	0.138	0.0000
223.15	11.815	11.784	-0.264	12.9553	12.9837	0.220	0.0000
248.15	1.942	1.941	-0.041	1.0056	1.0060	0.044	0.0000

Data from Sivaraman and Gammon [44] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
248.15	5.107	5.103	-0.086	2.9907	2.9938	0.104	0.0000
248.15	7.644	7.645	0.016	4.9901	4.9891	-0.021	0.0000
248.15	9.877	9.891	0.146	7.0451	7.0314	-0.195	0.0000
248.15	11.983	12.001	0.151	9.0327	9.0162	-0.183	0.0000
248.15	14.470	14.474	0.022	11.0784	11.0761	-0.021	0.0000
273.15	2.155	2.154	-0.029	0.9997	1.0000	0.030	0.0000
273.15	5.883	5.878	-0.074	2.9984	3.0009	0.085	0.0000
273.15	9.037	9.037	0.004	4.9698	4.9696	-0.004	0.0000
273.15	11.986	11.999	0.105	6.9596	6.9511	-0.122	0.0000
273.15	15.110	15.130	0.135	9.0038	8.9912	-0.140	0.0000
273.15	18.678	18.685	0.036	11.0011	10.9977	-0.031	0.0000
298.15	2.377	2.378	0.030	1.0000	0.9997	-0.031	0.0000
298.15	4.581	4.578	-0.055	2.0000	2.0012	0.059	0.0000
298.15	6.641	6.638	-0.048	3.0000	3.0016	0.053	0.0000
298.15	8.599	8.596	-0.035	3.9999	4.0015	0.039	0.0000
298.15	10.493	10.491	-0.011	4.9998	5.0004	0.012	0.0000
298.15	12.360	12.362	0.016	5.9994	5.9984	-0.017	0.0000
298.15	14.242	14.249	0.048	6.9988	6.9952	-0.051	0.0000
298.15	16.188	16.201	0.080	8.0002	7.9937	-0.081	0.0000
298.15	18.247	18.264	0.090	9.0002	8.9925	-0.085	0.0000
298.15	20.484	20.500	0.080	10.0003	9.9933	-0.070	0.0000
298.15	22.973	22.985	0.051	11.0005	10.9960	-0.041	0.0000
323.15	2.600	2.602	0.068	1.0006	0.9999	-0.070	0.0000
323.15	5.052	5.052	-0.002	2.0007	2.0007	0.002	0.0000
323.15	7.392	7.391	-0.015	3.0008	3.0013	0.016	0.0000
323.15	9.659	9.658	-0.001	4.0016	4.0016	0.001	0.0000
323.15	11.891	11.894	0.024	5.0026	5.0013	-0.025	0.0000
323.15	14.126	14.135	0.066	6.0023	5.9982	-0.068	0.0000
323.15	16.421	16.434	0.078	7.0036	6.9981	-0.079	0.0000
323.15	18.815	18.834	0.104	8.0042	7.9962	-0.099	0.0000
323.15	21.377	21.395	0.082	9.0047	8.9981	-0.073	0.0000
323.15	24.156	24.183	0.112	10.0053	9.9960	-0.093	0.0000
348.15	2.821	2.822	0.034	1.0002	0.9998	-0.035	0.0000
348.15	5.522	5.525	0.062	2.0015	2.0002	-0.064	0.0000
348.15	11.993	12.000	0.058	4.5045	4.5018	-0.060	0.0000

Data from Sivaraman and Gammon [44] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
348.15	13.280	13.288	0.060	5.0052	5.0021	-0.061	0.0000
348.15	15.891	15.902	0.074	6.0066	6.0022	-0.074	0.0000
348.15	18.588	18.607	0.101	7.0077	7.0009	-0.097	0.0000
348.15	21.423	21.456	0.155	8.0089	7.9976	-0.141	0.0000
348.15	24.479	24.513	0.138	9.0099	8.9993	-0.118	0.0000
373.15	3.043	3.046	0.085	1.0011	1.0002	-0.087	0.0000
373.15	5.993	5.996	0.051	2.0023	2.0012	-0.053	0.0000
373.15	8.884	8.891	0.085	3.0043	3.0017	-0.088	0.0000
373.15	11.760	11.770	0.087	4.0064	4.0029	-0.088	0.0000
373.15	14.663	14.679	0.108	5.0087	5.0033	-0.108	0.0000
373.15	17.631	17.662	0.176	6.0109	6.0007	-0.170	0.0000
373.15	20.742	20.773	0.146	7.0126	7.0031	-0.135	0.0000
373.15	24.007	24.070	0.264	8.0144	7.9958	-0.232	0.0000
373.15	27.542	27.620	0.281	9.0155	8.9945	-0.232	0.0000
398.15	3.234	3.267	1.037	1.0012	0.9908	-1.040	0.0000
398.15	6.458	6.468	0.156	2.0037	2.0005	-0.158	0.0000
398.15	9.623	9.639	0.170	3.0064	3.0012	-0.172	0.0000
398.15	12.800	12.823	0.178	4.0095	4.0024	-0.178	0.0000
398.15	16.037	16.066	0.184	5.0128	5.0038	-0.180	0.0000
398.15	19.368	19.418	0.257	6.0156	6.0010	-0.242	0.0000
398.15	22.875	22.933	0.252	7.0180	7.0020	-0.227	0.0000
398.15	26.602	26.675	0.273	8.0199	8.0012	-0.234	0.0000
423.15	3.484	3.491	0.193	1.0020	1.0001	-0.194	0.0000
423.15	6.925	6.939	0.207	2.0049	2.0007	-0.209	0.0000
423.15	10.361	10.386	0.241	3.0087	3.0015	-0.241	0.0000
423.15	13.838	13.874	0.260	4.0129	4.0026	-0.256	0.0000
423.15	17.401	17.453	0.298	5.0173	5.0030	-0.285	0.0000
423.15	21.100	21.171	0.335	6.0209	6.0023	-0.310	0.0000
423.15	24.997	25.088	0.366	7.0236	7.0009	-0.323	0.0000

Number of Points (Ref. 44) 104

PRESSURE:	AAD-%	0.158	BIAS-%	0.055	RMS-%	0.229	
	AAD	0.016	BIAS	0.010	RMS	0.023	MPa
DENSITY :	AAD-%	0.337	BIAS-%	-0.218	RMS-%	1.189	
	AAD	0.030	BIAS	-0.018	RMS	0.125	mol·dm ⁻³

Data from Trappeniers et al. [45]

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
273.15	1.794	1.794	-0.007	0.8250	0.8251	0.008	102.6723
285.65	1.885	1.885	-0.003	0.8250	0.8250	0.004	97.4853
298.15	1.976	1.976	-0.002	0.8250	0.8250	0.003	92.8060
323.15	2.157	2.157	0.005	0.8250	0.8250	-0.005	84.7006
348.15	2.338	2.338	0.005	0.8250	0.8250	-0.006	77.9150
373.15	2.518	2.518	0.012	0.8250	0.8249	-0.013	72.1521
398.15	2.698	2.698	0.011	0.8250	0.8249	-0.011	67.1909
423.15	2.878	2.878	0.012	0.8250	0.8249	-0.012	62.8762
273.15	2.226	2.224	-0.065	1.0340	1.0347	0.069	83.1956
285.65	2.341	2.340	-0.060	1.0340	1.0347	0.063	78.8476
298.15	2.457	2.455	-0.057	1.0340	1.0346	0.059	74.9408
323.15	2.687	2.686	-0.050	1.0340	1.0345	0.052	68.2048
348.15	2.917	2.915	-0.043	1.0340	1.0345	0.045	62.5998
373.15	3.146	3.144	-0.042	1.0340	1.0344	0.042	57.8583
398.15	3.374	3.373	-0.041	1.0340	1.0344	0.042	53.7940
423.15	3.603	3.601	-0.046	1.0340	1.0345	0.046	50.2694
273.15	2.648	2.646	-0.082	1.2430	1.2441	0.088	70.2786
285.65	2.789	2.787	-0.082	1.2430	1.2441	0.087	66.4800
298.15	2.930	2.927	-0.080	1.2430	1.2440	0.084	63.0814
323.15	3.210	3.208	-0.072	1.2430	1.2439	0.074	57.2518
348.15	3.490	3.487	-0.065	1.2430	1.2438	0.067	52.4271
373.15	3.769	3.766	-0.066	1.2430	1.2438	0.067	48.3639
398.15	4.047	4.044	-0.062	1.2430	1.2438	0.063	44.8957
423.15	4.325	4.322	-0.067	1.2430	1.2438	0.068	41.8972
273.15	3.050	3.047	-0.105	1.4460	1.4476	0.113	61.2998
285.65	3.216	3.213	-0.099	1.4460	1.4475	0.106	57.8828
298.15	3.382	3.379	-0.096	1.4460	1.4475	0.101	54.8358
323.15	3.712	3.709	-0.084	1.4460	1.4473	0.088	49.6336
348.15	4.042	4.038	-0.083	1.4460	1.4472	0.085	45.3493
373.15	4.370	4.367	-0.081	1.4460	1.4472	0.083	41.7586
398.15	4.698	4.694	-0.083	1.4460	1.4472	0.084	38.7035
423.15	5.025	5.021	-0.092	1.4460	1.4473	0.093	36.0704
273.15	3.463	3.461	-0.054	1.6600	1.6610	0.059	54.2274
285.65	3.656	3.655	-0.047	1.6600	1.6608	0.051	51.1061
298.15	3.849	3.848	-0.045	1.6600	1.6608	0.048	48.3328
323.15	4.233	4.232	-0.036	1.6600	1.6606	0.038	43.6213

Data from Trappeniers et al. [45] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
348.15	4.616	4.615	-0.028	1.6600	1.6605	0.029	39.7645
373.15	4.997	4.996	-0.022	1.6600	1.6604	0.023	36.5463
398.15	5.378	5.377	-0.025	1.6600	1.6604	0.025	33.8178
423.15	5.758	5.756	-0.036	1.6600	1.6606	0.036	31.4736
273.15	3.867	3.863	-0.082	1.8720	1.8737	0.090	48.7882
285.65	4.075	4.085	0.235	1.8720	1.8672	-0.254	0.0000
298.15	4.308	4.305	-0.071	1.8720	1.8734	0.076	43.3282
323.15	4.747	4.744	-0.058	1.8720	1.8731	0.061	38.9941
348.15	5.183	5.181	-0.041	1.8720	1.8728	0.043	35.4665
373.15	5.619	5.616	-0.041	1.8720	1.8728	0.042	32.5336
398.15	6.053	6.050	-0.045	1.8720	1.8729	0.045	30.0568
423.15	6.487	6.483	-0.059	1.8720	1.8731	0.060	27.9352
273.15	4.153	4.149	-0.110	2.0250	2.0275	0.121	45.5632
285.65	4.395	4.390	-0.104	2.0250	2.0273	0.114	42.7980
298.15	4.635	4.631	-0.095	2.0250	2.0271	0.103	40.3591
323.15	5.115	5.110	-0.084	2.0250	2.0268	0.089	36.2472
348.15	5.592	5.587	-0.079	2.0250	2.0267	0.082	32.9115
373.15	6.067	6.062	-0.082	2.0250	2.0267	0.085	30.1484
398.15	6.542	6.536	-0.090	2.0250	2.0269	0.092	27.8210
423.15	7.015	7.008	-0.097	2.0250	2.0270	0.098	25.8334
273.15	4.248	4.243	-0.108	2.0760	2.0785	0.120	44.5954
285.65	4.496	4.491	-0.101	2.0760	2.0783	0.111	41.8698
298.15	4.744	4.739	-0.101	2.0760	2.0783	0.109	39.4658
323.15	5.236	5.232	-0.082	2.0760	2.0778	0.087	35.4221
348.15	5.726	5.722	-0.074	2.0760	2.0776	0.077	32.1450
373.15	6.215	6.211	-0.076	2.0760	2.0776	0.079	29.4331
398.15	6.703	6.697	-0.081	2.0760	2.0777	0.083	27.1511
423.15	7.190	7.183	-0.094	2.0760	2.0780	0.095	25.2026
273.15	4.526	4.522	-0.096	2.2280	2.2304	0.107	41.9729
285.65	4.795	4.790	-0.089	2.2280	2.2302	0.098	39.3525
298.15	5.063	5.059	-0.086	2.2280	2.2301	0.093	37.0484
323.15	5.596	5.592	-0.075	2.2280	2.2298	0.080	33.1831
348.15	6.128	6.123	-0.073	2.2280	2.2297	0.076	30.0630
373.15	6.657	6.652	-0.073	2.2280	2.2297	0.075	27.4901
398.15	7.185	7.179	-0.081	2.2280	2.2298	0.083	25.3299

Data from Trappeniers et al. [45] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
423.15	7.711	7.704	-0.088	2.2280	2.2300	0.088	23.4906
273.15	4.633	4.628	-0.090	2.2870	2.2893	0.101	41.0478
285.65	4.910	4.906	-0.082	2.2870	2.2891	0.090	38.4648
298.15	5.186	5.182	-0.079	2.2870	2.2890	0.086	36.1953
323.15	5.735	5.731	-0.063	2.2870	2.2885	0.067	32.3941
348.15	6.282	6.278	-0.055	2.2870	2.2883	0.058	29.3305
373.15	6.827	6.823	-0.059	2.2870	2.2884	0.060	26.8058
398.15	7.370	7.366	-0.063	2.2870	2.2885	0.064	24.6892
423.15	7.912	7.907	-0.074	2.2870	2.2887	0.074	22.8875
273.15	4.893	4.889	-0.074	2.4320	2.4340	0.083	38.9627
285.65	5.190	5.187	-0.065	2.4320	2.4338	0.072	36.4623
298.15	5.486	5.483	-0.060	2.4320	2.4336	0.066	34.2712
323.15	6.075	6.072	-0.052	2.4320	2.4333	0.055	30.6113
348.15	6.662	6.659	-0.054	2.4320	2.4334	0.056	27.6716
373.15	7.247	7.242	-0.059	2.4320	2.4335	0.061	25.2574
398.15	7.829	7.824	-0.063	2.4320	2.4336	0.064	23.2384
423.15	8.421	8.404	-0.206	2.4320	2.4371	0.208	21.5089
273.15	5.248	5.244	-0.081	2.6320	2.6344	0.092	36.4508
285.65	5.574	5.569	-0.077	2.6320	2.6343	0.086	34.0478
298.15	5.898	5.894	-0.071	2.6320	2.6341	0.078	31.9507
323.15	6.543	6.539	-0.065	2.6320	2.6338	0.069	28.4619
348.15	7.186	7.181	-0.065	2.6320	2.6338	0.068	25.6739
373.15	7.825	7.820	-0.065	2.6320	2.6338	0.067	23.3937
398.15	8.462	8.456	-0.074	2.6320	2.6340	0.075	21.4919
423.15	9.099	9.090	-0.091	2.6320	2.6344	0.091	19.8809
273.15	5.601	5.596	-0.094	2.8340	2.8370	0.107	34.2644
285.65	5.956	5.951	-0.087	2.8340	2.8368	0.098	31.9463
298.15	6.310	6.304	-0.086	2.8340	2.8367	0.095	29.9290
323.15	7.013	7.007	-0.090	2.8340	2.8367	0.096	26.5876
348.15	7.713	7.706	-0.091	2.8340	2.8367	0.095	23.9317
373.15	8.410	8.401	-0.099	2.8340	2.8369	0.102	21.7673
398.15	9.104	9.094	-0.103	2.8340	2.8370	0.105	19.9692
423.15	9.796	9.785	-0.119	2.8340	2.8374	0.120	18.4499
273.15	5.828	5.825	-0.064	2.9670	2.9692	0.073	32.9898
285.65	6.204	6.199	-0.076	2.9670	2.9695	0.085	30.7169

Data from Trappeniers et al. [45] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
348.15	8.243	8.237	-0.071	3.0390	3.0413	0.075	22.3971
373.15	8.998	8.991	-0.081	3.0390	3.0415	0.083	20.3353
398.15	9.750	9.742	-0.086	3.0390	3.0417	0.087	18.6283
423.15	10.501	10.491	-0.095	3.0390	3.0419	0.095	17.1905
273.15	6.306	6.302	-0.058	3.2490	3.2512	0.067	30.6103
285.65	6.723	6.719	-0.062	3.2490	3.2513	0.070	28.4281
298.15	7.138	7.134	-0.064	3.2490	3.2513	0.072	26.5433
323.15	7.964	7.959	-0.064	3.2490	3.2513	0.069	23.4503
348.15	8.785	8.778	-0.069	3.2490	3.2514	0.073	21.0150
373.15	9.601	9.594	-0.071	3.2490	3.2514	0.073	19.0472
398.15	10.415	10.406	-0.084	3.2490	3.2517	0.085	17.4218
423.15	11.226	11.215	-0.098	3.2490	3.2522	0.098	16.0567
273.15	6.330	6.327	-0.050	3.2640	3.2659	0.058	30.4962
285.65	6.750	6.746	-0.060	3.2640	3.2662	0.068	28.3171
298.15	7.168	7.163	-0.066	3.2640	3.2664	0.073	26.4360
323.15	7.998	7.993	-0.068	3.2640	3.2664	0.073	23.3505
348.15	8.823	8.817	-0.072	3.2640	3.2665	0.075	20.9225
373.15	9.644	9.637	-0.073	3.2640	3.2664	0.075	18.9609
398.15	10.463	10.454	-0.084	3.2640	3.2668	0.085	17.3412
423.15	11.278	11.267	-0.094	3.2640	3.2671	0.094	15.9814
273.15	6.622	6.618	-0.054	3.4390	3.4412	0.063	29.2175
285.65	7.068	7.064	-0.062	3.4390	3.4414	0.070	27.0861
298.15	7.513	7.508	-0.062	3.4390	3.4414	0.069	25.2520
323.15	8.397	8.390	-0.075	3.4390	3.4418	0.080	22.2517
348.15	9.275	9.267	-0.080	3.4390	3.4419	0.084	19.9013
373.15	10.148	10.140	-0.080	3.4390	3.4418	0.082	18.0090
398.15	11.018	11.008	-0.089	3.4390	3.4421	0.090	16.4507
423.15	11.885	11.873	-0.103	3.4390	3.4425	0.103	15.1450
273.15	6.824	6.821	-0.043	3.5620	3.5638	0.050	28.3923
285.65	7.290	7.286	-0.055	3.5620	3.5642	0.063	26.2901
298.15	7.754	7.749	-0.063	3.5620	3.5645	0.070	24.4847
323.15	8.674	8.669	-0.062	3.5620	3.5644	0.067	21.5420
348.15	9.590	9.583	-0.072	3.5620	3.5647	0.076	19.2414
373.15	10.501	10.493	-0.079	3.5620	3.5649	0.081	17.3932
398.15	11.408	11.398	-0.088	3.5620	3.5652	0.089	15.8748

Data from Trappeniers et al. [45] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
423.15	12.313	12.300	-0.105	3.5620	3.5657	0.104	14.6042
273.15	7.300	7.298	-0.027	3.8560	3.8572	0.031	26.6178
285.65	7.813	7.810	-0.039	3.8560	3.8577	0.044	24.5797
298.15	8.323	8.319	-0.045	3.8560	3.8579	0.050	22.8378
323.15	9.336	9.332	-0.047	3.8560	3.8579	0.050	20.0151
348.15	10.343	10.337	-0.055	3.8560	3.8582	0.058	17.8234
373.15	11.346	11.338	-0.075	3.8560	3.8589	0.076	16.0710
398.15	12.344	12.333	-0.086	3.8560	3.8593	0.087	14.6384
423.15	13.338	13.325	-0.101	3.8560	3.8599	0.100	13.4444
273.15	7.771	7.770	-0.015	4.1520	4.1527	0.018	25.0653
285.65	8.333	8.330	-0.032	4.1520	4.1535	0.037	23.0816
298.15	8.891	8.888	-0.042	4.1520	4.1540	0.047	21.3945
348.15	11.102	11.096	-0.059	4.1520	4.1546	0.062	16.5816
323.15	10.000	9.996	-0.048	4.1520	4.1541	0.052	18.6773
373.15	12.200	12.190	-0.078	4.1520	4.1553	0.080	14.9151
398.15	13.292	13.279	-0.095	4.1520	4.1560	0.095	13.5583
423.15	14.381	14.363	-0.119	4.1520	4.1568	0.117	12.4314
273.15	8.192	8.192	0.004	4.4210	4.4208	-0.004	23.8185
285.65	8.799	8.798	-0.011	4.4210	4.4216	0.013	21.8790
298.15	9.401	9.400	-0.018	4.4210	4.4219	0.020	20.2367
323.15	10.600	10.597	-0.030	4.4210	4.4224	0.033	17.6040
348.15	11.790	11.785	-0.043	4.4210	4.4230	0.045	15.5862
373.15	12.975	12.967	-0.061	4.4210	4.4237	0.062	13.9894
398.15	14.155	14.143	-0.082	4.4210	4.4246	0.082	12.6941
423.15	15.328	15.315	-0.088	4.4210	4.4248	0.086	11.6229
273.15	8.240	8.241	0.008	4.4520	4.4516	-0.010	23.6838
285.65	8.852	8.851	-0.008	4.4520	4.4524	0.010	21.7487
298.15	9.461	9.459	-0.020	4.4520	4.4530	0.022	20.1106
323.15	10.669	10.666	-0.030	4.4520	4.4534	0.032	17.4876
348.15	11.870	11.865	-0.045	4.4520	4.4541	0.047	15.4781
373.15	13.066	13.057	-0.068	4.4520	4.4550	0.068	13.8887
398.15	14.256	14.243	-0.085	4.4520	4.4558	0.085	12.6003
423.15	15.441	15.425	-0.103	4.4520	4.4565	0.101	11.5344
273.15	8.714	8.715	0.017	4.7590	4.7581	-0.020	22.4271
285.65	9.378	9.378	0.002	4.7590	4.7589	-0.002	20.5363

Data from Trappeniers et al. [45] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
298.15	10.040	10.039	-0.015	4.7590	4.7598	0.017	18.9427
323.15	11.354	11.351	-0.027	4.7590	4.7604	0.029	16.4069
348.15	12.660	12.654	-0.047	4.7590	4.7613	0.049	14.4768
373.15	13.958	13.949	-0.068	4.7590	4.7623	0.069	12.9588
398.15	15.252	15.238	-0.095	4.7590	4.7634	0.093	11.7330
423.15	16.540	16.521	-0.113	4.7590	4.7642	0.110	10.7229
273.15	8.740	8.743	0.029	4.7770	4.7753	-0.035	22.3593
285.65	9.408	9.409	0.009	4.7770	4.7765	-0.010	20.4701
298.15	10.073	10.073	-0.003	4.7770	4.7772	0.004	18.8794
323.15	11.393	11.391	-0.018	4.7770	4.7779	0.019	16.3481
348.15	12.705	12.700	-0.036	4.7770	4.7788	0.037	14.4225
373.15	14.008	14.001	-0.050	4.7770	4.7794	0.051	12.9087
398.15	15.307	15.296	-0.071	4.7770	4.7803	0.070	11.6866
423.15	16.600	16.586	-0.088	4.7770	4.7811	0.085	10.6796
273.15	9.136	9.141	0.046	5.0380	5.0352	-0.056	21.4016
285.65	9.851	9.854	0.025	5.0380	5.0366	-0.028	19.5460
298.15	10.562	10.563	0.013	5.0380	5.0373	-0.014	17.9899
323.15	11.974	11.973	-0.009	5.0380	5.0385	0.009	15.5254
348.15	13.377	13.373	-0.033	5.0380	5.0397	0.034	13.6613
373.15	14.773	14.765	-0.059	5.0380	5.0410	0.059	12.2019
398.15	16.162	16.149	-0.082	5.0380	5.0420	0.080	11.0285
423.15	17.546	17.528	-0.104	5.0380	5.0430	0.100	10.0644
273.15	9.282	9.286	0.039	5.1340	5.1316	-0.046	21.0679
285.65	10.015	10.017	0.016	5.1340	5.1331	-0.018	19.2241
298.15	10.743	10.743	0.002	5.1340	5.1339	-0.003	17.6802
323.15	12.189	12.187	-0.018	5.1340	5.1350	0.019	15.2397
348.15	13.627	13.621	-0.043	5.1340	5.1362	0.044	13.3974
373.15	15.056	15.046	-0.062	5.1340	5.1372	0.062	11.9578
398.15	16.478	16.465	-0.080	5.1340	5.1380	0.078	10.8018
423.15	17.894	17.877	-0.097	5.1340	5.1388	0.093	9.8529
273.15	9.832	9.839	0.072	5.5020	5.4973	-0.086	19.8837
285.65	10.633	10.638	0.047	5.5020	5.4990	-0.054	18.0820
298.15	11.428	11.432	0.034	5.5020	5.4999	-0.038	16.5821
323.15	13.009	13.010	0.009	5.5020	5.5015	-0.009	14.2269
348.15	14.580	14.577	-0.022	5.5020	5.5032	0.022	12.4625

Data from Trappeniers et al. [45] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
373.15	16.142	16.135	-0.045	5.5020	5.5044	0.044	11.0923
398.15	17.696	17.684	-0.065	5.5020	5.5055	0.063	9.9975
423.15	19.244	19.227	-0.087	5.5020	5.5065	0.082	9.1023
273.15	10.364	10.373	0.084	5.8600	5.8541	-0.100	18.8412
285.65	11.233	11.239	0.059	5.8600	5.8561	-0.067	17.0782
298.15	12.096	12.101	0.042	5.8600	5.8573	-0.046	15.6179
323.15	13.813	13.814	0.012	5.8600	5.8593	-0.013	13.3403
348.15	15.519	15.515	-0.023	5.8600	5.8613	0.023	11.6465
373.15	17.215	17.206	-0.048	5.8600	5.8628	0.047	10.3388
398.15	18.902	18.888	-0.071	5.8600	5.8640	0.068	9.2987
423.15	20.583	20.563	-0.099	5.8600	5.8654	0.093	8.4514
273.15	10.861	10.873	0.116	6.1980	6.1895	-0.137	17.9411
285.65	11.796	11.806	0.087	6.1980	6.1919	-0.099	16.2124
298.15	12.725	12.734	0.071	6.1980	6.1932	-0.077	14.7880
323.15	14.574	14.579	0.036	6.1980	6.1957	-0.037	12.5795
348.15	16.412	16.411	-0.005	6.1980	6.1983	0.005	10.9481
373.15	18.237	18.232	-0.029	6.1980	6.1998	0.028	9.6957
398.15	20.053	20.043	-0.051	6.1980	6.2010	0.048	8.7037
423.15	21.864	21.846	-0.080	6.1980	6.2026	0.074	7.8983
273.15	10.993	11.005	0.108	6.2870	6.2790	-0.128	17.7137
285.65	11.945	11.956	0.090	6.2870	6.2806	-0.101	15.9951
298.15	12.892	12.901	0.072	6.2870	6.2820	-0.079	14.5800
323.15	14.777	14.782	0.034	6.2870	6.2848	-0.035	12.3892
348.15	16.649	16.649	-0.005	6.2870	6.2873	0.005	10.7740
373.15	18.511	18.504	-0.035	6.2870	6.2891	0.034	9.5353
398.15	20.361	20.351	-0.054	6.2870	6.2902	0.050	8.5557
423.15	22.205	22.188	-0.076	6.2870	6.2914	0.070	7.7611
273.15	11.358	11.371	0.122	6.5350	6.5256	-0.144	17.1058
285.65	12.360	12.372	0.097	6.5350	6.5279	-0.109	15.4115
298.15	13.358	13.368	0.076	6.5350	6.5296	-0.082	14.0217
323.15	15.343	15.349	0.038	6.5350	6.5324	-0.039	11.8801
348.15	17.315	17.315	0.004	6.5350	6.5348	-0.003	10.3089
373.15	19.276	19.270	-0.032	6.5350	6.5370	0.030	9.1081
398.15	21.227	21.215	-0.061	6.5350	6.5387	0.056	8.1611
423.15	23.170	23.150	-0.084	6.5350	6.5400	0.077	7.3951

Data from Trappeniers et al. [45] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
273.15	11.738	11.753	0.128	6.7930	6.7829	-0.149	16.5030
285.65	12.793	12.807	0.108	6.7930	6.7848	-0.120	14.8353
298.15	13.846	13.857	0.081	6.7930	6.7871	-0.087	13.4715
323.15	15.937	15.944	0.044	6.7930	6.7900	-0.044	11.3799
348.15	18.017	18.017	0.000	6.7930	6.7930	0.000	9.8526
373.15	20.084	20.077	-0.035	6.7930	6.7952	0.032	8.6902
398.15	22.139	22.126	-0.058	6.7930	6.7966	0.053	7.7764
423.15	24.186	24.166	-0.081	6.7930	6.7979	0.072	7.0389
273.15	11.839	11.855	0.133	6.8620	6.8514	-0.155	16.3469
285.65	12.911	12.924	0.099	6.8620	6.8544	-0.111	14.6850
298.15	13.977	13.988	0.081	6.8620	6.8561	-0.086	13.3289
323.15	16.097	16.104	0.044	6.8620	6.8590	-0.044	11.2506
348.15	18.205	18.206	0.006	6.8620	6.8616	-0.006	9.7353
373.15	20.300	20.295	-0.028	6.8620	6.8638	0.027	8.5829
398.15	22.385	22.372	-0.056	6.8620	6.8655	0.051	7.6776
423.15	24.462	24.441	-0.087	6.8620	6.8673	0.078	6.9473
273.15	12.489	12.508	0.147	7.3020	7.2897	-0.168	15.3909
285.65	13.654	13.672	0.133	7.3020	7.2914	-0.145	13.7754
298.15	14.816	14.831	0.105	7.3020	7.2939	-0.111	12.4635
323.15	17.126	17.137	0.062	7.3020	7.2975	-0.061	10.4685
348.15	19.424	19.427	0.017	7.3020	7.3008	-0.016	9.0257
373.15	21.761	21.703	-0.265	7.3020	7.3197	0.243	7.9266
398.15	23.976	23.967	-0.034	7.3020	7.3042	0.031	7.0837
423.15	26.237	26.221	-0.062	7.3020	7.3060	0.055	6.3990
273.15	13.271	13.293	0.167	7.8250	7.8104	-0.187	14.3315
285.65	14.554	14.575	0.146	7.8250	7.8128	-0.155	12.7714
298.15	15.833	15.853	0.127	7.8250	7.8148	-0.130	11.5144
323.15	18.380	18.395	0.081	7.8250	7.8189	-0.078	9.6183
348.15	20.912	20.919	0.034	7.8250	7.8226	-0.031	8.2597
373.15	23.431	23.429	-0.008	7.8250	7.8256	0.007	7.2401
398.15	25.931	25.926	-0.022	7.8250	7.8265	0.019	6.4480
423.15	28.422	28.410	-0.041	7.8250	7.8277	0.035	5.8143
273.15	14.050	14.073	0.166	8.3350	8.3200	-0.180	13.3587
285.65	15.454	15.477	0.151	8.3350	8.3220	-0.157	11.8574
298.15	16.855	16.876	0.128	8.3350	8.3244	-0.128	10.6554
323.15	19.643	19.660	0.087	8.3350	8.3282	-0.081	8.8572

Data from Trappeniers et al. [45] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
348.15	22.417	22.426	0.038	8.3350	8.3321	-0.034	7.5793
373.15	25.176	25.176	-0.003	8.3350	8.3352	0.003	6.6265
398.15	27.916	27.910	-0.020	8.3350	8.3364	0.017	5.8896
423.15	30.642	30.632	-0.036	8.3350	8.3375	0.029	5.3025
273.15	14.802	14.826	0.159	8.8140	8.7992	-0.168	12.4877
285.65	16.326	16.350	0.146	8.8140	8.8011	-0.146	11.0456
298.15	17.847	17.869	0.122	8.8140	8.8036	-0.118	9.8981
323.15	20.874	20.891	0.083	8.8140	8.8073	-0.075	8.1934
348.15	23.887	23.895	0.034	8.8140	8.8114	-0.030	6.9909
373.15	26.882	26.881	-0.003	8.8140	8.8142	0.003	6.0991
398.15	29.860	29.851	-0.029	8.8140	8.8161	0.024	5.4119
423.15	32.823	32.806	-0.052	8.8140	8.8177	0.042	4.8661
273.15	15.535	15.560	0.166	9.2670	9.2514	-0.169	11.6951
285.65	17.177	17.203	0.153	9.2670	9.2533	-0.148	10.3134
298.15	18.816	18.841	0.130	9.2670	9.2558	-0.121	9.2199
323.15	22.079	22.100	0.097	9.2670	9.2591	-0.085	7.6057
348.15	25.327	25.340	0.053	9.2670	9.2629	-0.045	6.4741
373.15	28.558	28.561	0.010	9.2670	9.2662	-0.008	5.6385
398.15	31.773	31.763	-0.030	9.2670	9.2692	0.024	4.9965
423.15	34.971	34.950	-0.062	9.2670	9.2715	0.048	4.4881
273.15	15.582	15.607	0.156	9.2950	9.2803	-0.158	11.6463
285.65	17.232	17.257	0.146	9.2950	9.2819	-0.141	10.2687
298.15	18.877	18.902	0.130	9.2950	9.2838	-0.120	9.1791
323.15	22.156	22.177	0.093	9.2950	9.2874	-0.081	7.5704
348.15	25.419	25.431	0.049	9.2950	9.2912	-0.041	6.4432
373.15	28.663	28.667	0.012	9.2950	9.2941	-0.010	5.6111
398.15	31.891	31.884	-0.022	9.2950	9.2966	0.017	4.9721
423.15	35.102	35.085	-0.047	9.2950	9.2984	0.036	2.9773
273.15	16.369	16.392	0.136	9.7600	9.7471	-0.132	10.8579
285.65	18.147	18.170	0.125	9.7600	9.7487	-0.116	9.5477
298.15	19.921	19.943	0.112	9.7600	9.7502	-0.100	8.5169
323.15	23.455	23.474	0.080	9.7600	9.7534	-0.068	7.0035
348.15	26.973	26.983	0.039	9.7600	9.7569	-0.031	5.9489
373.15	30.470	30.471	0.002	9.7600	9.7599	-0.001	5.1735
398.15	33.950	33.939	-0.031	9.7600	9.7623	0.024	4.5797

Data from Trappeniers et al. [45] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
423.15	37.408	37.390	-0.048	9.7600	9.7635	0.036	2.7403
273.15	16.812	16.833	0.130	10.0130	10.0007	-0.123	10.4388
285.65	18.661	18.684	0.123	10.0130	10.0018	-0.112	9.1675
298.15	20.509	20.530	0.105	10.0130	10.0038	-0.092	8.1695
323.15	24.187	24.205	0.074	10.0130	10.0069	-0.061	6.7088
348.15	27.848	27.858	0.035	10.0130	10.0103	-0.027	5.6936
373.15	31.487	31.489	0.005	10.0130	10.0126	-0.004	4.9487
398.15	35.111	35.099	-0.035	10.0130	10.0157	0.027	2.9191
423.15	38.713	38.690	-0.058	10.0130	10.0173	0.043	2.6191
273.15	18.199	18.218	0.102	10.7630	10.7534	-0.089	9.2324
285.65	20.275	20.295	0.102	10.7630	10.7538	-0.086	8.0848
298.15	22.347	22.368	0.091	10.7630	10.7550	-0.074	7.1896
323.15	26.479	26.495	0.060	10.7630	10.7580	-0.047	5.8874
348.15	30.586	30.596	0.032	10.7630	10.7604	-0.024	4.9883
373.15	34.672	34.672	-0.003	10.7630	10.7632	0.002	4.3308
398.15	38.736	38.723	-0.031	10.7630	10.7654	0.023	2.5528
423.15	42.777	42.754	-0.054	10.7630	10.7671	0.038	2.2893
273.15	19.771	19.785	0.075	11.5340	11.5271	-0.060	8.0511
285.65	22.098	22.116	0.080	11.5340	11.5269	-0.062	7.0412
298.15	24.423	24.441	0.077	11.5340	11.5274	-0.057	6.2565
323.15	29.055	29.071	0.056	11.5340	11.5294	-0.040	5.1193
348.15	33.661	33.671	0.030	11.5340	11.5316	-0.021	4.3363
373.15	38.241	38.242	0.001	11.5340	11.5339	-0.001	2.5098
398.15	42.799	42.784	-0.034	11.5340	11.5367	0.023	2.2193
423.15	47.325	47.301	-0.051	11.5340	11.5379	0.034	1.9905
273.15	21.491	21.498	0.031	12.2870	12.2843	-0.022	6.9641
285.65	24.088	24.097	0.040	12.2870	12.2835	-0.028	6.0938
298.15	26.680	26.691	0.042	12.2870	12.2834	-0.029	5.4183
323.15	31.837	31.853	0.051	12.2870	12.2829	-0.034	4.4398
348.15	36.971	36.981	0.027	12.2870	12.2848	-0.018	2.5103
373.15	42.073	42.074	0.001	12.2870	12.2869	-0.001	2.1817
398.15	47.151	47.134	-0.036	12.2870	12.2898	0.023	1.9310
423.15	52.196	52.165	-0.060	12.2870	12.2916	0.038	1.7332
273.15	23.308	23.310	0.010	12.9940	12.9931	-0.007	6.0171
285.65	26.178	26.184	0.022	12.9940	12.9922	-0.014	5.2764

Data from Trappeniers et al. [45] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
298.15	29.043	29.050	0.023	12.9940	12.9921	-0.015	4.7004
323.15	34.746	34.753	0.021	12.9940	12.9923	-0.013	3.8634
348.15	40.417	40.415	-0.006	12.9940	12.9945	0.003	2.1897
373.15	46.053	46.036	-0.036	12.9940	12.9969	0.022	1.9068
398.15	51.648	51.620	-0.056	12.9940	12.9983	0.033	1.6903
423.15	57.210	57.170	-0.069	12.9940	12.9994	0.041	1.5191
273.15	24.678	24.677	-0.004	13.4740	13.4744	0.003	5.4204
285.65	27.745	27.749	0.015	13.4740	13.4728	-0.009	4.7642
298.15	30.809	30.813	0.012	13.4740	13.4731	-0.007	4.2522
323.15	36.907	36.906	-0.003	13.4740	13.4742	0.002	2.3372
348.15	42.958	42.953	-0.011	13.4740	13.4749	0.007	1.9917
373.15	48.980	48.956	-0.050	13.4740	13.4779	0.029	1.7374
398.15	54.953	54.917	-0.066	13.4740	13.4791	0.038	1.5423
423.15	60.890	60.842	-0.080	13.4740	13.4801	0.046	1.3877
273.15	25.373	25.373	0.000	13.7030	13.7030	0.000	5.1501
285.65	28.542	28.544	0.004	13.7030	13.7027	-0.002	4.5323
298.15	31.704	31.705	0.004	13.7030	13.7027	-0.002	4.0498
323.15	37.994	37.992	-0.007	13.7030	13.7035	0.004	2.2297
348.15	44.243	44.230	-0.031	13.7030	13.7054	0.018	1.9024
373.15	50.449	50.421	-0.056	13.7030	13.7074	0.032	1.6612
398.15	56.614	56.569	-0.080	13.7030	13.7092	0.045	1.4758
423.15	62.732	62.678	-0.086	13.7030	13.7096	0.048	1.3286
273.15	28.274	28.265	-0.029	14.5600	14.5622	0.015	4.2232
285.65	31.837	31.828	-0.027	14.5600	14.5620	0.014	3.7389
298.15	35.391	35.378	-0.038	14.5600	14.5629	0.020	2.2381
323.15	42.458	42.431	-0.063	14.5600	14.5648	0.033	1.8624
348.15	49.462	49.424	-0.076	14.5600	14.5658	0.040	1.5979
373.15	56.415	56.361	-0.095	14.5600	14.5672	0.050	1.4012
398.15	63.315	63.248	-0.106	14.5600	14.5681	0.056	1.2489
423.15	70.160	70.090	-0.099	14.5600	14.5676	0.052	1.1274
273.15	32.762	32.750	-0.038	15.6530	15.6557	0.018	3.2389
285.65	36.889	36.868	-0.058	15.6530	15.6572	0.027	1.9296
298.15	40.998	40.966	-0.078	15.6530	15.6587	0.036	1.7459
323.15	49.160	49.102	-0.118	15.6530	15.6616	0.055	1.4698
348.15	57.235	57.160	-0.131	15.6530	15.6627	0.062	1.2718

Data from Trappeniers et al. [45] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
373.15	65.243	65.149	-0.145	15.6530	15.6638	0.069	1.1225
398.15	73.175	73.076	-0.135	15.6530	15.6631	0.065	1.0055
423.15	81.041	80.951	-0.111	15.6530	15.6614	0.054	0.9113
273.15	38.578	38.545	-0.086	16.7770	16.7828	0.034	1.6288
285.65	43.355	43.305	-0.114	16.7770	16.7847	0.046	1.4711
298.15	48.110	48.037	-0.151	16.7770	16.7874	0.062	1.3427
323.15	57.533	57.421	-0.196	16.7770	16.7908	0.082	1.1455
348.15	66.849	66.705	-0.214	16.7770	16.7924	0.092	1.0008
373.15	76.067	75.905	-0.213	16.7770	16.7925	0.092	0.8897
398.15	85.185	85.031	-0.180	16.7770	16.7902	0.079	0.8016
423.15	94.210	94.096	-0.121	16.7770	16.7860	0.053	0.7299
273.15	39.645	39.600	-0.112	16.9560	16.9634	0.044	1.5566
285.65	44.532	44.470	-0.139	16.9560	16.9653	0.055	1.4083
298.15	49.396	49.310	-0.175	16.9560	16.9679	0.070	1.2871
323.15	59.033	58.905	-0.217	16.9560	16.9712	0.090	1.1005
348.15	68.564	68.398	-0.241	16.9560	16.9732	0.102	0.9630
373.15	77.991	77.804	-0.240	16.9560	16.9734	0.103	0.8572
398.15	87.304	87.134	-0.195	16.9560	16.9702	0.084	0.7730
273.15	45.790	45.689	-0.221	17.8750	17.8889	0.078	1.2322
285.65	51.285	51.151	-0.261	17.8750	17.8918	0.094	1.1246
298.15	56.750	56.577	-0.305	17.8750	17.8950	0.112	1.0351
323.15	67.554	67.324	-0.340	17.8750	17.8981	0.129	0.8949
348.15	78.223	77.951	-0.349	17.8750	17.8993	0.136	0.7895
373.15	88.749	88.476	-0.308	17.8750	17.8968	0.122	0.7071
398.15	99.153	98.916	-0.239	17.8750	17.8921	0.096	0.6408
423.15	109.438	109.287	-0.139	17.8750	17.8851	0.056	0.5863
273.15	52.050	51.879	-0.329	18.6570	18.6769	0.107	1.0103
285.65	58.119	57.891	-0.393	18.6570	18.6815	0.131	0.9285
298.15	64.122	63.858	-0.412	18.6570	18.6833	0.141	0.8597
323.15	76.008	75.673	-0.441	18.6570	18.6862	0.156	0.7500
348.15	87.717	87.351	-0.417	18.6570	18.6854	0.152	0.6662
373.15	99.272	98.917	-0.358	18.6570	18.6819	0.133	0.5998
398.15	110.653	110.390	-0.238	18.6570	18.6739	0.090	0.5459
273.15	54.294	54.090	-0.375	18.9080	18.9304	0.119	0.9481
285.65	60.544	60.287	-0.424	18.9080	18.9342	0.138	0.8732

Data from Trappeniers et al. [45] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
298.15	66.744	66.437	-0.460	18.9080	18.9371	0.154	0.8100
323.15	78.994	78.613	-0.482	18.9080	18.9397	0.168	0.7086
348.15	91.058	90.648	-0.451	18.9080	18.9385	0.161	0.6308
373.15	102.949	102.566	-0.373	18.9080	18.9338	0.136	0.5689
398.15	114.685	114.388	-0.259	18.9080	18.9262	0.096	0.5184
423.15	126.275	126.133	-0.112	18.9080	18.9160	0.042	0.4764
273.15	64.911	64.537	-0.576	19.9440	19.9773	0.167	0.7308
285.65	72.005	71.549	-0.633	19.9440	19.9818	0.189	0.6788
298.15	79.018	78.505	-0.649	19.9440	19.9838	0.200	0.6341
323.15	92.860	92.272	-0.634	19.9440	19.9846	0.203	0.5610
348.15	106.475	105.877	-0.562	19.9440	19.9812	0.186	0.5036
373.15	119.862	119.351	-0.427	19.9440	19.9729	0.145	0.4572
398.15	133.045	132.721	-0.244	19.9440	19.9608	0.084	0.4189
423.15	146.052	146.006	-0.031	19.9440	19.9462	0.011	0.3866
273.15	70.125	69.657	-0.668	20.3810	20.4191	0.187	0.6556
285.65	77.578	77.037	-0.697	20.3810	20.4221	0.202	0.6109
298.15	84.960	84.359	-0.707	20.3810	20.4239	0.210	0.5722
323.15	99.515	98.848	-0.670	20.3810	20.4234	0.208	0.5085
348.15	113.813	113.168	-0.567	20.3810	20.4181	0.182	0.4581
373.15	127.867	127.352	-0.402	20.3810	20.4080	0.133	0.4170
398.15	141.711	141.428	-0.200	20.3810	20.3947	0.067	0.3829
273.15	95.434	94.444	-1.036	22.0790	22.1362	0.259	0.4334
285.65	104.481	103.419	-1.016	22.0790	22.1369	0.262	0.4083
298.15	113.423	112.323	-0.970	22.0790	22.1359	0.258	0.3861
323.15	131.013	129.949	-0.812	22.0790	22.1288	0.226	0.3485
348.15	148.245	147.381	-0.583	22.0790	22.1160	0.168	0.3177
373.15	165.122	164.662	-0.279	22.0790	22.0972	0.082	0.2920
398.15	181.755	181.825	0.038	22.0790	22.0764	-0.012	0.2702
273.15	132.872	131.161	-1.288	23.8640	23.9340	0.293	0.2851
285.15	143.821	141.692	-1.481	23.8640	23.9470	0.348	0.2715
298.15	154.629	153.018	-1.042	23.8640	23.9239	0.251	0.2583
323.15	175.817	174.600	-0.692	23.8640	23.9056	0.174	0.2362
348.15	196.524	195.978	-0.278	23.8640	23.8813	0.072	0.2176
373.15	216.792	217.200	0.188	23.8640	23.8520	-0.050	0.2018
398.15	236.696	238.305	0.680	23.8640	23.8197	-0.186	0.1881

Data from Trappeniers et al. [45] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
273.15	183.811	181.441	-1.289	25.6140	25.6841	0.274	0.1924
285.65	196.882	194.750	-1.083	25.6140	25.6745	0.236	0.1841
298.15	209.721	207.981	-0.830	25.6140	25.6614	0.185	0.1766
323.15	234.829	234.252	-0.246	25.6140	25.6286	0.057	0.1631
348.15	259.361	260.330	0.374	25.6140	25.5911	-0.089	0.1516

Number of Points (Ref.45) 472

PRESSURE:	AAD-%	0.123	BIAS-%	-0.084	RMS-%	0.209	
	AAD	0.088	BIAS	-0.070	RMS	0.284	MPa
DENSITY :	AAD-%	0.074	BIAS-%	0.039	RMS-%	0.082	
	AAD	0.007	BIAS	0.004	RMS	0.013	mol·dm ⁻³

Data from Van Itterbeek et al. [46]

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
114.52	0.894	1.160	29.684	26.1376	26.1213	-0.062	0.0001
114.52	4.752	4.946	4.082	26.3609	26.3498	-0.042	0.0001
114.52	7.542	7.638	1.275	26.5104	26.5052	-0.020	0.0001
114.52	10.382	10.424	0.398	26.6581	26.6560	-0.008	0.0001
114.52	13.326	13.312	-0.100	26.8046	26.8053	0.002	0.0001
114.52	16.344	16.378	0.211	26.9535	26.9518	-0.006	0.0001
114.52	19.666	19.599	-0.338	27.1032	27.1062	0.011	0.0001
114.52	23.245	23.219	-0.111	27.2643	27.2654	0.004	0.0001
114.52	27.155	27.140	-0.056	27.4311	27.4317	0.002	0.0001
114.52	31.299	31.523	0.718	27.6091	27.6001	-0.032	0.0000
119.42	0.833	1.149	37.950	25.6812	25.6598	-0.083	0.0001
119.42	3.027	3.477	14.846	25.8345	25.8055	-0.112	0.0001
119.42	6.215	6.638	6.817	26.0308	26.0052	-0.098	0.0001
119.42	10.401	10.733	3.194	26.2681	26.2495	-0.071	0.0001
119.42	14.909	15.100	1.279	26.5034	26.4935	-0.037	0.0001

Data from Van Itterbeek et al. [46] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
119.42	19.837	19.972	0.682	26.7480	26.7414	-0.025	0.0001
119.42	25.375	25.475	0.394	27.0051	27.0006	-0.017	0.0001
119.42	31.691	31.198	-1.556	27.2546	27.2754	0.076	0.0001
124.92	0.980	1.819	85.668	25.2010	25.1375	-0.252	0.0001
124.92	4.496	5.182	15.250	25.4421	25.3945	-0.187	0.0001
124.92	8.419	8.952	6.335	25.6911	25.6571	-0.132	0.0001
124.92	12.519	13.004	3.872	25.9383	25.9097	-0.110	0.0001
124.92	16.883	17.136	1.498	26.1725	26.1587	-0.053	0.0001
124.92	21.799	21.948	0.687	26.4264	26.4187	-0.029	0.0001
124.92	27.364	27.467	0.378	26.6966	26.6917	-0.018	0.0001
130.99	1.502	1.792	19.298	24.5924	24.5673	-0.102	0.0001
130.99	4.625	4.754	2.803	24.8361	24.8258	-0.041	0.0001
130.99	7.934	8.684	9.448	25.1307	25.0767	-0.215	0.0001
130.99	11.520	11.904	3.331	25.3524	25.3268	-0.101	0.0001
130.99	15.774	15.495	-1.770	25.5826	25.5999	0.067	0.0001
130.99	20.071	19.558	-2.558	25.8251	25.8545	0.114	0.0001
130.99	24.931	24.300	-2.530	26.0879	26.1214	0.128	0.0001
130.99	30.287	29.714	-1.895	26.3658	26.3940	0.107	0.0001
134.33	0.689	1.266	83.767	24.1949	24.1394	-0.229	0.0013
134.33	2.712	3.289	21.270	24.3807	24.3290	-0.212	0.0001
134.33	5.783	6.388	10.464	24.6433	24.5939	-0.200	0.0001
134.33	9.130	9.740	6.686	24.9029	24.8572	-0.183	0.0001
134.33	12.783	13.258	3.716	25.1534	25.1208	-0.130	0.0001
134.33	16.625	17.093	2.813	25.4059	25.3761	-0.117	0.0001
134.33	20.947	21.320	1.783	25.6634	25.6414	-0.086	0.0001
134.33	25.768	26.084	1.229	25.9323	25.9150	-0.067	0.0001
134.33	31.029	31.541	1.650	26.2171	26.1913	-0.098	0.0001
139.06	1.252	1.820	45.318	23.7344	23.6737	-0.256	0.0002
139.06	3.825	4.420	15.546	23.9958	23.9382	-0.240	0.0001
139.06	6.749	7.333	8.658	24.2618	24.2104	-0.212	0.0001
139.06	9.876	10.475	6.061	24.5236	24.4755	-0.196	0.0001
139.06	13.230	13.827	4.515	24.7801	24.7359	-0.178	0.0001
139.06	16.900	17.415	3.045	25.0332	24.9981	-0.140	0.0001
139.06	20.966	21.404	2.087	25.2934	25.2658	-0.109	0.0001
139.06	25.497	25.770	1.073	25.5572	25.5412	-0.062	0.0001

Data from Van Itterbeek et al. [46] (continued)

T	P, exp	P, cal	Dev	ρ , exp	ρ , cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
139.06	30.600	30.952	1.149	25.8465	25.8276	-0.073	0.0001
145.56	1.300	1.826	40.516	22.9848	22.9165	-0.297	0.0001
145.56	3.528	4.119	16.770	23.2623	23.1936	-0.296	0.0002
145.56	6.037	6.627	9.784	23.5355	23.4736	-0.263	0.0001
145.56	8.736	9.460	8.288	23.8146	23.7458	-0.289	0.0001
145.56	11.719	12.461	6.333	24.0836	24.0193	-0.267	0.0001
145.56	14.913	15.735	5.509	24.3522	24.2870	-0.268	0.0001
145.56	18.402	19.290	4.829	24.6202	24.5553	-0.264	0.0001
145.56	22.258	23.265	4.525	24.8961	24.8283	-0.272	0.0001
145.56	26.589	27.697	4.168	25.1794	25.1107	-0.273	0.0001
145.56	31.458	32.637	3.746	25.4706	25.4032	-0.264	0.0001
150.75	3.102	3.779	21.826	22.6157	22.5220	-0.414	0.0001
150.75	5.188	5.938	14.450	22.8933	22.8002	-0.406	0.0002
150.75	7.511	8.297	10.462	23.1664	23.0784	-0.380	0.0002
150.75	10.039	10.879	8.363	23.4373	23.3520	-0.364	0.0001
150.75	12.807	13.617	6.322	23.6995	23.6243	-0.317	0.0001
150.75	15.745	16.618	5.542	23.9630	23.8887	-0.310	0.0001
150.75	19.000	19.859	4.520	24.2248	24.1575	-0.278	0.0001
150.75	22.614	23.517	3.997	24.4972	24.4319	-0.266	0.0001
150.75	26.640	27.539	3.371	24.7733	24.7135	-0.241	0.0001
150.75	30.986	32.023	3.346	25.0576	24.9939	-0.254	0.0001
158.24	2.289	3.073	34.213	21.5318	21.3814	-0.698	0.0001
158.24	3.963	4.812	21.438	21.8341	21.6913	-0.654	0.0003
158.24	5.895	6.788	15.154	22.1371	22.0047	-0.598	0.0002
158.24	8.025	8.989	12.005	22.4371	22.3099	-0.567	0.0002
158.24	10.390	11.379	9.520	22.7293	22.6121	-0.516	0.0002
158.24	12.936	13.985	8.111	23.0171	22.9046	-0.489	0.0002
158.24	15.762	16.813	6.667	23.3008	23.1984	-0.439	0.0001
158.24	18.908	19.904	5.269	23.5838	23.4953	-0.375	0.0001
158.24	22.362	23.344	4.389	23.8721	23.7923	-0.334	0.0001
158.24	26.172	27.213	3.977	24.1692	24.0918	-0.320	0.0001
158.24	30.459	31.495	3.401	24.4708	24.4002	-0.289	0.0001
165.82	3.056	3.428	12.197	20.4637	20.3671	-0.472	0.0002
165.82	4.220	4.701	11.393	20.7641	20.6554	-0.523	0.0004
165.82	5.627	6.145	9.204	21.0624	20.9598	-0.487	0.0003

Data from Van Itterbeek et al. [46] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
165.82	7.146	7.760	8.591	21.3570	21.2492	-0.505	0.0003
165.82	8.784	9.569	8.939	21.6507	21.5273	-0.570	0.0002
165.82	10.628	11.527	8.466	21.9356	21.8084	-0.580	0.0002
165.82	12.548	13.687	9.073	22.2193	22.0733	-0.657	0.0002
165.82	14.671	16.054	9.427	22.5012	22.3398	-0.718	0.0002
165.82	16.984	18.612	9.589	22.7790	22.6051	-0.763	0.0002
165.82	19.490	21.436	9.983	23.0595	22.8689	-0.827	0.0001
165.82	22.218	24.545	10.473	23.3427	23.1331	-0.898	0.0001
165.82	25.243	27.980	10.841	23.6301	23.4031	-0.960	0.0001
165.82	28.886	31.669	9.634	23.9143	23.7020	-0.888	0.0001
171.02	3.051	3.192	4.632	19.4606	19.4090	-0.265	0.0003
171.02	3.962	4.085	3.117	19.7578	19.7192	-0.195	0.0005
171.02	4.988	5.167	3.588	20.0678	20.0196	-0.241	0.0005
171.02	6.186	6.398	3.437	20.3741	20.3241	-0.245	0.0004
171.02	7.532	7.792	3.455	20.6778	20.6240	-0.260	0.0003
171.02	9.017	9.363	3.830	20.9802	20.9167	-0.302	0.0003
171.02	10.629	11.079	4.230	21.2743	21.2004	-0.348	0.0003
171.02	12.408	12.955	4.407	21.5629	21.4818	-0.376	0.0002
171.02	14.286	15.010	5.070	21.8484	21.7510	-0.446	0.0002
171.02	16.366	17.222	5.226	22.1273	22.0225	-0.474	0.0002
171.02	18.630	19.697	5.727	22.4120	22.2925	-0.533	0.0002
171.02	21.083	22.342	5.969	22.6901	22.5608	-0.570	0.0002
171.02	23.817	25.314	6.287	22.9769	22.8355	-0.615	0.0001
171.02	26.800	28.592	6.688	23.2672	23.1115	-0.669	0.0001
171.02	30.081	32.194	7.025	23.5605	23.3913	-0.718	0.0001
172.81	2.692	2.762	2.606	18.9036	18.8712	-0.172	0.0004
172.81	3.418	3.510	2.709	19.2171	19.1811	-0.187	0.0003
172.81	4.311	4.432	2.801	19.5431	19.5033	-0.203	0.0006
172.81	5.364	5.511	2.735	19.8681	19.8267	-0.208	0.0005
172.81	6.553	6.740	2.855	20.1873	20.1416	-0.227	0.0004
172.81	7.894	8.130	2.984	20.5019	20.4514	-0.246	0.0004
172.81	9.396	9.690	3.127	20.8125	20.7569	-0.267	0.0003
172.81	11.031	11.402	3.366	21.1153	21.0525	-0.297	0.0003
172.81	12.896	13.293	3.078	21.4142	21.3540	-0.281	0.0002
172.81	14.873	15.388	3.462	21.7122	21.6418	-0.324	0.0002

Data from Van Itterbeek et al. [46] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
172.81	16.946	17.676	4.311	22.0066	21.9157	-0.413	0.0002
172.81	19.340	20.202	4.457	22.3015	22.2039	-0.438	0.0002
172.81	21.909	23.007	5.012	22.5999	22.4864	-0.502	0.0002
172.81	24.749	26.093	5.429	22.8995	22.7724	-0.555	0.0001
172.81	27.916	29.514	5.725	23.2035	23.0648	-0.598	0.0001
172.81	31.343	33.285	6.197	23.5106	23.3557	-0.659	0.0001
179.53	3.829	3.941	2.941	17.8514	17.7783	-0.409	0.0012
179.53	4.391	4.519	2.906	18.1841	18.1158	-0.376	0.0010
179.53	5.037	5.212	3.465	18.5168	18.4383	-0.424	0.0008
179.53	5.837	6.014	3.045	18.8423	18.7746	-0.360	0.0007
179.53	6.735	6.951	3.204	19.1674	19.0967	-0.369	0.0006
179.53	7.761	8.010	3.208	19.4852	19.4144	-0.363	0.0005
179.53	8.912	9.218	3.435	19.8016	19.7253	-0.385	0.0004
179.53	10.223	10.561	3.307	20.1110	20.0366	-0.370	0.0004
179.53	11.656	12.063	3.494	20.4182	20.3384	-0.391	0.0003
179.53	13.222	13.733	3.860	20.7228	20.6332	-0.432	0.0003
179.53	14.960	15.562	4.023	21.0225	20.9274	-0.453	0.0003
179.53	16.854	17.575	4.276	21.3201	21.2170	-0.484	0.0002
179.53	18.944	19.797	4.500	21.6179	21.5070	-0.513	0.0002
179.53	21.248	22.247	4.702	21.9164	21.7980	-0.540	0.0002
179.53	23.756	24.947	5.013	22.2163	22.0874	-0.580	0.0002
179.53	26.506	27.912	5.306	22.5175	22.3780	-0.620	0.0001
179.53	29.518	31.194	5.677	22.8227	22.6702	-0.668	0.0001
188.22	5.326	5.388	1.160	16.3228	16.2594	-0.388	0.0000
188.22	5.703	5.760	0.986	16.6622	16.6149	-0.284	0.0000
188.22	6.139	6.208	1.137	17.0016	16.9527	-0.288	0.0000
188.22	6.663	6.740	1.159	17.3388	17.2933	-0.263	0.0000
188.22	7.275	7.363	1.205	17.6728	17.6289	-0.249	0.0009
188.22	7.965	8.082	1.474	18.0034	17.9528	-0.281	0.0008
188.22	8.768	8.909	1.609	18.3308	18.2781	-0.287	0.0007
188.22	8.844	8.990	1.649	18.3604	18.3066	-0.293	0.0007
188.22	9.743	9.941	2.033	18.6839	18.6200	-0.342	0.0006
188.22	10.795	11.003	1.921	19.0009	18.9421	-0.309	0.0005
188.22	11.951	12.194	2.036	19.3151	19.2539	-0.317	0.0004
188.22	13.134	13.539	3.079	19.6298	19.5389	-0.463	0.0004

Data from Van Itterbeek et al. [46] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
188.22	14.506	15.018	3.529	19.9390	19.8358	-0.518	0.0003
188.22	16.146	16.683	3.326	20.2511	20.1541	-0.479	0.0003
188.22	17.851	18.406	3.107	20.5427	20.4519	-0.442	0.0003
188.22	19.721	20.387	3.376	20.8468	20.7479	-0.475	0.0002
188.22	21.779	22.559	3.581	21.1497	21.0442	-0.499	0.0002
188.22	24.026	24.964	3.903	21.4551	21.3393	-0.539	0.0002
188.22	26.498	27.576	4.068	21.7581	21.6363	-0.560	0.0002
188.22	29.174	30.366	4.084	22.0546	21.9310	-0.560	0.0002

Number of Points (Ref. 46) 163

PRESSURE:	AAD-%	7.170	BIAS-%	7.037	RMS-%	11.241	
	AAD	0.636	BIAS	0.604	RMS	0.548	MPa
DENSITY :	AAD-%	0.323	BIAS-%	-0.317	RMS-%	0.217	
	AAD	0.071	BIAS	-0.070	RMS	0.049	mol·dm ⁻³

Data from Vennix [47]

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
172.53	2.466	2.469	0.130	2.5593	2.5533	-0.233	0.0602
174.69	2.528	2.532	0.128	2.5593	2.5536	-0.222	0.0583
177.20	2.599	2.602	0.119	2.5586	2.5535	-0.200	0.0562
183.18	2.767	2.769	0.080	2.5580	2.5548	-0.125	0.0518
191.85	3.004	3.005	0.037	2.5568	2.5554	-0.054	0.0000
203.08	3.305	3.305	0.000	2.5555	2.5555	0.000	0.0831
213.04	3.567	3.566	-0.026	2.5543	2.5552	0.035	0.0758
217.86	3.693	3.692	-0.038	2.5537	2.5549	0.048	0.0727
223.83	3.848	3.846	-0.053	2.5530	2.5547	0.067	0.0692
233.55	4.099	4.095	-0.089	2.5518	2.5546	0.109	0.0643
239.80	4.259	4.255	-0.096	2.5512	2.5541	0.115	0.0614
252.83	4.590	4.585	-0.094	2.5499	2.5527	0.111	0.0563
263.40	4.856	4.851	-0.100	2.5487	2.5516	0.115	0.0528
273.38	5.106	5.100	-0.108	2.5474	2.5505	0.122	0.0499
190.43	4.472	4.488	0.358	6.4670	6.3251	-2.193	0.0000

Data from Vennix [47] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
208.57	6.027	6.045	0.304	6.4614	6.4174	-0.682	0.0515
223.23	7.235	7.254	0.271	6.4571	6.4274	-0.461	0.0405
234.44	8.143	8.163	0.240	6.4539	6.4307	-0.360	0.0347
243.73	8.891	8.908	0.191	6.4508	6.4337	-0.265	0.0310
243.77	8.894	8.911	0.198	6.4508	6.4331	-0.274	0.0310
251.38	9.502	9.517	0.160	6.4483	6.4348	-0.210	0.0285
262.19	10.360	10.373	0.122	6.4452	6.4354	-0.152	0.0255
272.15	11.148	11.156	0.072	6.4421	6.4366	-0.085	0.0233
272.18	11.149	11.158	0.079	6.4421	6.4361	-0.093	0.0233
190.05	4.499	4.508	0.203	7.2329	7.0527	-2.491	0.0000
190.75	4.571	4.580	0.203	7.2329	7.0830	-2.072	0.0000
193.32	4.834	4.843	0.199	7.2316	7.1396	-1.272	0.0695
197.74	5.272	5.285	0.233	7.2304	7.1617	-0.951	0.0626
202.75	5.763	5.777	0.248	7.2285	7.1743	-0.750	0.0560
208.22	6.291	6.307	0.260	7.2266	7.1808	-0.634	0.0500
212.16	6.669	6.686	0.257	7.2254	7.1850	-0.559	0.0463
217.14	7.142	7.161	0.259	7.2235	7.1872	-0.502	0.0423
222.93	7.691	7.710	0.247	7.2217	7.1906	-0.431	0.0384
230.05	8.361	8.381	0.234	7.2192	7.1926	-0.369	0.0343
237.34	9.043	9.063	0.216	7.2167	7.1940	-0.314	0.0310
242.71	9.543	9.563	0.203	7.2148	7.1945	-0.282	0.0289
248.44	10.076	10.094	0.186	7.2129	7.1951	-0.247	0.0269
250.19	10.238	10.256	0.183	7.2123	7.1951	-0.239	0.0264
253.45	10.538	10.556	0.175	7.2111	7.1949	-0.224	0.0254
258.64	11.017	11.035	0.157	7.2092	7.1952	-0.194	0.0240
263.05	11.423	11.439	0.143	7.2079	7.1954	-0.174	0.0229
268.30	11.905	11.920	0.126	7.2061	7.1954	-0.148	0.0218
273.17	12.350	12.364	0.110	7.2042	7.1951	-0.127	0.0208
191.55	4.732	4.740	0.176	9.8370	9.2264	-6.207	0.0000
192.94	4.928	4.936	0.164	9.8364	9.5852	-2.554	0.0000
195.24	5.256	5.264	0.141	9.8351	9.7252	-1.117	0.0641
197.56	5.587	5.595	0.136	9.8345	9.7629	-0.728	0.0598
200.41	5.998	6.003	0.082	9.8333	9.8022	-0.316	0.0548
202.83	6.342	6.350	0.127	9.8320	9.7922	-0.405	0.0511
206.37	6.850	6.859	0.130	9.8301	9.7972	-0.335	0.0462

Data from Vennix [47] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
213.50	7.877	7.888	0.137	9.8270	9.8011	-0.264	0.0383
223.65	9.339	9.352	0.139	9.8220	9.8014	-0.210	0.0303
236.40	11.177	11.190	0.122	9.8158	9.8008	-0.153	0.0238
248.15	12.867	12.881	0.105	9.8108	9.7993	-0.118	0.0197
255.16	13.875	13.887	0.089	9.8071	9.7978	-0.095	0.0179
273.17	16.450	16.462	0.067	9.7990	9.7926	-0.065	0.0144
190.84	4.634	4.641	0.149	10.2128	8.8339	-13.501	0.0000
191.04	4.662	4.670	0.184	10.2128	9.0079	-11.798	0.0000
191.23	4.690	4.698	0.170	10.2128	9.3273	-8.670	0.0000
191.43	4.719	4.727	0.174	10.2128	9.4927	-7.051	0.0000
191.82	4.776	4.784	0.171	10.2128	9.7203	-4.822	0.0000
192.08	4.813	4.822	0.182	10.2128	9.7765	-4.272	0.0000
193.52	5.026	5.035	0.165	10.2115	10.0120	-1.954	0.0673
195.16	5.270	5.277	0.130	10.2109	10.1103	-0.985	0.0639
197.93	5.684	5.690	0.107	10.2096	10.1575	-0.510	0.0585
200.57	6.081	6.087	0.098	10.2084	10.1726	-0.351	0.0538
204.04	6.604	6.610	0.093	10.2065	10.1804	-0.256	0.0484
207.85	7.180	7.188	0.116	10.2047	10.1781	-0.261	0.0433
207.85	7.183	7.188	0.068	10.2047	10.1890	-0.154	0.0432
213.04	7.969	7.977	0.098	10.2022	10.1837	-0.181	0.0375
233.39	11.069	11.078	0.081	10.1922	10.1819	-0.101	0.0239
252.89	14.039	14.048	0.063	10.1829	10.1762	-0.066	0.0175
273.02	17.093	17.098	0.035	10.1729	10.1696	-0.033	0.0136
273.06	17.099	17.105	0.036	10.1729	10.1695	-0.034	0.0136
191.85	4.798	4.808	0.194	11.1543	10.7425	-3.692	0.0000
191.87	4.801	4.812	0.224	11.1543	10.6811	-4.243	0.0000
193.25	5.025	5.035	0.199	11.1537	10.9489	-1.836	0.0671
195.11	5.334	5.341	0.133	11.1531	11.0706	-0.740	0.0626
197.30	5.699	5.706	0.119	11.1518	11.0999	-0.466	0.0577
199.22	6.023	6.028	0.094	11.1506	11.1178	-0.294	0.0537
200.90	6.309	6.314	0.077	11.1500	11.1269	-0.207	0.0505
203.06	6.678	6.683	0.066	11.1487	11.1315	-0.155	0.0467
207.56	7.452	7.455	0.045	11.1462	11.1369	-0.083	0.0401
213.20	8.427	8.429	0.032	11.1431	11.1376	-0.049	0.0338
213.20	8.428	8.431	0.028	11.1431	11.1384	-0.042	0.0338

Data from Vennix [47] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
213.21	8.429	8.432	0.031	11.1431	11.1378	-0.047	0.0337
223.18	10.166	10.168	0.014	11.1375	11.1355	-0.018	0.0260
233.16	11.912	11.912	-0.003	11.1325	11.1329	0.003	0.0210
243.14	13.660	13.658	-0.013	11.1269	11.1283	0.013	0.0175
253.15	15.412	15.413	0.002	11.1219	11.1217	-0.002	0.0150
263.12	17.155	17.156	0.002	11.1163	11.1161	-0.002	0.0131
273.09	18.898	18.895	-0.012	11.1113	11.1124	0.010	0.0116
273.15	18.893	18.906	0.068	11.1113	11.1049	-0.057	0.0116
192.50	4.929	4.940	0.214	11.7625	11.5548	-1.766	0.0000
195.84	5.526	5.533	0.124	11.7607	11.7079	-0.449	0.0592
198.18	5.951	5.956	0.082	11.7594	11.7331	-0.224	0.0535
203.43	6.919	6.922	0.037	11.7563	11.7483	-0.068	0.0433
212.03	8.531	8.530	-0.005	11.7513	11.7521	0.007	0.0321
212.04	8.531	8.531	-0.005	11.7513	11.7521	0.007	0.0321
222.63	10.541	10.536	-0.041	11.7451	11.7505	0.046	0.0239
233.40	12.596	12.589	-0.050	11.7395	11.7453	0.049	0.0188
233.40	12.597	12.589	-0.062	11.7395	11.7466	0.061	0.0188
237.03	13.292	13.282	-0.074	11.7370	11.7451	0.069	0.0175
237.03	13.292	13.283	-0.071	11.7370	11.7448	0.067	0.0175
243.38	14.505	14.495	-0.069	11.7332	11.7405	0.062	0.0157
243.38	14.505	14.496	-0.063	11.7332	11.7399	0.057	0.0157
253.28	16.399	16.391	-0.047	11.7283	11.7330	0.040	0.0134
263.45	18.340	18.332	-0.042	11.7220	11.7260	0.034	0.0117
268.30	19.268	19.259	-0.051	11.7195	11.7242	0.040	0.0110
268.30	19.268	19.259	-0.048	11.7195	11.7240	0.038	0.0110
272.69	20.105	20.096	-0.045	11.7170	11.7211	0.035	0.0104
272.70	20.105	20.096	-0.044	11.7170	11.7210	0.034	0.0104
272.70	20.105	20.097	-0.039	11.7170	11.7206	0.031	0.0104
190.70	4.660	4.673	0.280	12.8636	12.6660	-1.536	0.0000
191.45	4.810	4.824	0.287	12.8636	12.7111	-1.186	0.0000
192.40	4.997	5.014	0.350	12.8630	12.7163	-1.140	0.0000
196.51	5.852	5.865	0.212	12.8605	12.8106	-0.388	0.0507
203.57	7.364	7.371	0.089	12.8562	12.8421	-0.110	0.0358
209.29	8.611	8.612	0.017	12.8524	12.8501	-0.018	0.0286
218.62	10.668	10.662	-0.062	12.8468	12.8539	0.055	0.0213

Data from Vennix [47] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
228.10	12.775	12.764	-0.090	12.8406	12.8500	0.073	0.0168
238.55	15.109	15.094	-0.099	12.8343	12.8440	0.076	0.0136
245.92	16.755	16.741	-0.079	12.8294	12.8368	0.058	0.0120
252.97	18.335	18.319	-0.087	12.8250	12.8330	0.062	0.0108
260.11	19.930	19.914	-0.080	12.8206	12.8278	0.056	0.0098
267.31	21.537	21.523	-0.067	12.8163	12.8222	0.046	0.0089
274.15	23.058	23.047	-0.048	12.8119	12.8160	0.032	0.0082
188.97	4.386	4.389	0.083	13.7516	13.7216	-0.218	0.0000
189.26	4.450	4.455	0.098	13.7510	13.7181	-0.239	0.0000
189.77	4.564	4.570	0.140	13.7510	13.7088	-0.307	0.0000
190.17	4.655	4.663	0.168	13.7504	13.7033	-0.342	0.0000
190.45	4.718	4.726	0.171	13.7504	13.7046	-0.333	0.0000
190.74	4.784	4.793	0.182	13.7504	13.7040	-0.338	0.0000
191.07	4.862	4.870	0.181	13.7497	13.7058	-0.320	0.0000
192.89	5.282	5.293	0.213	13.7485	13.7064	-0.306	0.0000
195.05	5.789	5.801	0.211	13.7473	13.7121	-0.256	0.0450
195.07	5.793	5.806	0.220	13.7473	13.7106	-0.267	0.0450
197.10	6.279	6.291	0.195	13.7460	13.7169	-0.212	0.0396
200.01	6.981	6.992	0.155	13.7441	13.7234	-0.150	0.0338
203.32	7.790	7.797	0.092	13.7416	13.7305	-0.081	0.0288
207.20	8.744	8.748	0.051	13.7392	13.7335	-0.042	0.0246
213.32	10.271	10.264	-0.060	13.7348	13.7410	0.045	0.0199
222.79	12.643	12.631	-0.095	13.7286	13.7376	0.065	0.0153
227.85	13.917	13.903	-0.106	13.7254	13.7352	0.071	0.0136
233.27	15.288	15.271	-0.113	13.7217	13.7318	0.074	0.0122
238.51	16.611	16.594	-0.101	13.7180	13.7269	0.065	0.0111
242.99	17.743	17.726	-0.094	13.7148	13.7229	0.059	0.0102
248.77	19.203	19.190	-0.067	13.7111	13.7169	0.042	0.0094
253.11	20.301	20.290	-0.051	13.7086	13.7129	0.032	0.0088
258.31	21.615	21.605	-0.043	13.7049	13.7085	0.026	0.0082
262.93	22.781	22.772	-0.041	13.7018	13.7052	0.025	0.0077
267.82	24.012	24.005	-0.028	13.6986	13.7009	0.017	0.0073
267.89	24.029	24.022	-0.028	13.6986	13.7009	0.017	0.0073
273.15	25.355	25.348	-0.027	13.6949	13.6971	0.016	0.0069
187.65	4.327	4.336	0.199	14.9705	14.9463	-0.162	0.0000

Data from Vennix [47] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
188.93	4.677	4.689	0.264	14.9699	14.9402	-0.199	0.0000
191.45	5.379	5.396	0.324	14.9680	14.9350	-0.220	0.0000
194.80	6.326	6.347	0.332	14.9655	14.9344	-0.207	0.0282
199.61	7.710	7.729	0.240	14.9618	14.9409	-0.140	0.0220
203.05	8.714	8.729	0.181	14.9593	14.9441	-0.101	0.0191
207.63	10.057	10.068	0.106	14.9562	14.9476	-0.058	0.0161
212.93	11.627	11.633	0.056	14.9524	14.9480	-0.030	0.0137
221.36	14.131	14.134	0.022	14.9462	14.9445	-0.011	0.0111
228.64	16.302	16.305	0.019	14.9406	14.9391	-0.010	0.0095
236.60	18.680	18.687	0.035	14.9350	14.9323	-0.018	0.0083
245.09	21.214	21.226	0.057	14.9287	14.9244	-0.029	0.0072
253.07	23.597	23.611	0.060	14.9225	14.9180	-0.030	0.0065
260.84	25.904	25.928	0.094	14.9169	14.9098	-0.048	0.0059
268.82	28.272	28.304	0.116	14.9113	14.9026	-0.059	0.0054
275.15	30.147	30.180	0.107	14.9063	14.8982	-0.054	0.0051
183.35	3.825	3.877	1.346	16.5234	16.4599	-0.385	0.0000
185.27	4.488	4.548	1.328	16.5215	16.4568	-0.391	0.0000
189.26	5.897	5.964	1.139	16.5184	16.4601	-0.353	0.0000
194.42	7.751	7.819	0.878	16.5140	16.4669	-0.286	0.0134
198.42	9.196	9.271	0.818	16.5109	16.4657	-0.274	0.0116
201.04	10.164	10.228	0.634	16.5084	16.4728	-0.216	0.0107
207.77	12.617	12.695	0.619	16.5028	16.4668	-0.218	0.0089
213.67	14.788	14.869	0.547	16.4978	16.4652	-0.197	0.0078
222.89	18.182	18.279	0.531	16.4903	16.4576	-0.198	0.0065
232.81	21.835	21.946	0.510	16.4822	16.4500	-0.195	0.0056
241.29	24.958	25.076	0.476	16.4754	16.4448	-0.186	0.0049
254.53	29.803	29.938	0.454	16.4648	16.4348	-0.182	0.0042
261.83	32.459	32.601	0.437	16.4586	16.4294	-0.177	0.0039
267.88	34.658	34.804	0.420	16.4536	16.4253	-0.172	0.0037
272.98	36.500	36.650	0.413	16.4492	16.4212	-0.170	0.1773
179.14	3.304	3.368	1.913	17.5640	17.5143	-0.283	0.1481
179.83	3.585	3.650	1.818	17.5634	17.5140	-0.281	0.0143
181.01	4.065	4.134	1.689	17.5622	17.5132	-0.279	0.0000
184.44	5.477	5.554	1.402	17.5590	17.5120	-0.268	0.0000
196.38	10.460	10.577	1.118	17.5485	17.4999	-0.277	0.0077

Data from Vennix [47] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
200.54	12.224	12.340	0.949	17.5447	17.5012	-0.248	0.0070
208.82	15.743	15.872	0.821	17.5379	17.4971	-0.232	0.0058
217.04	19.228	19.378	0.781	17.5304	17.4893	-0.234	0.0051
225.02	22.597	22.775	0.787	17.5235	17.4802	-0.247	0.0045
233.08	25.996	26.192	0.755	17.5160	17.4729	-0.246	0.0040
241.00	29.322	29.538	0.736	17.5092	17.4660	-0.247	0.0037
250.74	33.392	33.628	0.705	17.5005	17.4578	-0.244	0.0033
258.65	36.660	36.930	0.737	17.4936	17.4480	-0.261	0.1540
266.75	40.009	40.295	0.713	17.4868	17.4419	-0.257	0.1436
274.30	43.114	43.408	0.683	17.4799	17.4362	-0.250	0.1351
182.83	6.552	6.741	2.882	18.4888	18.4116	-0.417	0.0000
182.83	6.549	6.741	2.925	18.4888	18.4105	-0.423	0.0000
175.63	3.138	3.303	5.268	18.4956	18.4080	-0.474	0.0946
178.08	4.293	4.466	4.028	18.4931	18.4100	-0.449	0.0086
188.29	9.165	9.372	2.258	18.4838	18.4112	-0.393	0.0063
193.63	11.730	11.957	1.928	18.4788	18.4089	-0.379	0.0055
198.67	14.156	14.399	1.719	18.4738	18.4059	-0.368	0.0050
203.16	16.318	16.577	1.587	18.4695	18.4028	-0.361	0.0046
208.21	18.751	19.031	1.491	18.4651	18.3989	-0.359	0.0042
212.42	20.769	21.066	1.430	18.4607	18.3946	-0.358	0.0039
218.76	23.805	24.125	1.346	18.2251	18.3897	-0.354	0.0036
223.74	26.187	26.521	1.275	18.4501	18.3860	-0.348	0.0034
229.13	28.748	29.106	1.242	18.4452	18.3807	-0.350	0.0032
233.40	30.768	31.140	1.209	18.4414	18.3772	-0.348	0.0030
237.61	32.760	33.146	1.178	18.4377	18.3739	-0.346	0.0029
243.05	35.325	35.724	1.128	18.4321	18.3695	-0.339	0.1378
248.04	37.659	38.076	1.109	18.4277	18.3650	-0.340	0.1316
253.13	40.035	40.464	1.071	18.4227	18.3611	-0.335	0.1259
263.28	44.752	45.203	1.007	18.4134	18.3536	-0.325	0.1160
272.93	49.184	49.666	0.980	18.4047	18.3450	-0.324	0.1080
172.57	5.501	5.835	6.070	19.9962	19.9059	-0.452	0.0045
178.48	9.008	9.383	4.159	19.9899	19.9012	-0.444	0.0039
186.85	13.976	14.405	3.065	19.9812	19.8944	-0.434	0.0034
196.09	19.431	19.925	2.540	19.9719	19.8849	-0.436	0.0029
204.18	24.179	24.721	2.243	19.9631	19.8769	-0.432	0.0026
211.52	28.463	29.044	2.041	19.9557	19.8707	-0.426	0.0024

Data from Vennix [47] (continued)

T	P,exp	P,cal	Dev	ρ ,exp	ρ ,cal	Dev	Wt
K	MPa	MPa	%	mol·dm ⁻³	mol·dm ⁻³	%	
219.06	32.825	33.441	1.877	19.9476	19.8641	-0.419	0.0022
227.10	37.434	38.096	1.768	19.9395	19.8562	-0.418	0.1034
235.30	42.100	42.797	1.655	19.9314	19.8495	-0.411	0.0964
244.17	47.089	47.834	1.581	19.9220	19.8402	-0.411	0.0899
253.83	52.486	53.260	1.475	19.9120	19.8326	-0.399	0.0839
259.34	55.544	56.336	1.426	19.9064	19.8280	-0.394	0.0808
267.73	60.105	60.981	1.456	19.8977	19.8154	-0.413	0.0766
274.49	63.813	64.695	1.383	19.8909	19.8112	-0.401	0.0736
172.77	11.383	11.966	5.119	21.2132	21.1176	-0.451	0.0026
176.89	14.280	14.906	4.377	21.2088	21.1124	-0.454	0.0024
181.67	17.634	18.294	3.745	21.2032	21.1079	-0.450	0.0023
189.78	23.252	24.001	3.218	21.1939	21.0960	-0.462	0.0020
197.32	28.439	29.245	2.836	21.1858	21.0885	-0.459	0.0019
204.17	33.127	33.968	2.540	21.1783	21.0833	-0.449	0.0018
212.64	38.858	39.743	2.278	21.1689	21.0761	-0.438	0.0817
228.43	49.346	50.311	1.956	21.1509	21.0613	-0.424	0.0722
235.78	54.155	55.158	1.851	21.1428	21.0542	-0.419	0.0686
247.38	61.653	62.722	1.734	21.1303	21.0425	-0.415	0.0636
252.99	65.231	66.342	1.703	21.1241	21.0359	-0.418	0.0615
168.75	16.942	17.767	4.870	22.4109	22.3163	-0.422	0.0017
180.12	26.268	27.188	3.500	22.3972	22.3039	-0.416	0.0015
188.53	33.045	34.037	3.003	22.3872	22.2941	-0.416	0.0014
196.79	39.639	40.662	2.579	22.3772	22.2876	-0.400	0.0650
204.37	45.592	46.648	2.316	22.3679	22.2806	-0.390	0.0613
211.26	50.940	52.030	2.138	22.3598	22.2740	-0.384	0.0583
218.29	56.352	57.469	1.983	22.3517	22.2677	-0.376	0.0556
226.29	62.408	63.563	1.852	22.3417	22.2590	-0.370	0.0528
234.42	68.503	69.708	1.758	22.3324	22.2502	-0.368	0.0503

Number of Points (Ref. 47) 254

PRESSURE:	AAD-%	0.676	BIAS-%	0.653	RMS-%	1.068	
	AAD	0.154	BIAS	0.151	RMS	0.287	MPa
DENSITY :	AAD-%	0.552	BIAS-%	-0.533	RMS-%	1.467	
	AAD	0.066	BIAS	-0.064	RMS	0.150	mol·dm ⁻³

Total Points 2777

PRESSURE:	AAD-%	1.028	BIAS-%	0.811	RMS-%	3.917	
	AAD	1.484	BIAS	1.345	RMS	10.521	MPa
DENSITY :	AAD-%	0.260	BIAS-%	-0.115	RMS-%	0.703	
	AAD	0.038	BIAS	-0.021	RMS	0.107	mol·dm ⁻³

Total Points 2574 with pressures less than 100 MPa

PRESSURE:	AAD-%	0.871	BIAS-%	0.690	RMS-%	3.856	
	AAD	0.116	BIAS	0.053	RMS	0.381	MPa
DENSITY :	AAD-%	0.232	BIAS-%	-0.088	RMS-%	0.683	
	AAD	0.026	BIAS	-0.011	RMS	0.073	mol·dm ⁻³

TABLE A5

COMPARISONS FOR SECOND VIRIAL COEFFICIENTS

Notes for Table A5. Data reported from Ref.[51] were from a correlation and are not direct experimental measurements.

REF	T	B,exp	B,cal	Dev	Wt
	K	dm ³ ·mol ⁻¹	dm ³ ·mol ⁻¹	%	
48	110.830	-0.330 10	-0.328 62	-0.448	3514.1
48	112.430	-0.319 90	-0.319 41	-0.153	3626.1
48	114.440	-0.307 80	-0.308 41	0.197	3768.7
48	116.780	-0.295 50	-0.296 33	0.281	3925.5
48	121.240	-0.274 50	-0.275 30	0.292	4225.9
49	126.571	-0.242 27	-0.253 14	4.488	0.0
48	128.830	-0.244 30	-0.244 61	0.125	4748.3
50	131.920	-0.224 00	-0.233 65	4.310	0.0
49	135.984	-0.215 20	-0.220 40	2.418	0.0
49	147.581	-0.185 00	-0.188 51	1.898	627.0
49	158.916	-0.161 51	-0.163 80	1.417	718.2
51	168.000	-0.147 50	-0.147 38	-0.080	7864.4
49	173.507	-0.137 63	-0.138 59	0.699	842.8
51	176.000	-0.134 90	-0.134 86	-0.028	8599.0
48	178.444	-0.132 20	-0.131 35	-0.646	8774.6
51	184.000	-0.123 80	-0.123 82	0.017	9369.9
50	191.090	-0.116 31	-0.115 07	-1.068	997.3
49	191.129	-0.114 29	-0.115 02	0.641	1015.0
51	192.000	-0.113 90	-0.114 01	0.094	10184.4
51	200.000	-0.105 10	-0.105 23	0.119	11037.1
50	200.030	-0.106 68	-0.105 19	-1.393	1087.4
48	202.520	-0.103 40	-0.102 65	-0.728	11218.6
51	210.000	-0.095 30	-0.095 47	0.173	12172.1
50	215.030	-0.092 59	-0.091 00	-1.722	0.0
51	220.000	-0.086 60	-0.086 84	0.271	13394.9
48	221.130	-0.085 80	-0.085 92	0.142	13519.8
51	230.000	-0.078 90	-0.079 15	0.316	14702.1
51	240.000	-0.072 00	-0.072 26	0.362	16111.1
50	240.020	-0.072 72	-0.072 25	-0.649	1595.2
48	243.820	-0.070 30	-0.069 82	-0.691	16500.7
51	260.000	-0.060 20	-0.060 43	0.381	7225.9
36	273.150	-0.053 35	-0.053 80	0.835	8153.7
50	273.150	-0.053 28	-0.053 80	0.967	816.4
48	273.170	-0.053 70	-0.053 79	0.160	8100.6
51	280.000	-0.050 50	-0.050 64	0.275	8613.9

Table A5 (continued)

REF	T	B,exp	B,cal	Dev	Wt
	K	dm ³ ·mol ⁻¹	dm ³ ·mol ⁻¹	%	
36	298.142	-0.042 82	-0.043 12	0.701	10158.8
51	300.000	-0.042 30	-0.042 41	0.264	10283.7
36	303.141	-0.040 91	-0.041 24	0.802	10633.1
51	320.000	-0.035 40	-0.035 41	0.026	1228.8
36	323.140	-0.034 23	-0.034 40	0.508	12708.1
51	340.000	-0.029 40	-0.029 38	-0.053	1479.6
36	348.143	-0.027 06	-0.027 17	0.396	16075.4
51	360.000	-0.024 20	-0.024 15	-0.198	1797.5
36	373.150	-0.021 00	-0.021 07	0.354	20714.3
51	380.000	-0.019 70	-0.019 57	-0.653	2208.1
36	398.160	-0.015 87	-0.015 88	0.087	27410.2
51	400.000	-0.015 70	-0.015 53	-1.067	2770.7
36	423.170	-0.011 40	-0.011 42	0.153	38157.9
36	448.182	-0.007 56	-0.007 54	-0.270	57539.6
51	450.000	-0.007 40	-0.007 28	-1.652	5878.4
36	473.193	-0.004 16	-0.004 15	-0.318	104566.8
36	498.203	-0.001 16	-0.001 16	-0.219	374982.4
36	523.211	0.001 49	0.001 49	0.179	291939.7
36	548.218	0.003 89	0.003 86	-0.888	111824.9
36	573.223	0.005 98	0.005 97	-0.120	72742.4
36	598.226	0.007 88	0.007 88	-0.012	55203.0
36	623.227	0.009 66	0.009 60	-0.594	45031.0
Number of Points (Total)		57			
AAD-%	0.667	BIAS-%	0.188	RMS-%	1.086
AAD	0.001	BIAS	-0.001	RMS	0.002 dm ³ ·mol ⁻¹

TABLE A6

COMPARISONS FOR ISOCHORIC SPECIFIC HEAT CAPACITY

Notes for Table A6. Since the experiment directly measured neither the pressure nor density, but calculated both from a filling pressure and the equation of state of Goodwin (Ref.[3]), we have included 5 types of deviations in the tables. Our tabulated temperatures, densities, pressures, and experimental heat capacities are identical to those given by Roder [53]. The column Dev refers to deviations between the experimental isochoric specific heat capacity and that calculated from the tabulated temperature and density; this latter quantity is presented in our table as $C_{v,cal}$. The column marked Dev1 measures deviations between the densities tabulated by Roder [53] and those calculated from our SWEOS from his tabulated temperature and pressure. Dev2 similarly compares pressures tabulated in Ref.[53] and those calculated from the tabulated temperature and density. These two deviations represent direct comparisons between the current SWEOS and the equation of state in Ref.[3]. Dev3 gives the deviations between the experimental heat capacities and those calculated from the tabulated temperature and pressure. Finally, Dev4 gives the deviations between the heat capacities calculated from tabulated temperature and density and those calculated from the tabulated temperature and pressure.

Data are from Younglove [52] and Roder [53] as adjusted by Roder [53]

T	ρ	$C_{v,exp}$	$C_{v,cal}$	Dev	Wt	P	Dev1	Dev2	Dev3	Dev4
K	$\text{mol}\cdot\text{dm}^{-3}$	$\text{J}\cdot\text{mol}^{-1}\cdot\text{K}^{-1}$		%		MPa	%	%	%	%
273.601	7.992	29.341	29.203	-0.469	38.5	13.5573	-0.30	0.27	-0.481	-0.013
266.349	7.996	29.282	29.199	-0.282	1828.1	12.7921	-0.34	0.30	-0.297	-0.015
259.066	8.000	29.486	29.251	-0.796	1704.7	12.0212	-0.39	0.32	-0.813	-0.018
252.815	8.003	29.560	29.347	-0.720	1614.4	11.3576	-0.42	0.34	-0.740	-0.020
245.476	8.007	29.555	29.530	-0.084	1521.3	10.5762	-0.47	0.35	-0.108	-0.024
244.733	8.007	29.514	29.553	0.133	1516.1	10.4969	-0.47	0.35	0.109	-0.024
238.128	8.010	29.637	29.801	0.553	1422.5	9.7912	-0.50	0.35	0.526	-0.028
237.534	8.011	29.854	29.827	-0.089	1395.1	9.7276	-0.51	0.36	-0.118	-0.028
230.453	8.014	29.853	30.197	1.152	1312.0	8.9684	-0.53	0.34	1.119	-0.032
230.373	8.014	30.094	30.202	0.358	1290.5	8.9599	-0.53	0.34	0.325	-0.032
222.937	8.018	30.399	30.727	1.080	1183.5	8.1593	-0.55	0.32	1.042	-0.037
222.993	8.018	30.413	30.723	1.018	1183.1	8.1654	-0.55	0.32	0.980	-0.037
215.402	8.022	31.042	31.474	1.393	1059.1	7.3443	-0.55	0.27	1.349	-0.043
207.854	8.025	32.420	32.656	0.728	904.4	6.5226	-0.47	0.18	0.679	-0.049
208.168	8.025	32.410	32.592	0.562	907.7	6.5569	-0.48	0.19	0.513	-0.049
295.822	10.119	29.665	29.744	0.265	44.1	20.4199	-0.05	0.06	0.263	-0.002
289.146	10.124	29.524	29.615	0.308	42.5	19.4252	-0.07	0.08	0.306	-0.002
282.516	10.129	29.531	29.517	-0.048	40.5	18.4348	-0.09	0.10	-0.051	-0.003
266.154	10.141	29.232	29.427	0.668	1831.5	15.9810	-0.13	0.14	0.665	-0.003
259.403	10.145	29.307	29.468	0.549	1729.9	14.9654	-0.14	0.14	0.547	-0.002

Table A6 (continued)

T	ρ	$C_{V,exp}$	$C_{V,cal}$	Dev	Wt	P	Dev1	Dev2	Dev3	Dev4
K	$\text{mol}\cdot\text{dm}^{-3}$	$\text{J}\cdot\text{mol}^{-1}\cdot\text{K}^{-1}$		%		MPa	%	%	%	%
251.488	10.151	29.316	29.588	0.927	1623.6	13.7727	-0.15	0.15	0.925	-0.002
244.636	10.156	29.506	29.764	0.875	1515.7	12.7389	-0.16	0.15	0.875	-0.001
237.756	10.161	29.623	30.021	1.344	1419.3	11.7001	-0.16	0.13	1.344	0.000
230.790	10.166	30.028	30.376	1.158	1300.9	10.6480	-0.14	0.11	1.159	0.001
223.396	10.171	30.879	30.881	0.005	1152.4	9.5315	-0.09	0.06	0.007	0.002
216.467	10.176	31.281	31.527	0.786	1053.8	8.4860	0.00	0.00	0.786	0.000
216.813	10.176	31.717	31.489	-0.719	1028.8	8.5382	-0.01	0.00	-0.718	0.000
214.044	10.178	31.996	31.815	-0.567	985.1	8.1207	0.05	-0.03	-0.569	-0.002
209.853	10.180	32.524	32.437	-0.267	916.3	7.4892	0.17	-0.08	-0.278	-0.011
209.057	10.181	32.947	32.580	-1.115	886.5	7.3695	0.19	-0.09	-1.128	-0.014
209.526	10.181	32.381	32.494	0.350	921.4	7.4401	0.17	-0.08	0.338	-0.012
208.704	10.182	32.577	32.646	0.212	903.3	7.3164	0.20	-0.09	0.197	-0.015
203.375	10.185	34.274	33.984	-0.846	775.5	6.5152	0.46	-0.16	-0.901	-0.055
203.731	10.185	33.864	33.869	0.015	796.9	6.5686	0.43	-0.15	-0.035	-0.050
202.601	10.185	34.297	34.251	-0.135	768.5	6.3990	0.52	-0.17	-0.201	-0.067
296.364	11.741	29.712	29.909	0.664	44.1	24.7179	0.07	-0.10	0.667	0.003
276.534	11.759	29.448	29.561	0.383	39.0	20.9399	0.04	-0.05	0.384	0.001
266.957	11.768	29.402	29.494	0.313	1821.8	19.1060	0.03	-0.03	0.314	0.000
257.453	11.777	29.307	29.514	0.705	1703.6	17.2822	0.02	-0.02	0.705	0.000
217.783	11.786	31.121	31.045	-0.244	1077.7	9.6540	0.14	-0.12	-0.260	-0.016
248.734	11.786	29.365	29.623	0.878	1582.5	15.6069	0.01	-0.01	0.878	0.000
212.330	11.791	31.627	31.567	-0.190	991.5	8.6216	0.21	-0.16	-0.222	-0.032
212.697	11.791	31.557	31.527	-0.097	999.4	8.6908	0.20	-0.15	-0.126	-0.029
240.923	11.793	29.393	29.810	1.419	1480.5	14.1057	0.02	-0.02	1.419	-0.001
239.625	11.794	29.780	29.851	0.237	1427.1	13.8564	0.02	-0.03	0.236	-0.001
208.095	11.795	32.238	32.109	-0.400	916.6	7.8235	0.29	-0.19	-0.455	-0.055
208.469	11.795	32.162	32.054	-0.336	924.2	7.8939	0.28	-0.19	-0.388	-0.052
204.724	11.798	32.865	32.692	-0.526	853.7	7.1915	0.37	-0.21	-0.615	-0.090
205.115	11.798	32.768	32.615	-0.468	862.0	7.2646	0.35	-0.21	-0.551	-0.084
233.566	11.800	29.846	30.078	0.777	1348.9	12.6929	0.04	-0.04	0.775	-0.002
202.217	11.801	33.410	33.269	-0.422	806.1	6.7237	0.42	-0.22	-0.550	-0.129
202.608	11.801	33.469	33.168	-0.899	806.4	6.7965	0.41	-0.22	-1.018	-0.120
231.675	11.801	29.864	30.163	1.001	1325.2	12.3302	0.05	-0.05	0.998	-0.003
200.564	11.802	34.091	33.749	-1.004	761.9	6.4166	0.47	-0.22	-1.169	-0.167
200.945	11.802	34.008	33.630	-1.113	768.5	6.4874	0.46	-0.22	-1.269	-0.158

Table A6 (continued)

T	ρ	$C_{V, \text{exp}}$	$C_{V, \text{cal}}$	Dev	Wt	P	Dev1	Dev2	Dev3	Dev4
K	$\text{mol} \cdot \text{dm}^{-3}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$		%		MPa	%	%	%	%
198.915	11.804	34.646	34.333	-0.902	725.8	6.1116	0.51	-0.21	-1.112	-0.211
197.280	11.805	35.386	35.052	-0.944	0.0	5.8105	0.53	-0.19	-1.203	-0.261
226.191	11.806	30.035	30.451	1.384	1248.1	11.2792	0.08	-0.07	1.378	-0.006
223.653	11.808	30.288	30.607	1.053	1199.9	10.7937	0.10	-0.09	1.045	-0.008
218.787	11.813	30.582	30.955	1.221	1125.8	9.8645	0.13	-0.11	1.207	-0.014
215.626	11.815	30.797	31.225	1.390	1078.0	9.2626	0.17	-0.14	1.368	-0.022
211.370	11.819	31.543	31.665	0.387	987.6	8.4547	0.23	-0.17	0.351	-0.036
203.924	11.826	32.837	32.840	0.010	848.3	7.0511	0.38	-0.22	-0.091	-0.101
297.427	13.094	30.056	30.070	0.046	43.4	29.2487	0.02	-0.04	0.047	0.001
290.591	13.101	29.801	29.904	0.344	42.1	27.6775	0.01	-0.02	0.345	0.000
283.783	13.109	29.617	29.762	0.489	40.6	26.1074	-0.01	0.02	0.489	0.000
276.944	13.117	29.613	29.646	0.112	38.7	24.5256	-0.03	0.05	0.111	-0.001
276.780	13.117	29.807	29.644	-0.548	38.2	24.4876	-0.03	0.05	-0.548	-0.001
262.566	13.133	29.446	29.508	0.209	1756.4	21.1874	-0.07	0.10	0.208	0.000
248.387	13.149	29.481	29.549	0.229	1565.8	17.8847	-0.10	0.14	0.232	0.003
241.245	13.157	29.485	29.656	0.579	1475.4	16.2201	-0.11	0.15	0.584	0.005
234.072	13.164	29.642	29.835	0.651	1373.2	14.5496	-0.11	0.15	0.659	0.008
226.524	13.173	29.927	30.114	0.623	1260.8	12.7957	-0.12	0.16	0.637	0.013
219.265	13.180	30.289	30.486	0.649	1152.4	11.1153	-0.13	0.16	0.668	0.019
212.016	13.188	30.879	30.990	0.360	1036.2	9.4478	-0.15	0.16	0.388	0.028
204.751	13.196	31.761	31.729	-0.100	913.2	7.7933	-0.17	0.16	-0.053	0.047
280.167	13.402	29.622	29.719	0.329	39.6	26.1595	-0.03	0.05	0.328	-0.001
272.763	13.411	29.475	29.606	0.446	37.9	24.3748	-0.05	0.09	0.445	-0.001
265.168	13.420	29.421	29.529	0.368	1794.8	22.5388	-0.08	0.12	0.367	-0.001
257.310	13.429	29.215	29.497	0.966	1712.3	20.6355	-0.09	0.15	0.967	0.000
249.756	13.437	29.470	29.521	0.173	1584.5	18.8031	-0.11	0.16	0.176	0.002
242.161	13.446	29.393	29.609	0.733	1496.0	16.9600	-0.12	0.18	0.739	0.006
234.527	13.455	29.418	29.772	1.205	1399.4	15.1083	-0.14	0.20	1.215	0.010
226.091	13.464	29.853	30.059	0.690	1262.0	13.0669	-0.15	0.21	0.707	0.017
218.423	13.473	30.077	30.435	1.189	1159.3	11.2192	-0.17	0.22	1.215	0.026
212.499	13.479	30.501	30.822	1.053	1066.5	9.8001	-0.18	0.22	1.089	0.035
210.717	13.481	30.583	30.961	1.235	1042.8	9.3752	-0.19	0.23	1.275	0.039
203.443	13.489	31.440	31.699	0.825	919.6	7.6538	-0.23	0.23	0.893	0.067
202.980	13.490	31.670	31.760	0.284	902.3	7.5453	-0.23	0.23	0.355	0.071
194.862	13.498	33.868	33.421	-1.319	0.0	5.6658	-0.31	0.21	-1.138	0.184

Table A6 (continued)

T	ρ	$C_{V,exp}$	$C_{V,cal}$	Dev	Wt	P	Dev1	Dev2	Dev3	Dev4
K	$\text{mol} \cdot \text{dm}^{-3}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$		%		MPa	%	%	%	%
289.349	14.301	30.189	30.001	-0.622	40.7	31.7855	-0.02	0.03	-0.623	-0.001
281.439	14.311	29.734	29.826	0.309	39.7	29.6385	-0.04	0.07	0.307	-0.002
277.494	14.317	29.565	29.750	0.625	39.0	28.5645	-0.06	0.11	0.623	-0.003
273.495	14.322	29.585	29.681	0.325	37.8	27.4733	-0.07	0.13	0.323	-0.003
269.538	14.327	29.398	29.622	0.763	1858.1	26.3919	-0.08	0.15	0.761	-0.003
265.537	14.333	29.395	29.573	0.605	1803.0	25.2966	-0.10	0.18	0.602	-0.003
262.143	14.338	29.372	29.539	0.568	1759.4	24.3660	-0.11	0.21	0.566	-0.002
255.197	14.347	29.214	29.496	0.965	1684.0	22.4587	-0.13	0.24	0.964	-0.001
248.293	14.356	29.190	29.493	1.037	1595.5	20.5599	-0.15	0.27	1.039	0.002
242.493	14.363	29.277	29.525	0.848	1511.9	18.9632	-0.16	0.29	0.854	0.005
241.372	14.365	29.337	29.536	0.678	1491.7	18.6545	-0.17	0.30	0.684	0.006
234.287	14.373	29.495	29.636	0.479	1389.3	16.7043	-0.18	0.31	0.491	0.012
234.417	14.374	29.475	29.634	0.539	1392.8	16.7399	-0.19	0.33	0.551	0.012
227.167	14.383	29.714	29.805	0.306	1286.0	14.7466	-0.20	0.34	0.326	0.020
225.394	14.385	29.674	29.859	0.623	1269.0	14.2599	-0.20	0.35	0.646	0.023
220.066	14.392	29.777	30.054	0.930	1200.6	12.8000	-0.22	0.36	0.961	0.031
217.103	14.395	29.907	30.186	0.932	1157.9	11.9904	-0.22	0.36	0.968	0.035
212.954	14.401	30.188	30.403	0.711	1093.1	10.8603	-0.24	0.38	0.756	0.045
208.733	14.406	30.531	30.671	0.457	1026.4	9.7159	-0.25	0.39	0.513	0.056
205.816	14.410	30.756	30.891	0.440	983.1	8.9293	-0.26	0.40	0.507	0.066
200.323	14.416	31.434	31.428	-0.020	891.4	7.4605	-0.27	0.38	0.069	0.089
198.638	14.419	31.571	31.638	0.212	868.7	7.0140	-0.28	0.37	0.314	0.102
195.039	14.422	32.331	32.208	-0.380	798.8	6.0693	-0.25	0.30	-0.260	0.121
191.539	14.427	33.603	33.005	-1.779	0.0	5.1655	-0.19	0.20	-1.651	0.130
265.198	15.950	29.596	29.712	0.390	1774.3	31.3546	-0.09	0.20	0.385	-0.006
259.333	15.960	29.610	29.627	0.056	1694.2	29.3643	-0.11	0.25	0.049	-0.006
253.443	15.969	29.479	29.559	0.273	1631.3	27.3593	-0.13	0.29	0.267	-0.006
249.308	15.973	28.662	29.524	3.009	0.0	25.9480	-0.12	0.28	3.004	-0.004
247.521	15.979	29.445	29.513	0.230	1558.5	25.3373	-0.15	0.34	0.226	-0.005
239.424	15.989	29.394	29.488	0.319	1461.8	22.5652	-0.15	0.35	0.318	-0.001
241.503	15.989	29.466	29.489	0.080	1480.5	23.2777	-0.16	0.38	0.077	-0.002
270.623	16.003	29.602	29.813	0.714	37.0	33.4902	-0.06	0.14	0.710	-0.004
229.421	16.005	29.529	29.532	0.010	1328.3	19.1327	-0.16	0.40	0.015	0.006
229.453	16.008	29.483	29.531	0.164	1332.8	19.1436	-0.18	0.44	0.170	0.006
264.035	16.014	29.704	29.701	-0.011	1746.0	31.2435	-0.08	0.20	-0.016	-0.006

Table A6 (continued)

T	ρ	$C_{V, \text{exp}}$	$C_{V, \text{cal}}$	Dev	Wt	P	Dev1	Dev2	Dev3	Dev4
K	$\text{mol} \cdot \text{dm}^{-3}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$		%		MPa	%	%	%	%
223.903	16.017	29.506	29.600	0.317	1266.1	17.2378	-0.19	0.47	0.330	0.012
223.224	16.018	29.500	29.611	0.375	1258.8	17.0049	-0.19	0.46	0.388	0.013
257.424	16.025	29.450	29.609	0.540	1687.0	28.9799	-0.11	0.25	0.534	-0.006
217.884	16.026	29.449	29.718	0.912	1202.3	15.1722	-0.19	0.47	0.932	0.019
250.777	16.036	29.381	29.540	0.543	1607.2	26.6958	-0.13	0.30	0.537	-0.005
209.230	16.037	29.880	29.989	0.365	1075.9	12.2102	-0.17	0.43	0.394	0.029
244.048	16.047	29.337	29.499	0.552	1525.5	24.3763	-0.15	0.35	0.548	-0.004
200.031	16.052	30.364	30.460	0.316	951.2	9.0844	-0.16	0.41	0.358	0.043
199.628	16.058	30.448	30.484	0.117	942.2	8.9482	-0.19	0.50	0.169	0.052
237.251	16.058	29.456	29.490	0.114	1429.0	22.0273	-0.16	0.39	0.114	0.000
197.622	16.061	30.772	30.625	-0.477	904.0	8.2721	-0.19	0.48	-0.422	0.055
195.615	16.064	30.656	30.785	0.420	891.9	7.5981	-0.18	0.46	0.479	0.058
192.871	16.065	31.025	31.041	0.052	0.0	6.6817	-0.14	0.36	0.105	0.053
193.605	16.067	30.778	30.966	0.612	866.6	6.9263	-0.16	0.42	0.672	0.060
230.437	16.069	29.349	29.520	0.581	1356.5	19.6687	-0.18	0.43	0.586	0.005
191.595	16.070	31.347	31.174	-0.551	0.0	6.2582	-0.14	0.37	-0.492	0.059
189.591	16.073	31.445	31.415	-0.097	0.0	5.5958	-0.12	0.31	-0.040	0.056
187.587	16.076	31.801	31.697	-0.328	0.0	4.9389	-0.08	0.22	-0.283	0.045
185.501	16.079	32.221	32.048	-0.537	0.0	4.2614	-0.02	0.07	-0.520	0.016
223.900	16.080	29.472	29.593	0.409	1268.9	17.4046	-0.19	0.46	0.420	0.011
223.352	16.081	29.495	29.601	0.359	1260.7	17.2150	-0.19	0.46	0.371	0.012
216.494	16.091	29.582	29.740	0.533	1176.3	14.8411	-0.18	0.46	0.553	0.020
216.509	16.091	29.546	29.739	0.655	1179.3	14.8464	-0.18	0.46	0.675	0.020
209.569	16.102	29.912	29.956	0.147	1077.2	12.4502	-0.18	0.46	0.176	0.029
209.408	16.102	29.858	29.962	0.349	1079.3	12.3948	-0.18	0.46	0.378	0.029
202.632	16.113	30.083	30.274	0.634	994.6	10.0671	-0.17	0.45	0.674	0.040
202.277	16.113	30.311	30.294	-0.057	976.5	9.9456	-0.17	0.44	-0.017	0.039
199.140	16.118	30.308	30.486	0.587	946.0	8.8745	-0.16	0.42	0.631	0.044
195.637	16.124	30.676	30.746	0.227	891.0	7.6852	-0.15	0.40	0.276	0.049
195.118	16.124	30.702	30.789	0.285	884.7	7.5098	-0.14	0.38	0.332	0.047
191.577	16.130	31.179	31.128	-0.162	0.0	6.3184	-0.12	0.32	-0.114	0.048
188.669	16.134	31.621	31.480	-0.446	0.0	5.3493	-0.08	0.21	-0.407	0.039
187.947	16.135	31.669	31.581	-0.279	0.0	5.1103	-0.06	0.18	-0.245	0.034
259.304	16.612	29.709	29.707	-0.008	1682.7	32.3473	-0.08	0.20	-0.014	-0.006
253.921	16.622	29.624	29.634	0.033	1621.8	30.3550	-0.10	0.26	0.026	-0.007

Table A6 (continued)

T	ρ	$C_{v, \text{exp}}$	$C_{v, \text{cal}}$	Dev	Wt	P	Dev1	Dev2	Dev3	Dev4
K	$\text{mol} \cdot \text{dm}^{-3}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$		%		MPa	%	%	%	%
248.519	16.632	29.472	29.575	0.351	1568.4	28.3488	-0.12	0.31	0.344	-0.007
243.097	16.641	29.579	29.533	-0.156	1489.1	26.3288	-0.13	0.34	-0.162	-0.006
237.657	16.651	29.416	29.508	0.314	1437.8	24.2969	-0.15	0.39	0.309	-0.005
232.337	16.661	29.337	29.504	0.570	1380.5	22.3052	-0.16	0.43	0.568	-0.002
230.407	16.664	29.196	29.508	1.070	1370.2	21.5817	-0.16	0.43	1.069	-0.001
227.102	16.670	29.097	29.523	1.462	1339.4	20.3420	-0.17	0.45	1.464	0.002
225.003	16.673	29.481	29.537	0.189	1280.9	19.5541	-0.16	0.45	0.193	0.003
219.582	16.683	29.444	29.595	0.512	1221.9	17.5183	-0.17	0.48	0.521	0.009
216.658	16.688	29.633	29.640	0.025	1174.1	16.4203	-0.17	0.49	0.037	0.012
215.024	16.691	29.546	29.671	0.422	1162.9	15.8067	-0.17	0.49	0.436	0.014
214.143	16.692	29.551	29.689	0.466	1152.8	15.4759	-0.17	0.48	0.480	0.015
211.348	16.697	29.684	29.753	0.232	1112.5	14.4271	-0.17	0.49	0.250	0.018
210.401	16.699	29.578	29.777	0.674	1110.1	14.0717	-0.17	0.49	0.694	0.020
208.680	16.701	29.876	29.826	-0.166	1070.4	13.4263	-0.16	0.48	-0.145	0.021
206.062	16.706	29.891	29.911	0.066	1042.2	12.4457	-0.16	0.48	0.091	0.025
206.122	16.707	29.711	29.908	0.664	1055.2	12.4681	-0.17	0.50	0.690	0.026
202.937	16.710	29.921	30.030	0.366	1008.2	11.2772	-0.15	0.45	0.393	0.027
201.094	16.714	29.875	30.111	0.791	992.6	10.5894	-0.15	0.46	0.821	0.030
195.445	16.723	30.354	30.421	0.220	907.8	8.4891	-0.13	0.41	0.256	0.036
194.733	16.723	30.360	30.468	0.356	900.7	8.2252	-0.12	0.39	0.391	0.034
190.103	16.732	30.829	30.826	-0.010	0.0	6.5191	-0.10	0.36	0.029	0.039
187.826	16.735	31.032	31.046	0.046	0.0	5.6863	-0.08	0.30	0.082	0.036
184.764	16.741	31.395	31.403	0.026	0.0	4.5748	-0.06	0.24	0.060	0.034
252.926	16.894	29.489	29.657	0.571	1623.5	31.2877	-0.08	0.21	0.565	-0.006
245.293	16.908	29.446	29.576	0.442	1530.1	28.3488	-0.10	0.27	0.436	-0.007
235.598	16.926	29.533	29.519	-0.046	1401.6	24.5973	-0.13	0.35	-0.051	-0.005
227.768	16.940	29.468	29.520	0.175	1314.3	21.5545	-0.14	0.39	0.174	-0.001
219.901	16.954	29.531	29.572	0.138	1218.4	18.4899	-0.14	0.42	0.142	0.004
211.988	16.968	29.763	29.692	-0.238	1113.6	15.4046	-0.14	0.43	-0.226	0.012
203.953	16.982	29.834	29.909	0.251	1024.4	12.2749	-0.13	0.41	0.271	0.020
196.587	16.996	30.106	30.225	0.395	933.5	9.4174	-0.11	0.40	0.422	0.028
193.924	17.001	30.219	30.377	0.522	901.2	8.3890	-0.11	0.39	0.553	0.030
187.325	17.011	30.929	30.880	-0.157	0.0	5.8591	-0.07	0.30	-0.127	0.031
240.990	17.941	29.691	29.682	-0.029	1452.2	31.7566	-0.07	0.21	-0.036	-0.007
234.304	17.955	29.518	29.626	0.365	1387.4	28.8038	-0.08	0.26	0.358	-0.007

Table A6 (continued)

T	ρ	$C_{v,exp}$	$C_{v,cal}$	Dev	Wt	P	Dev1	Dev2	Dev3	Dev4
K	$\text{mol}\cdot\text{dm}^{-3}$	$\text{J}\cdot\text{mol}^{-1}\cdot\text{K}^{-1}$		%		MPa	%	%	%	%
228.488	17.967	29.563	29.594	0.105	1314.4	26.2230	-0.09	0.30	0.098	-0.007
222.620	17.979	29.618	29.581	-0.125	1242.1	23.6084	-0.10	0.34	-0.130	-0.005
216.641	17.992	29.533	29.592	0.199	1181.8	20.9345	-0.10	0.38	0.196	-0.003
210.370	18.005	29.581	29.634	0.180	1109.6	18.1216	-0.10	0.40	0.180	0.001
204.379	18.017	29.725	29.713	-0.041	1036.2	15.4279	-0.10	0.40	-0.036	0.005
198.354	18.029	29.850	29.841	-0.031	966.8	12.7163	-0.09	0.38	-0.022	0.010
192.299	18.041	30.133	30.035	-0.325	890.8	9.9914	-0.08	0.37	-0.310	0.014
186.224	18.053	30.360	30.322	-0.125	1233.1	7.2642	-0.07	0.40	-0.105	0.020
181.649	18.065	30.767	30.621	-0.474	0.0	5.2194	-0.09	0.62	-0.439	0.036
178.581	18.071	31.036	30.878	-0.509	10.8	3.8554	-0.11	0.85	-0.459	0.050
222.829	19.346	29.543	29.809	0.900	1250.7	31.3168	-0.02	0.10	0.897	-0.004
223.411	19.348	29.637	29.814	0.596	1249.5	31.6548	-0.02	0.07	0.594	-0.003
221.388	19.349	29.333	29.800	1.591	1251.7	30.5529	-0.02	0.09	1.588	-0.003
220.207	19.352	29.696	29.793	0.326	1208.6	29.9262	-0.02	0.10	0.322	-0.004
220.387	19.356	29.677	29.795	0.397	1212.1	30.0506	-0.02	0.10	0.393	-0.004
217.303	19.360	29.709	29.778	0.232	1175.3	28.3806	-0.03	0.14	0.228	-0.005
217.573	19.363	29.586	29.780	0.656	1188.0	28.5526	-0.03	0.12	0.652	-0.004
215.238	19.364	29.794	29.769	-0.084	1146.3	27.2787	-0.03	0.12	-0.087	-0.004
214.493	19.366	29.584	29.766	0.617	1154.1	26.8804	-0.03	0.13	0.613	-0.004
214.522	19.370	29.610	29.767	0.532	1152.4	26.9228	-0.03	0.12	0.528	-0.004
211.785	19.373	29.560	29.759	0.673	1126.4	25.4300	-0.03	0.15	0.669	-0.004
211.480	19.378	29.665	29.759	0.317	1115.3	25.2928	-0.03	0.15	0.313	-0.004
209.060	19.379	29.638	29.755	0.394	1091.4	23.9668	-0.03	0.14	0.390	-0.004
208.755	19.380	29.659	29.754	0.322	1086.6	23.8025	-0.03	0.15	0.318	-0.004
208.615	19.385	29.669	29.755	0.291	1084.4	23.7528	-0.03	0.16	0.287	-0.004
205.568	19.393	29.607	29.756	0.503	1056.7	22.1095	-0.04	0.18	0.500	-0.004
202.844	19.395	29.583	29.761	0.601	1030.0	20.6130	-0.04	0.18	0.598	-0.003
202.557	19.395	29.748	29.762	0.046	1015.9	20.4578	-0.03	0.16	0.043	-0.003
202.661	19.400	29.781	29.762	-0.064	1014.7	20.5377	-0.04	0.18	-0.067	-0.003
199.616	19.407	29.719	29.775	0.187	987.8	18.8860	-0.03	0.17	0.185	-0.002
196.210	19.411	29.755	29.797	0.143	951.5	17.0112	-0.03	0.18	0.141	-0.001
195.819	19.412	29.778	29.801	0.076	946.2	16.7984	-0.03	0.18	0.075	-0.001
196.693	19.414	29.778	29.794	0.053	954.8	17.2961	-0.03	0.17	0.052	-0.001
193.640	19.422	29.818	29.822	0.015	922.3	15.6310	-0.03	0.18	0.014	-0.001
189.912	19.426	29.755	29.872	0.392	1335.1	13.5728	-0.03	0.16	0.392	0.000

Table A6 (continued)

T	ρ	$C_{V, \text{exp}}$	$C_{V, \text{cal}}$	Dev	Wt	P	Dev1	Dev2	Dev3	Dev4
K	$\text{mol} \cdot \text{dm}^{-3}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$		%		MPa	%	%	%	%
189.464	19.427	29.826	29.879	0.177	1322.5	13.3278	-0.03	0.16	0.177	0.000
189.446	19.427	29.896	29.879	-0.057	1316.2	13.3178	-0.03	0.16	-0.056	0.000
190.680	19.429	29.878	29.860	-0.060	890.2	14.0129	-0.03	0.18	-0.060	0.000
187.628	19.436	29.890	29.911	0.069	1290.9	12.3409	-0.02	0.16	0.070	0.001
183.556	19.441	30.224	30.002	-0.736	1207.7	10.0867	-0.02	0.17	-0.734	0.002
183.084	19.442	30.061	30.014	-0.156	1214.1	9.8271	-0.02	0.17	-0.154	0.002
183.063	19.442	30.107	30.015	-0.306	1210.2	9.8159	-0.02	0.16	-0.304	0.002
184.637	19.443	30.060	29.974	-0.285	1235.4	10.6985	-0.02	0.16	-0.284	0.002
181.613	19.451	30.105	30.055	-0.166	1190.8	9.0348	-0.03	0.22	-0.163	0.003
180.587	19.453	30.258	30.087	-0.565	1165.5	8.4696	-0.03	0.23	-0.562	0.004
177.160	19.456	30.226	30.214	-0.041	1122.9	6.5659	-0.03	0.31	-0.035	0.006
176.684	19.457	30.313	30.234	-0.262	1110.5	6.3037	-0.03	0.33	-0.255	0.007
176.618	19.457	30.236	30.236	0.002	1115.1	6.2669	-0.03	0.33	0.008	0.007
178.550	19.458	30.384	30.158	-0.745	1129.5	7.3475	-0.03	0.29	-0.740	0.005
174.095	19.464	30.202	30.354	0.504	1085.1	4.8760	-0.05	0.62	0.517	0.013
174.742	19.467	30.416	30.320	-0.315	1078.4	5.2466	-0.05	0.55	-0.303	0.012
172.603	19.472	30.453	30.432	-0.068	10.5	4.0666	-0.06	0.86	-0.050	0.018
182.089	20.470	30.087	30.015	-0.238	1198.6	13.9877	-0.01	0.05	-0.239	0.000
178.506	20.479	30.163	30.058	-0.347	1145.1	11.7168	0.00	0.02	-0.347	0.000
174.898	20.489	30.217	30.120	-0.321	1094.3	9.4196	-0.01	0.06	-0.321	0.000
172.193	20.499	30.325	30.181	-0.474	1052.5	7.6896	-0.02	0.31	-0.473	0.001
170.403	20.504	30.295	30.230	-0.214	1032.1	6.5423	-0.03	0.44	-0.212	0.003
200.078	21.167	29.929	30.201	0.908	978.9	31.0692	0.03	-0.16	0.915	0.007
198.229	21.171	29.957	30.192	0.784	958.8	29.8244	0.04	-0.21	0.793	0.009
194.626	21.184	30.043	30.179	0.453	918.4	27.3861	0.03	-0.16	0.459	0.006
191.734	21.191	29.987	30.170	0.610	893.9	25.4175	0.04	-0.23	0.618	0.008
189.153	21.201	30.047	30.165	0.392	1299.1	23.6514	0.03	-0.18	0.398	0.006
185.182	21.211	30.004	30.161	0.522	1247.4	20.9182	0.04	-0.28	0.530	0.008
183.640	21.218	30.035	30.162	0.422	1223.8	19.8512	0.03	-0.21	0.427	0.006
178.582	21.231	30.088	30.173	0.281	1151.7	16.3306	0.04	-0.36	0.288	0.007
178.091	21.234	30.120	30.175	0.182	1142.8	15.9873	0.03	-0.30	0.188	0.006
172.488	21.251	30.155	30.214	0.197	1067.8	12.0442	0.03	-0.36	0.201	0.004
171.921	21.252	30.323	30.220	-0.339	1049.2	11.6427	0.04	-0.41	-0.335	0.004
166.828	21.269	30.358	30.294	-0.210	984.1	8.0183	0.02	-0.30	-0.209	0.001
165.189	21.272	30.406	30.327	-0.258	961.4	6.8445	0.02	-0.40	-0.258	0.000

Table A6 (continued)

T	ρ	C_v, exp	C_v, cal	Dev	Wt	P	Dev1	Dev2	Dev3	Dev4
K	$\text{mol} \cdot \text{dm}^{-3}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$		%		MPa	%	%	%	%
161.140	21.286	30.358	30.436	0.256	9.2	3.9294	-0.01	0.19	0.257	0.000
187.701	21.988	30.282	30.456	0.573	1259.5	29.3776	0.03	-0.23	0.583	0.010
183.514	22.003	30.245	30.441	0.649	1205.5	26.2195	0.03	-0.23	0.658	0.009
179.314	22.017	30.429	30.430	0.003	1136.2	23.0213	0.03	-0.28	0.013	0.010
175.011	22.032	30.383	30.425	0.137	1084.1	19.7127	0.03	-0.32	0.146	0.009
170.767	22.046	30.536	30.428	-0.354	1020.8	16.4170	0.04	-0.40	-0.345	0.009
166.497	22.060	30.671	30.444	-0.740	960.8	13.0668	0.04	-0.50	-0.732	0.008
162.200	22.075	30.653	30.480	-0.565	911.5	9.6595	0.03	-0.52	-0.559	0.005
157.876	22.090	30.769	30.544	-0.732	855.8	6.1932	0.02	-0.41	-0.730	0.002
153.984	22.102	30.845	30.635	-0.682	0.1	3.0412	0.00	-0.01	-0.682	0.000
175.530	22.813	30.720	30.775	0.180	1067.5	27.7047	0.05	-0.47	0.200	0.020
175.122	22.815	30.620	30.774	0.504	1069.2	27.3613	0.05	-0.46	0.523	0.019
169.076	22.838	30.651	30.757	0.345	992.9	22.2365	0.06	-0.58	0.366	0.020
168.648	22.839	30.749	30.756	0.022	981.6	21.8708	0.06	-0.62	0.043	0.021
162.555	22.862	30.764	30.752	-0.040	909.2	16.6099	0.06	-0.82	-0.020	0.021
162.130	22.864	30.799	30.752	-0.152	902.3	16.2388	0.06	-0.81	-0.132	0.020
156.936	22.881	30.901	30.770	-0.425	838.3	11.6734	0.07	1.24	-0.405	0.021
155.969	22.887	30.957	30.777	-0.581	824.8	10.8146	0.06	1.11	-0.565	0.017
155.536	22.888	30.956	30.780	-0.568	820.2	10.4300	0.06	1.19	-0.551	0.017
148.828	22.913	31.148	30.871	-0.888	74.0	4.3941	0.04	1.76	-0.881	0.007
164.346	23.368	30.934	31.013	0.256	920.0	23.5208	0.04	-0.40	0.271	0.015
160.058	23.385	31.014	31.005	-0.028	866.9	19.5801	0.04	-0.54	-0.011	0.017
156.170	23.403	31.053	31.007	-0.148	822.1	15.9591	0.03	-0.53	-0.134	0.013
152.695	23.417	31.101	31.017	-0.269	782.4	12.6822	0.03	-0.64	-0.256	0.012
150.090	23.431	31.142	31.035	-0.343	753.2	10.1996	0.02	-0.39	-0.337	0.006
148.358	23.438	31.134	31.051	-0.266	7356.9	8.5366	0.01	-0.38	-0.261	0.005
146.608	23.445	31.162	31.073	-0.287	7166.1	6.8455	0.01	-0.34	-0.284	0.003
164.072	23.885	31.111	31.320	0.671	906.7	29.5630	0.02	-0.22	0.681	0.010
160.011	23.903	31.104	31.308	0.657	861.5	25.6422	0.03	-0.30	0.670	0.012
155.908	23.921	31.397	31.300	-0.308	801.9	21.6240	0.03	-0.42	-0.294	0.014
151.599	23.939	31.303	31.299	-0.014	761.3	17.3398	0.04	-0.63	0.003	0.017
147.448	23.957	31.480	31.310	-0.539	7110.5	13.1452	0.04	-0.83	-0.522	0.017
143.270	23.975	31.525	31.342	-0.580	6681.4	8.8550	0.04	1.10	-0.566	0.014
139.073	23.993	31.633	31.405	-0.720	62.4	4.4671	0.03	1.41	-0.712	0.008
154.473	24.651	31.706	31.784	0.247	772.0	30.0452	0.02	-0.25	0.258	0.011

Table A6 (continued)

T	ρ	C_v, exp	C_v, cal	Dev	Wt	P	Dev1	Dev2	Dev3	Dev4
K	$\text{mol} \cdot \text{dm}^{-3}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$		%		MPa	%	%	%	%
153.185	24.657	31.595	31.782	0.591	764.0	28.6816	0.02	-0.31	0.605	0.013
149.124	24.676	31.598	31.777	0.565	7226.0	24.3346	0.03	-0.51	0.585	0.019
147.886	24.682	31.651	31.776	0.396	7079.7	22.9952	0.04	-0.57	0.416	0.021
143.713	24.702	31.844	31.781	-0.199	6594.8	18.4271	0.04	-0.83	-0.175	0.024
142.547	24.708	31.794	31.785	-0.030	6504.3	17.1361	0.04	-0.88	-0.006	0.024
139.337	24.723	31.826	31.801	-0.078	6192.4	13.5454	0.05	1.18	-0.054	0.025
138.242	24.728	32.209	31.809	-1.240	5953.1	12.3089	0.05	1.32	-1.216	0.025
137.159	24.733	31.953	31.820	-0.417	5947.5	11.0794	0.05	1.47	-0.393	0.025
134.136	24.749	32.039	31.860	-0.558	5649.2	7.6115	0.04	1.65	-0.540	0.018
132.694	24.754	32.346	31.885	-1.426	5423.4	5.9387	0.04	2.29	-1.408	0.019
131.693	24.759	32.305	31.906	-1.236	5351.8	4.7717	0.04	2.57	-1.220	0.016
130.508	24.772	32.470	31.938	-1.640	52.0	3.3808	0.00	-0.45	-1.638	0.002
130.274	25.807	32.609	32.642	0.102	5139.3	18.3466	0.02	-0.46	0.115	0.012
127.262	25.823	32.654	32.675	0.064	4882.1	14.4728	0.03	-0.81	0.081	0.017
124.223	25.840	32.844	32.723	-0.369	4590.9	10.4959	0.03	1.13	-0.353	0.016
121.160	25.856	33.035	32.789	-0.745	4309.8	6.4101	0.03	1.76	-0.730	0.015
127.100	26.539	33.110	33.300	0.573	4741.4	27.6133	0.02	-0.43	0.589	0.016
127.123	26.539	33.141	33.300	0.478	4734.7	27.6449	0.02	-0.42	0.494	0.016
122.094	26.569	33.244	33.350	0.319	4326.9	20.7254	0.04	1.10	0.350	0.031
122.089	26.569	33.348	33.350	0.006	4300.8	20.7187	0.04	1.11	0.037	0.031
117.051	26.599	33.396	33.426	0.091	3927.5	13.5645	0.06	2.19	0.130	0.039
116.030	26.605	33.471	33.446	-0.075	3839.6	12.0862	0.06	2.53	-0.036	0.039
111.917	26.629	33.691	33.537	-0.457	3515.7	6.0116	0.06	4.88	-0.424	0.034
111.855	26.629	33.625	33.538	-0.258	3524.7	5.9191	0.06	5.06	-0.224	0.034
110.867	26.635	33.783	33.563	-0.650	34.3	4.4383	0.06	6.48	-0.619	0.032
117.361	27.268	33.843	34.045	0.598	3850.3	28.2504	0.03	-0.60	0.620	0.021
115.142	27.283	33.956	34.070	0.336	3676.1	24.9294	0.04	-0.93	0.365	0.029
112.446	27.300	34.003	34.100	0.284	3489.0	20.8258	0.05	1.56	0.324	0.040
110.058	27.315	34.021	34.125	0.304	3331.9	17.1238	0.06	2.27	0.351	0.046
107.466	27.332	34.088	34.147	0.174	3157.3	13.0295	0.07	3.23	0.222	0.048
105.029	27.347	34.237	34.156	-0.236	2983.6	9.1061	0.07	4.91	-0.187	0.049
102.424	27.365	34.360	34.144	-0.628	2810.5	4.8191	0.07	8.14	-0.589	0.040
106.655	28.040	34.664	34.825	0.466	3010.2	28.4769	0.00	-0.05	0.467	0.002
105.104	28.051	34.616	34.813	0.569	2926.5	25.9193	0.01	-0.34	0.579	0.010
103.902	28.060	34.807	34.797	-0.028	2826.8	23.9163	0.02	-0.54	-0.014	0.014
102.319	28.070	34.748	34.762	0.041	2745.6	21.2466	0.03	1.05	0.066	0.024
101.123	28.079	34.886	34.726	-0.458	2658.3	19.2058	0.03	1.29	-0.431	0.027

Table A6 (continued)

Number of Points (Total) 337

$C_V(T, \rho)$, Dev :	AAD-%	0.462	BIAS-%	0.165	RMS%	0.571	
	AAD	0.142	BIAS	0.047	RMS	0.176	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$
$\rho(T, P)$, Dev1 :	AAD-%	0.119	BIAS-%	-0.052	RMS%	0.162	
	AAD	0.017	BIAS	-0.007	RMS	0.020	$\text{mol} \cdot \text{dm}^{-3}$
$P(T, \rho)$, Dev2 :	AAD-%	0.463	BIAS-%	-0.105	RMS%	0.916	
	AAD	0.059	BIAS	-0.007	RMS	0.088	MPa
$C_V(T, P)$, Dev3 :	AAD-%	0.468	BIAS-%	0.171	RMS%	0.574	
	AAD	0.144	BIAS	0.049	RMS	0.177	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$
$C_V(T, P)$ vs.	AAD-%	0.021	BIAS-%	0.006	RMS%	0.037	
$C_V(T, \rho)$, Dev4:	AAD	0.007	BIAS	0.002	RMS	0.012	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$

TABLE A7

COMPARISONS FOR ISOBARIC SPECIFIC HEAT CAPACITY

Notes for Table A7. Entries for the first 3 columns, the temperature, pressure, and isobaric specific heat capacity, are directly from the experimental data. The primary isobaric specific heat capacity data were exclusively from Ref.[54]; 12 points from this reference, indicated by negative weights, were excluded from the primary data set.

Data from Jones et al. [54]

T	P	C_p, exp	C_p, cal	Dev	Wt
K	MPa	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$	%	
116.483	1.034	55.420	56.387	1.745	467.80
116.483	2.068	55.360	56.165	1.454	93.76
116.483	2.413	55.360	56.094	1.325	93.76
116.483	3.103	55.290	55.955	1.202	93.99
116.483	3.792	55.220	55.820	1.087	94.23
116.483	4.137	55.160	55.755	1.079	94.43
116.483	4.309	55.090	55.723	1.148	94.66
116.483	4.688	55.090	55.653	1.021	94.66
116.483	5.516	55.020	55.504	0.879	94.90
116.483	6.895	54.950	55.268	0.579	95.14
116.483	8.274	54.890	55.047	0.286	95.34
116.483	10.342	54.550	54.739	0.346	96.51
116.483	13.790	54.010	54.281	0.501	98.41
122.039	1.034	56.570	57.103	0.943	409.96
122.039	2.068	56.500	56.828	0.580	82.19
122.039	2.413	56.430	56.739	0.548	82.39
122.039	3.103	56.300	56.568	0.476	82.77
122.039	3.792	56.160	56.403	0.433	83.17
122.039	4.137	56.030	56.323	0.523	83.55
122.039	4.309	55.960	56.283	0.578	83.76
122.039	4.688	55.960	56.198	0.425	83.76
122.039	5.516	55.830	56.017	0.335	84.14
122.039	6.895	55.690	55.732	0.076	84.56
122.039	8.274	55.420	55.467	0.084	85.37
122.039	10.342	54.890	55.100	0.382	87.00
122.039	13.790	54.350	54.560	0.386	88.71
127.594	1.034	57.910	57.982	0.125	358.60
127.594	2.068	57.510	57.635	0.217	72.71
127.594	2.413	57.440	57.524	0.146	72.88
127.594	3.103	57.370	57.310	-0.105	73.06

Data from Jones et al. [54] (continued)

T	P	C _p ,exp	C _p ,cal	Dev	Wt
K	MPa	J·mol ⁻¹ ·K ⁻¹	J·mol ⁻¹ ·K ⁻¹	%	
127.594	3.792	57.040	57.105	0.115	73.89
127.594	4.137	56.970	57.006	0.064	74.07
127.594	4.309	56.900	56.958	0.101	74.25
127.594	4.688	56.770	56.852	0.145	74.59
127.594	5.516	56.500	56.630	0.231	75.29
127.594	6.895	56.370	56.284	-0.153	75.63
127.594	8.274	56.030	55.963	-0.120	76.54
127.594	10.342	55.360	55.523	0.295	78.38
127.594	13.790	54.750	54.885	0.246	80.11
133.150	1.034	59.390	59.086	-0.511	313.65
133.150	2.068	58.780	58.640	-0.238	64.02
133.150	2.413	58.580	58.499	-0.139	64.45
133.150	3.103	56.380	58.227	3.277	-0.00
133.150	3.792	58.040	57.970	-0.120	65.64
133.150	4.137	57.910	57.846	-0.111	65.94
133.150	4.309	57.780	57.785	0.009	66.23
133.150	4.688	57.710	57.654	-0.097	66.39
133.150	5.516	57.310	57.378	0.119	67.31
133.150	6.895	57.100	56.952	-0.259	67.79
133.150	8.274	56.700	56.561	-0.245	68.74
133.150	10.342	55.960	56.032	0.128	70.55
133.150	13.790	55.160	55.273	0.206	72.58
138.706	1.034	61.140	60.496	-1.054	273.15
138.706	2.068	60.130	59.909	-0.368	56.46
138.706	2.413	59.930	59.725	-0.342	56.83
138.706	3.103	59.660	59.374	-0.479	57.34
138.706	3.792	59.460	59.044	-0.699	57.73
138.706	4.137	59.190	58.886	-0.513	58.25
138.706	4.309	58.990	58.809	-0.307	58.64
138.706	4.688	58.850	58.643	-0.352	58.91
138.706	5.516	58.520	58.296	-0.382	59.57
138.706	6.895	57.840	57.766	-0.129	60.97
138.706	8.274	57.370	57.285	-0.149	61.96
138.706	10.342	56.570	56.642	0.128	63.70
138.706	13.790	55.560	55.737	0.319	66.01

Data from Jones et al. [54] (continued)

T	P	C_p, exp	C_p, cal	Dev	Wt
K	MPa	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$	%	
144.261	1.034	63.420	62.334	-1.713	100.73
144.261	2.068	61.740	61.536	-0.330	21.25
144.261	2.413	61.610	61.290	-0.519	21.34
144.261	3.103	61.000	60.825	-0.287	21.76
144.261	3.792	60.530	60.392	-0.228	51.56
144.261	4.137	60.400	60.186	-0.354	51.78
144.261	4.309	60.190	60.086	-0.172	52.14
144.261	4.688	60.060	59.872	-0.313	52.36
144.261	5.516	59.720	59.428	-0.489	52.95
144.261	6.895	58.850	58.758	-0.157	54.51
144.261	8.274	58.110	58.159	0.085	55.89
144.261	10.342	57.370	57.372	0.004	57.33
144.261	13.790	56.100	56.285	0.330	59.92
149.817	2.068	63.760	63.677	-0.130	18.50
149.817	2.413	63.690	63.335	-0.558	18.54
149.817	3.103	62.880	62.695	-0.294	19.01
149.817	3.792	62.140	62.110	-0.048	45.41
149.817	4.137	61.810	61.835	0.040	45.90
149.817	4.309	61.670	61.702	0.052	46.10
149.817	4.688	61.270	61.418	0.241	46.70
149.817	5.516	60.930	60.837	-0.153	47.22
149.817	6.895	59.790	59.973	0.307	49.02
149.817	8.274	59.120	59.218	0.165	50.13
149.817	10.342	58.250	58.242	-0.014	51.62
149.817	13.790	56.700	56.928	0.402	54.45
155.372	1.034	42.120	43.390	3.016	13.01
155.372	2.068	66.580	66.606	0.039	15.79
155.372	2.413	66.380	66.102	-0.419	15.88
155.372	3.103	65.230	65.179	-0.078	16.45
155.372	3.792	64.160	64.353	0.301	39.65
155.372	4.137	63.890	63.971	0.127	39.99
155.372	4.309	63.620	63.788	0.263	40.32
155.372	4.688	63.080	63.399	0.505	41.01
155.372	5.516	62.410	62.614	0.328	41.89
155.372	6.895	61.200	61.476	0.451	43.55

Data from Jones et al. [54] (continued)

T	P	C _p ,exp	C _p ,cal	Dev	Wt
K	MPa	J·mol ⁻¹ ·K ⁻¹	J·mol ⁻¹ ·K ⁻¹	%	
155.372	8.274	60.260	60.504	0.404	44.91
155.372	10.342	59.320	59.279	-0.070	46.33
155.372	13.790	57.510	57.676	0.289	49.26
160.928	1.034	40.510	41.624	2.751	13.11
160.928	2.068	71.350	70.876	-0.665	12.83
160.928	2.413	69.870	70.068	0.283	13.38
160.928	3.103	68.590	68.633	0.063	13.88
160.928	3.792	67.050	67.396	0.516	33.88
160.928	4.137	66.910	66.836	-0.110	34.02
160.928	4.309	66.380	66.570	0.286	34.57
160.928	4.688	65.500	66.012	0.782	35.49
160.928	5.516	64.630	64.911	0.435	36.45
160.928	6.895	63.080	63.362	0.448	38.25
160.928	8.274	61.740	62.082	0.553	39.91
160.928	10.342	60.530	60.518	-0.020	41.51
160.928	13.790	58.450	58.545	0.162	44.49
166.483	1.034	39.370	40.416	2.656	12.97
166.483	2.413	76.050	76.317	0.351	10.57
166.483	3.103	73.770	73.806	0.049	11.23
166.483	3.792	71.620	71.770	0.209	27.78
166.483	4.137	70.940	70.883	-0.080	28.31
166.483	4.309	70.680	70.469	-0.298	28.52
166.483	4.688	69.200	69.614	0.599	29.75
166.483	5.516	68.320	67.978	-0.500	30.51
166.483	6.895	65.770	65.781	0.017	32.91
166.483	8.274	63.820	64.043	0.350	34.94
166.483	10.342	62.010	62.006	-0.006	36.99
166.483	13.790	59.520	59.550	0.051	40.13
172.039	1.034	38.560	39.487	2.403	12.67
172.039	2.068	55.490	55.055	-0.785	1.23
172.039	3.103	82.830	82.634	-0.236	8.35
172.039	3.792	78.940	78.698	-0.307	21.44
172.039	4.137	77.660	77.104	-0.716	22.15
172.039	4.309	77.190	76.381	-1.049	22.42
172.039	4.688	75.710	74.928	-1.032	23.30

Data from Jones et al. [54] (continued)

T	P	C_p, exp	C_p, cal	Dev	Wt
K	MPa	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$	%	
177.594	1.034	38.020	38.743	1.902	12.24
177.594	2.068	50.650	50.001	-1.281	1.39
177.594	2.413	58.180	57.990	-0.327	1.06
177.594	3.103	106.080	102.644	-3.239	-0.00
177.594	3.792	93.720	91.854	-1.991	14.30
177.594	4.137	89.080	88.205	-0.982	15.82
177.594	4.309	87.940	86.653	-1.464	16.23
177.594	4.688	84.580	83.704	-1.036	17.54
177.594	5.516	80.210	78.825	-1.727	19.50
177.594	6.895	74.370	73.408	-1.294	22.66
177.594	8.274	69.730	69.770	0.058	25.77
177.594	10.342	65.430	66.026	0.911	29.24
177.594	13.790	62.010	62.060	0.080	32.54
183.150	1.034	37.620	38.139	1.380	11.76
183.150	2.068	47.360	46.952	-0.862	1.49
183.150	2.413	52.740	52.149	-1.121	1.21
183.150	3.103	75.040	74.155	-1.179	0.01
183.150	3.792	132.480	132.968	0.369	0.00
183.150	4.137	114.410	116.342	1.688	0.00
183.150	4.309	109.370	110.792	1.301	0.00
183.150	4.688	102.920	101.852	-1.037	0.00
183.150	5.516	89.750	90.150	0.446	0.00
183.150	6.895	81.090	79.939	-1.419	0.01
183.150	8.274	74.300	74.136	-0.220	21.36
183.150	10.342	67.790	68.781	1.461	25.63
183.150	13.790	63.490	63.618	0.202	29.20
188.706	1.034	37.290	37.646	0.954	11.28
188.706	2.068	44.940	44.836	-0.232	1.56
188.706	2.413	49.240	48.624	-1.252	1.30
188.706	3.103	62.010	61.310	-1.128	0.01
188.706	3.792	100.240	97.671	-2.563	0.00
188.706	4.137	164.660	174.573	6.020	-0.00
188.706	4.309	352.170	410.075	16.442	-0.00
188.706	4.688	184.480	178.776	-3.092	0.00
188.706	5.516	115.420	115.902	0.417	0.00
188.706	6.895	90.900	90.598	-0.332	0.00
188.706	8.274	80.480	80.302	-0.221	17.16
188.706	10.342	70.810	72.260	2.048	22.15
188.706	13.790	65.030	65.420	0.599	26.24

Data from Jones et al. [54] (continued)

T	P	C _{p,exp}	C _{p,cal}	Dev	Wt
K	MPa	J·mol ⁻¹ ·K ⁻¹	J·mol ⁻¹ ·K ⁻¹	%	
194.261	1.034	37.020	37.243	0.602	162.12
194.261	2.068	43.260	43.262	0.005	23.84
194.261	2.413	46.690	46.200	-1.050	20.50
194.261	3.103	54.950	54.871	-0.144	14.84
194.261	3.792	73.300	72.008	-1.762	8.36
194.261	4.137	91.500	89.294	-2.411	1.34
194.261	4.309	101.180	103.278	2.073	1.10
194.261	4.688	193.210	172.350	-10.797	-0.00
194.261	5.516	240.850	243.740	1.200	-0.00
194.261	6.895	107.090	110.944	3.599	0.98
194.261	8.274	88.680	89.537	0.966	5.72
194.261	10.342	75.180	76.723	2.053	7.95
194.261	13.790	66.850	67.494	0.963	10.05
199.817	1.034	36.750	36.913	0.444	155.58
199.817	2.068	41.920	42.048	0.305	23.99
199.817	2.413	44.680	44.416	-0.591	21.15
199.817	3.103	50.790	50.874	0.165	16.40
199.817	3.792	62.010	61.517	-0.794	11.03
199.817	4.137	71.820	69.973	-2.571	2.06
199.817	4.309	77.330	75.553	-2.298	1.78
199.817	4.688	94.460	93.311	-1.216	1.19
199.817	5.516	231.440	217.015	-6.233	-0.00
199.817	6.895	148.070	155.359	4.922	-0.00
199.817	8.274	102.250	103.941	1.654	4.07
199.817	10.342	81.760	82.477	0.877	6.36
199.817	13.790	68.860	69.859	1.451	8.95
205.372	1.034	36.550	36.646	0.261	148.98
205.372	2.068	40.850	41.090	0.587	23.92
205.372	2.413	43.130	43.051	-0.182	21.48
205.372	3.103	47.900	48.116	0.451	17.45
205.372	3.792	55.760	55.601	-0.286	12.90
205.372	4.137	61.940	60.863	-1.738	2.62
205.372	4.309	65.640	64.047	-2.427	2.33
205.372	4.688	75.380	72.907	-3.281	1.77
205.372	5.516	111.050	108.656	-2.156	0.82

Data from Jones et al. [54] (continued)

T	P	C _p ,exp	C _p ,cal	Dev	Wt
K	MPa	J·mol ⁻¹ ·K ⁻¹	J·mol ⁻¹ ·K ⁻¹	%	
205.372	6.895	194.830	202.733	4.057	-0.00
205.372	8.274	123.010	124.144	0.922	2.66
205.372	10.342	90.490	89.615	-0.967	4.92
205.372	13.790	70.940	72.496	2.193	7.99
210.928	1.034	36.410	36.430	0.054	142.41
210.928	2.068	40.040	40.323	0.707	23.60
210.928	2.413	41.790	41.982	0.459	21.69
210.928	3.103	45.820	46.095	0.600	18.07
210.928	3.792	51.600	51.743	0.278	14.27
210.928	4.137	55.630	55.429	-0.360	3.07
210.928	4.309	58.250	57.554	-1.194	2.80
210.928	4.688	64.960	63.092	-2.875	2.26
210.928	5.516	84.310	81.295	-3.576	1.34
210.928	6.895	139.000	141.210	1.590	0.49
210.928	8.274	138.460	140.483	1.461	1.99
210.928	10.342	97.880	97.331	-0.561	3.99
210.928	13.790	73.560	75.300	2.366	7.05
216.483	1.034	36.280	36.258	-0.061	136.24
216.483	2.068	39.370	39.704	0.848	23.18
216.483	2.413	40.850	41.130	0.685	21.55
216.483	3.103	44.270	44.557	0.649	18.38
216.483	3.792	48.770	49.020	0.513	15.16
216.483	4.137	51.600	51.790	0.368	3.39
216.483	4.309	53.280	53.338	0.109	3.18
216.483	4.688	57.980	57.220	-1.311	2.69
216.483	5.516	69.940	68.677	-1.806	1.85
216.483	6.895	103.260	100.997	-2.192	05
216.483	8.274	127.710	129.476	1.383	2.22
216.483	10.342	103.120	103.472	0.341	3.41
216.483	13.790	76.180	78.021	2.417	6.24
222.039	1.034	36.080	36.125	0.124	131.01
222.039	2.068	38.900	39.202	0.776	22.58
222.039	2.413	40.110	40.444	0.833	21.25
222.039	3.103	43.130	43.357	0.527	18.40
222.039	3.792	46.690	47.000	0.665	15.72

Data from Jones et al. [54] (continued)

T	P	C _p ,exp	C _p ,cal	Dev	Wt
K	MPa	J·mol ⁻¹ ·K ⁻¹	J·mol ⁻¹ ·K ⁻¹	%	
222.039	4.137	48.910	49.181	0.553	3.58
222.039	4.309	50.180	50.374	0.386	3.41
222.039	4.688	53.280	53.289	0.016	3.02
222.039	5.516	61.740	61.339	-0.649	2.25
222.039	6.895	85.320	81.518	-4.456	-0.00
222.039	8.274	105.340	105.634	0.279	3.11
222.039	10.342	103.660	104.748	1.050	3.21
222.039	13.790	79.010	80.282	1.610	5.52
227.594	1.034	36.010	36.025	0.043	125.25
227.594	2.068	38.500	38.794	0.764	21.95
227.594	2.413	39.570	39.889	0.806	20.79
227.594	3.103	42.190	42.404	0.508	18.31
227.594	3.792	45.080	45.453	0.827	16.05
227.594	4.137	46.890	47.227	0.719	3.71
227.594	4.309	47.770	48.183	0.865	3.58
227.594	4.688	50.320	50.476	0.310	3.22
227.594	5.516	56.500	56.530	0.052	2.56
227.594	6.895	74.100	70.501	-4.856	-0.00
227.594	8.274	87.940	87.938	-0.002	4.24
227.594	10.342	97.680	99.199	1.555	3.44
227.594	13.790	81.220	81.671	0.555	4.97
233.150	1.034	35.940	35.956	0.045	119.87
233.150	2.068	38.230	38.464	0.613	21.22
233.150	2.413	39.100	39.438	0.865	20.29
233.150	3.103	41.380	41.639	0.627	18.13
233.150	3.792	44.000	44.239	0.543	16.05
233.150	4.137	45.480	45.720	0.528	3.76
233.150	4.309	46.290	46.508	0.472	3.63
233.150	4.688	48.030	48.374	0.716	3.37
233.150	5.516	53.070	53.139	0.130	2.77
233.150	6.895	65.770	63.501	-3.450	-0.00
233.150	8.274	76.520	76.295	-0.294	5.33
233.150	10.342	88.210	90.061	2.098	4.02
233.150	13.790	80.890	81.812	1.139	4.77
238.706	1.034	35.940	35.914	-0.073	114.42

Data from Jones et al. [54] (continued)

T	P	C _{p,exp}	C _{p,cal}	Dev	Wt
K	MPa	J·mol ⁻¹ ·K ⁻¹	J·mol ⁻¹ ·K ⁻¹	%	
238.706	2.068	37.960	38.199	0.631	20.53
238.706	2.413	38.760	39.073	0.808	19.70
238.706	3.103	40.780	41.020	0.590	17.82
238.706	3.792	43.060	43.272	0.493	15.99
238.706	4.137	44.270	44.533	0.594	3.78
238.706	4.309	45.080	45.198	0.262	3.65
238.706	4.688	46.420	46.754	0.720	3.44
238.706	5.516	50.790	50.632	-0.311	2.88
238.706	6.895	59.660	58.696	-1.616	2.09
238.706	8.274	68.860	68.431	-0.624	6.28
238.706	10.342	79.480	81.165	2.120	4.72
238.706	13.790	78.870	80.474	2.034	4.79
244.261	1.034	35.880	35.896	0.046	109.69
244.261	2.068	37.760	37.990	0.609	19.83
244.261	2.413	38.500	38.780	0.727	19.08
244.261	3.103	40.240	40.519	0.692	17.48
244.261	3.792	42.260	42.495	0.555	15.86
244.261	4.137	43.400	43.585	0.426	3.76
244.261	4.309	43.740	44.156	0.951	3.70
244.261	4.688	45.410	45.480	0.155	3.44
244.261	5.516	48.440	48.717	0.572	3.02
244.261	6.895	55.560	55.218	-0.616	2.30
244.261	8.274	63.220	62.883	-0.533	7.11
244.261	10.342	72.350	73.831	2.047	5.44
244.261	13.790	76.320	77.831	1.979	4.89
249.817	1.034	35.940	35.901	-0.107	104.56
249.817	2.068	37.620	37.828	0.554	19.10
249.817	2.413	38.290	38.547	0.671	18.44
249.817	3.103	39.840	40.112	0.683	17.05
249.817	3.792	41.590	41.864	0.660	15.65
249.817	4.137	42.730	42.820	0.211	3.71
249.817	4.309	43.130	43.317	0.434	3.64
249.817	4.688	44.340	44.463	0.277	3.45
249.817	5.516	46.960	47.219	0.551	3.07
249.817	6.895	52.740	52.602	-0.262	2.44

Data from Jones et al. [54] (continued)

T	P	C _p ,exp	C _p ,cal	Dev	Wt
K	MPa	J·mol ⁻¹ ·K ⁻¹	J·mol ⁻¹ ·K ⁻¹	%	
249.817	8.274	59.050	58.814	-0.399	7.79
249.817	10.342	66.780	68.064	1.923	6.10
249.817	13.790	73.360	74.419	1.443	5.06
255.372	1.034	35.940	35.927	-0.035	100.10
255.372	2.068	37.550	37.709	0.422	18.35
255.372	2.413	38.160	38.366	0.539	17.78
255.372	3.103	39.570	39.784	0.542	16.54
255.372	3.792	41.120	41.353	0.566	15.33
255.372	4.137	42.060	42.200	0.332	14.65
255.372	4.309	42.390	42.638	0.585	14.43
255.372	4.688	43.470	43.642	0.396	13.72
255.372	5.516	45.680	46.026	0.758	12.44
255.372	6.895	50.650	50.580	-0.137	10.13
255.372	8.274	55.830	55.736	-0.168	8.34
255.372	10.342	62.340	63.565	1.966	6.69
255.372	13.790	70.140	70.805	0.948	5.29
260.928	1.034	36.010	35.973	-0.103	95.55
260.928	2.068	37.490	37.625	0.361	17.64
260.928	2.413	38.020	38.229	0.550	17.16
260.928	3.103	39.370	39.523	0.389	16.01
260.928	3.792	40.780	40.938	0.388	14.93
260.928	4.137	41.590	41.696	0.254	14.36
260.928	4.309	41.790	42.086	0.708	14.22
260.928	4.688	42.790	42.976	0.434	13.57
260.928	5.516	44.940	45.066	0.281	12.31
260.928	6.895	49.110	48.985	-0.255	10.32
260.928	8.274	53.340	53.348	0.015	8.75
260.928	10.342	58.920	60.030	1.884	7.18
260.928	13.790	67.050	67.359	0.461	5.55
266.483	1.034	36.080	36.037	-0.120	91.29
266.483	2.068	37.420	37.575	0.414	16.98
266.483	2.413	37.960	38.133	0.455	16.51
266.483	3.103	39.170	39.319	0.381	15.51
266.483	3.792	40.440	40.604	0.407	14.56
266.483	4.137	41.050	41.287	0.578	14.13

Data from Jones et al. [54] (continued)

T	P	C _{p,exp}	C _{p,cal}	Dev	Wt
K	MPa	J·mol ⁻¹ ·K ⁻¹	J·mol ⁻¹ ·K ⁻¹	%	
266.483	4.309	41.380	41.638	0.623	13.91
266.483	4.688	42.190	42.434	0.578	13.38
266.483	5.516	44.270	44.287	0.038	12.16
266.483	6.895	47.830	47.707	-0.257	10.43
266.483	8.274	51.390	51.460	0.136	9.04
266.483	10.342	56.430	57.222	1.404	7.50
266.483	13.790	64.090	64.255	0.257	5.82
272.039	1.034	36.140	36.118	-0.062	5.82
272.039	2.068	37.420	37.554	0.359	1.09
272.039	2.413	37.890	38.071	0.478	1.06
272.039	3.103	39.030	39.164	0.344	1.00
272.039	3.792	40.240	40.339	0.245	0.94
272.039	4.137	40.780	40.959	0.438	0.92
272.039	4.309	41.050	41.276	0.550	0.90
272.039	4.688	41.850	41.993	0.343	0.87
272.039	5.516	44.000	43.652	-0.792	0.79
272.039	6.895	46.890	46.672	-0.466	0.69
272.039	8.274	49.980	49.944	-0.071	0.61
272.039	10.342	54.550	54.965	0.762	0.51
272.039	13.790	61.540	61.539	-0.001	0.40
277.594	1.034	36.210	36.215	0.013	5.57
277.594	2.068	37.420	37.560	0.375	1.04
277.594	2.413	37.890	38.041	0.398	1.02
277.594	3.103	38.970	39.053	0.212	0.96
277.594	3.792	40.170	40.131	-0.096	0.91
277.594	4.137	40.640	40.697	0.141	0.89
277.594	4.309	40.850	40.986	0.334	0.88
277.594	4.688	41.590	41.638	0.116	0.85
277.594	5.516	43.600	43.134	-1.069	0.77
277.594	6.895	46.020	45.827	-0.419	0.69
277.594	8.274	48.910	48.715	-0.400	0.61
277.594	10.342	53.140	53.133	-0.012	0.52
277.594	13.790	59.460	59.201	-0.435	0.42
283.150	1.034	36.280	36.327	0.131	5.34
283.150	2.068	37.350	37.590	0.644	1.01

Data from Jones et al. [54] (continued)

T	P	C _{p,exp}	C _{p,cal}	Dev	Wt
K	MPa	J·mol ⁻¹ ·K ⁻¹	J·mol ⁻¹ ·K ⁻¹	%	
283.150	2.413	37.820	38.039	0.579	0.98
283.150	3.103	38.900	38.979	0.203	0.93
283.150	3.792	40.110	39.974	-0.339	0.87
283.150	4.137	40.510	40.494	-0.039	0.86
283.150	4.309	40.780	40.759	-0.052	0.85
283.150	4.688	41.520	41.354	-0.399	0.82
283.150	5.516	42.930	42.713	-0.506	0.76
283.150	6.895	45.480	45.136	-0.757	0.68
283.150	8.274	48.030	47.708	-0.671	0.61
283.150	10.342	52.070	51.632	-0.841	0.52
283.150	13.790	57.780	57.203	-0.999	0.42

Number of Points (Ref. 54, Primary) 388

AAD-%	0.669	BIAS-%	0.160	RMS-%	0.931	
AAD	0.445	BIAS	0.069	RMS	0.749	J·mol ⁻¹ ·K ⁻¹

Number of Points (Ref. 54, Total) 400

AAD-%	0.821	BIAS-%	0.162	RMS-%	1.514	
AAD	0.772	BIAS	0.165	RMS	3.345	J·mol ⁻¹ ·K ⁻¹

Data from Van Kasteren and Zeldenrust [55]

T	P	C _{p,exp}	C _{p,cal}	Dev	Wt
K	MPa	J·mol ⁻¹ ·K ⁻¹	J·mol ⁻¹ ·K ⁻¹	%	
121.1	5.00	55.188	56.032	1.530	0.00
121.1	5.00	55.060	56.032	1.766	0.00
121.1	5.00	54.979	56.032	1.916	0.00
121.0	5.00	55.156	56.022	1.570	0.00
136.1	5.00	57.338	58.033	1.213	0.00
136.2	5.00	57.402	58.051	1.130	0.00
136.2	5.00	57.241	58.051	1.415	0.00
151.3	5.00	61.268	61.654	0.630	0.00
151.3	5.00	61.044	61.654	1.000	0.00
151.2	5.00	60.963	61.622	1.081	0.00

Data from Van Kasteren and Zeldenrust [55]

T	P	C _p ,exp	C _p ,cal	Dev	Wt
K	MPa	J·mol ⁻¹ ·K ⁻¹	J·mol ⁻¹ ·K ⁻¹	%	
165.1	5.00	67.846	68.011	0.244	0.00
165.1	5.00	67.830	68.011	0.267	0.00
165.1	5.00	68.054	68.011	-0.063	0.00
165.0	5.00	67.734	67.946	0.313	0.00
175.6	5.00	78.579	78.367	-0.270	0.00
175.7	5.00	79.092	78.516	-0.728	0.00
175.6	5.00	78.707	78.367	-0.432	0.00
175.5	5.00	79.076	78.219	-1.084	0.00
182.7	5.00	94.622	94.846	0.237	0.00
182.7	5.00	94.573	94.846	0.289	0.00
182.7	5.00	94.654	94.846	0.203	0.00
184.2	5.00	101.841	01.159	-0.670	0.00
186.4	5.00	116.248	14.823	-1.226	0.00
188.5	5.00	140.408	38.418	-1.417	0.00
191.0	5.00	251.298	18.727	-12.961	0.00
192.7	5.00	558.746	11.247	9.396	0.00
192.6	5.00	549.681	46.601	-0.560	0.00
195.4	5.00	279.662	64.189	-5.533	0.00
198.0	5.00	149.408	46.547	-1.915	0.00
201.5	5.00	103.959	02.911	-1.008	0.00
201.5	5.00	103.927	02.911	-0.978	0.00
209.5	5.00	73.108	71.555	-2.124	0.00
209.5	5.00	73.108	71.555	-2.124	0.00
220.0	5.00	57.659	57.625	-0.060	0.00
220.0	5.00	57.851	57.625	-0.391	0.00
230.5	5.00	50.712	51.165	0.894	0.00
240.0	5.00	47.359	47.755	0.836	0.00
240.4	5.00	47.311	47.642	0.699	0.00
250.6	5.00	44.985	45.313	0.729	0.00
144.4	3.20	59.850	60.803	1.592	0.00
144.3	3.20	60.690	60.773	0.137	0.00
144.4	3.20	59.960	60.803	1.405	0.00
146.2	3.20	61.600	61.353	-0.402	0.00
146.5	3.20	60.890	61.449	0.918	0.00
154.9	3.20	63.990	64.819	1.296	0.00

Data from Van Kasteren and Zeldenrust [55] (continued)

T	P	C _p ,exp	C _p ,cal	Dev	Wt
K	MPa	J·mol ⁻¹ ·K ⁻¹	J·mol ⁻¹ ·K ⁻¹	%	
154.8	3.20	64.140	64.769	0.981	0.00
164.9	3.20	71.560	71.818	0.360	0.00
164.9	3.20	71.310	71.818	0.712	0.00
174.3	3.20	89.160	87.547	-1.809	0.00
185.5	3.20	72.530	71.596	-1.288	0.00
193.2	3.20	57.960	57.691	-0.464	0.00
193.1	3.20	58.070	57.803	-0.459	0.00
202.9	3.20	50.180	50.219	0.077	0.00
202.9	3.20	50.000	50.219	0.438	0.00

Number of Points (Ref. 55) 54

AAD-%	1.356	BIAS-%	-0.050	RMS-%	2.524	
AAD	2.530	BIAS	-0.021	RMS	8.717	J·mol ⁻¹ ·K ⁻¹

Total Points 454

AAD-%	0.885	BIAS-%	0.137	RMS-%	1.668	
AAD	0.981	BIAS	0.143	RMS	4.347	J·mol ⁻¹ ·K ⁻¹

TABLE A8

COMPARISONS FOR SPECIFIC HEAT CAPACITY OF THE SATURATED LIQUID

Notes for Table A8. The densities above were calculated from the experimental temperatures and the ancillary eq (2) for the density of the saturated liquid. These densities were used to calculate the heat capacity along the saturation boundary according to the equation given in Table 7.

Data are from Younglove [52] and Roder [53] as adjusted by Roder [53].

T	ρ	$C_{\sigma L, \text{exp}}$	$C_{\sigma L, \text{cal}}$	Dev	Wt
K	$\text{mol} \cdot \text{dm}^{-3}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$	%	
95.402	27.7468	54.206	54.130	-0.141	2004.81
95.846	27.7089	54.066	54.209	0.264	1996.77
99.021	27.4363	54.590	54.680	0.165	1887.59
101.651	27.2086	54.782	54.981	0.363	1812.19
101.961	27.1817	54.691	55.013	0.589	1807.43
102.574	27.1282	54.820	55.074	0.464	1787.90
106.891	26.7486	55.505	55.462	-0.077	1666.02
108.219	26.6304	55.459	55.573	0.206	1638.81
108.800	26.5785	55.187	55.622	0.788	0.00
112.604	26.2351	55.960	55.946	-0.026	1536.67
115.165	26.0002	56.292	56.178	-0.202	1480.87
116.044	25.9188	56.582	56.263	-0.564	1457.92
118.479	25.6912	56.761	56.509	-0.443	1412.62
119.117	25.6310	56.685	56.578	-0.189	1404.24
122.089	25.3474	57.292	56.919	-0.650	1343.73
122.474	25.3103	57.137	56.967	-0.298	1341.72
123.367	25.2237	56.845	57.079	0.411	1335.66
125.766	24.9886	57.514	57.400	-0.198	1286.54
130.765	24.4848	58.092	58.175	0.142	1210.31
132.274	24.3287	58.640	58.439	-0.343	1181.30
132.751	24.2790	58.441	58.526	0.145	1179.95
135.455	23.9929	58.701	59.048	0.591	1145.11
137.805	23.7385	59.285	59.546	0.441	1109.70
139.970	23.4989	59.463	60.046	0.980	1085.54
144.305	23.0028	60.317	61.176	1.424	1032.07
144.401	22.9915	60.686	61.203	0.852	1024.84
148.500	22.4989	61.780	62.463	1.106	975.23
148.881	22.4518	61.751	62.591	1.361	973.01
150.824	22.2082	63.536	63.275	-0.411	0.00
152.809	21.9528	63.632	64.033	0.630	918.27

Table A8 (continued)

T	ρ	$C_{\sigma L, \text{exp}}$	$C_{\sigma L, \text{cal}}$	Dev	Wt
K	$\text{mol} \cdot \text{dm}^{-3}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$	%	
153.157	21.9073	63.781	64.172	0.613	913.99
155.542	21.5891	64.754	65.189	0.672	886.59
157.043	21.3829	65.156	65.888	1.123	873.29
157.355	21.3395	65.288	66.039	1.151	869.94
159.127	21.0883	66.400	66.946	0.822	846.84
161.181	20.7875	67.440	68.103	0.983	825.06
161.483	20.7424	67.604	68.284	1.006	821.86
163.136	20.4906	67.864	69.331	2.162	0.00
163.782	20.3900	69.643	69.768	0.179	789.49
165.128	20.1760	70.569	70.734	0.233	775.06
165.249	20.1565	70.232	70.824	0.843	778.55
165.548	20.1080	70.442	71.052	0.866	775.40
166.549	19.9435	71.232	71.846	0.861	764.24
169.253	19.4795	73.657	74.282	0.849	733.94
169.565	19.4239	74.109	74.595	0.656	729.00
170.157	19.3173	74.426	75.211	1.054	725.27
170.197	19.3100	74.846	75.253	0.544	721.05
170.251	19.3002	75.280	75.311	0.041	716.76
171.097	19.1444	76.029	76.249	0.290	709.01
173.180	18.7445	78.254	78.869	0.786	688.53
173.480	18.6848	78.910	79.289	0.481	682.86
173.505	18.6798	78.214	79.325	1.420	689.15
174.032	18.5734	79.372	80.094	0.910	679.30
174.429	18.4920	80.836	80.700	-0.168	667.15
175.228	18.3248	81.869	81.999	0.158	659.75
176.295	18.0938	84.010	83.917	-0.111	644.79
177.029	17.9294	85.230	85.379	0.175	637.38
177.420	17.8397	87.184	86.213	-1.114	0.00
177.902	17.7272	86.393	87.299	1.049	631.65
178.557	17.5703	88.222	88.890	0.757	620.93
180.613	17.0442	94.968	94.981	0.014	5868.77
181.034	16.9292	96.269	96.493	0.232	5817.64
181.645	16.7569	98.591	98.894	0.308	5725.55
182.572	16.4822	103.209	103.107	-0.099	5547.41
184.222	15.9437	113.503	113.028	-0.418	5223.69

Table A8 (continued)

T	ρ	$C_{\sigma L, \text{exp}}$	$C_{\sigma L, \text{cal}}$	Dev	Wt
K	$\text{mol} \cdot \text{dm}^{-3}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$	%	
185.271	15.5577	121.885	121.882	-0.003	5021.62
186.127	15.2079	132.650	131.567	-0.816	0.00
187.577	14.5088	152.131	157.745	3.690	0.00
187.633	14.4781	157.474	159.174	1.079	0.00

Number of Points (Refs. 52 and 53) 69

AAD-%	0.626	BIAS-%	0.444	RMS-%	0.716	
AAD	0.496	BIAS	0.354	RMS	0.791	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$

TABLE A9

COMPARISONS FOR SOUND SPEED

Notes for Table A9. The temperatures and pressures refer to experimentally reported conditions, except that, for data reported on the saturation boundary (in Refs. 57-59), an iteration of the SWEOS equation of state was used to calculate a pressure and density. Other reported densities were also from this SWEOS. These quantities were used to determine the "experimental" value for $\partial P/\partial \rho|_T$ from the experimental sound speed and calculated values for the isobaric and isochoric specific heat capacities (according to $\partial P/\partial \rho|_T = u N_A M w^2 C_V/C_P$). This derivative was used to determine the coefficients in the final SWEOS according to the weights in the final column of the table. Calculated values of the sound speed and derivative were from the final SWEOS. Values missing in the tables or statistics have been omitted for any of several reasons including recent acquisition, replicate points, critical region data, etc.

Data from Baidakov et al. [56]

T	P	ρ	W,exp	W,cal	Dev1	$\partial P/\partial \rho _T$ exp	$\partial P/\partial \rho _T$ cal	Dev2	Wt
K	MPa	mol·dm ⁻³	m·s ⁻¹	m·s ⁻¹	%	MPa·dm ³ ·mol ⁻¹	%		
150.0	4.001	22.74	980.7	978.0	-0.3	7.68	7.63	-0.6	0.0
150.0	3.807	22.71	977.2	974.4	-0.3	7.60	7.55	-0.7	0.0
150.0	3.625	22.69	973.5	970.9	-0.3	7.53	7.48	-0.6	0.0
150.0	3.419	22.66	970.0	966.9	-0.3	7.45	7.39	-0.7	0.0
150.0	3.219	22.63	965.7	963.0	-0.3	7.36	7.31	-0.7	0.0
150.0	3.022	22.60	962.3	959.2	-0.3	7.29	7.23	-0.8	0.0
150.0	2.825	22.58	958.1	955.2	-0.3	7.20	7.15	-0.7	0.0
150.0	2.631	22.55	954.5	951.3	-0.3	7.13	7.07	-0.8	0.0
150.0	2.437	22.52	950.5	947.4	-0.3	7.05	6.99	-0.8	0.0
150.0	2.242	22.49	946.3	943.3	-0.3	6.96	6.91	-0.8	0.0
150.0	2.045	22.46	942.1	939.2	-0.3	6.88	6.83	-0.8	0.0
150.0	1.851	22.44	938.3	935.1	-0.3	6.80	6.75	-0.8	0.0
150.0	1.658	22.41	934.2	930.9	-0.4	6.72	6.66	-0.9	0.0
150.0	1.459	22.38	930.0	926.5	-0.4	6.64	6.58	-0.9	0.0
150.0	1.265	22.35	925.8	922.2	-0.4	6.56	6.49	-0.9	0.0
150.0	1.068	22.32	921.5	917.8	-0.4	6.47	6.41	-1.0	0.0
155.0	3.999	22.12	922.5	919.6	-0.3	6.54	6.49	-0.7	0.0
155.0	3.806	22.09	918.3	915.5	-0.3	6.46	6.41	-0.7	0.0
155.0	3.609	22.06	914.4	911.2	-0.3	6.38	6.33	-0.8	0.0
155.0	3.417	22.03	909.9	907.0	-0.3	6.30	6.25	-0.7	0.0

Data from Baidakov et al. [56] (continued)

T	P	ρ	W,exp	W,cal	Dev1	$\partial P/\partial \rho _T$	$\partial P/\partial \rho _T$	Dev2	Wt
						exp	cal		
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{m} \cdot \text{s}^{-1}$	$\text{m} \cdot \text{s}^{-1}$	%	$\text{MPa} \cdot \text{dm}^3 \cdot \text{mol}^{-1}$	%		
155.0	3.218	22.00	905.8	902.5	-0.4	6.22	6.17	-0.8	0.0
155.0	3.022	21.97	901.3	898.1	-0.4	6.13	6.08	-0.8	0.0
155.0	2.827	21.93	896.8	893.6	-0.4	6.05	6.00	-0.8	0.0
155.0	2.632	21.90	892.2	889.0	-0.4	5.97	5.92	-0.8	0.0
155.0	2.436	21.87	887.7	884.4	-0.4	5.88	5.83	-0.9	0.0
155.0	2.244	21.83	883.0	879.7	-0.4	5.80	5.75	-0.9	0.0
155.0	2.047	21.80	878.3	874.9	-0.4	5.71	5.66	-0.9	0.0
155.0	1.850	21.76	873.4	870.0	-0.4	-	-	-	0.0
155.0	1.656	21.73	868.5	865.0	-0.4	5.54	5.48	-0.9	0.0
155.0	1.459	21.69	863.7	860.0	-0.4	5.45	5.40	-1.0	0.0
160.0	3.998	21.46	861.2	858.2	-0.3	5.46	5.41	-0.8	0.0
160.0	3.981	21.45	861.1	857.8	-0.4	5.45	5.41	-0.9	0.0
160.0	3.805	21.42	856.5	853.4	-0.4	5.37	5.33	-0.8	0.0
160.0	3.787	21.42	856.4	852.9	-0.4	5.37	5.32	-0.9	0.0
160.0	3.621	21.39	852.2	848.7	-0.4	5.30	5.25	-0.9	0.0
160.0	3.608	21.38	851.9	848.4	-0.4	5.29	5.24	-0.9	0.0
160.0	3.588	21.38	851.3	847.9	-0.4	5.28	5.23	-0.9	0.0
160.0	3.419	21.35	847.3	843.5	-0.4	5.21	5.16	-1.0	0.0
160.0	3.230	21.31	842.3	838.6	-0.4	5.13	5.08	-1.0	0.0
160.0	3.033	21.27	837.0	833.3	-0.4	5.04	4.99	-1.0	0.0
160.0	2.826	21.23	831.3	827.7	-0.4	4.94	4.89	-1.0	0.0
160.0	2.613	21.19	825.4	821.8	-0.4	4.84	4.80	-1.0	0.0
160.0	2.434	21.15	820.4	816.7	-0.5	4.76	4.71	-1.0	0.0
160.0	2.240	21.11	814.8	811.1	-0.5	4.72	4.62	-2.0	0.0
160.0	2.043	21.06	809.0	805.3	-0.5	4.58	4.53	-1.0	0.0
160.0	1.850	21.02	803.4	799.5	-0.5	4.49	4.44	-1.1	0.0
160.0	1.737	20.99	799.8	796.0	-0.5	4.43	4.38	-1.1	0.0
160.0	1.655	20.98	797.3	793.5	-0.5	4.39	4.34	-1.1	0.0
160.0	1.644	20.97	797.2	793.1	-0.5	4.39	4.34	-1.2	0.0
163.0	4.000	21.03	823.3	819.5	-0.5	4.84	4.79	-1.0	0.0
163.0	3.806	20.99	818.0	814.2	-0.5	4.75	4.70	-1.0	0.0
163.0	3.613	20.95	812.7	808.8	-0.5	4.66	4.61	-1.0	0.0
163.0	3.422	20.91	807.3	803.3	-0.5	4.57	4.53	-1.1	0.0
163.0	3.223	20.86	801.5	797.5	-0.5	4.48	4.43	-1.1	0.0
163.0	3.024	20.82	795.5	791.6	-0.5	4.39	4.34	-1.1	0.0

Data from Baidakov et al. [56] (continued)

T	P	ρ	W,exp	W,cal	Dev1	$\partial P/\partial \rho _T$	$\partial P/\partial \rho _T$	Dev2	Wt
						exp	cal		
K	MPa	mol·dm ⁻³	m·s ⁻¹	m·s ⁻¹	%	MPa·dm ³ ·mol ⁻¹	%		
163.0	2.826	20.77	789.6	785.5	-0.5	4.30	4.25	-1.1	0.0
163.0	2.632	20.72	783.7	779.5	-0.5	4.21	4.16	-1.2	0.0
163.0	2.435	20.68	777.3	773.2	-0.5	4.11	4.06	-1.2	0.0
163.0	2.244	20.63	771.2	766.9	-0.6	4.02	3.97	-1.2	0.0
163.0	2.051	20.58	764.7	760.5	-0.6	3.92	3.87	-1.2	0.0
163.0	1.854	20.53	757.9	753.7	-0.6	3.82	3.77	-1.2	0.0
167.0	3.995	20.42	769.5	765.0	-0.6	4.03	3.98	-1.2	0.0
167.0	3.802	20.37	763.1	758.9	-0.6	3.93	3.89	-1.2	0.0
167.0	3.616	20.32	757.2	752.8	-0.6	3.85	3.80	-1.2	0.0
167.0	3.490	20.28	752.9	748.6	-0.6	3.78	3.74	-1.2	0.0
167.0	3.423	20.27	750.6	746.3	-0.6	3.75	3.70	-1.2	0.0
167.0	3.219	20.21	743.8	739.3	-0.6	3.65	3.60	-1.3	0.0
167.0	3.036	20.16	737.1	732.8	-0.6	3.56	3.51	-1.2	0.0
167.0	2.823	20.10	729.7	725.1	-0.6	3.45	3.41	-1.3	0.0
167.0	2.623	20.04	722.2	717.6	-0.6	3.35	3.31	-1.4	0.0
167.0	2.462	19.99	715.8	711.4	-0.6	3.27	3.22	-1.3	0.0
167.0	2.435	19.98	714.9	710.3	-0.6	3.25	3.21	-1.4	0.0
167.0	2.325	19.95	710.3	706.0	-0.6	3.19	3.15	-1.3	0.0
167.0	2.267	19.93	708.2	703.6	-0.6	3.16	3.12	-1.4	0.0
167.0	2.240	19.92	707.1	702.5	-0.6	3.15	3.11	-1.4	0.0
167.0	2.121	19.88	702.2	697.7	-0.6	3.09	3.04	-1.4	0.0
167.0	2.104	19.87	701.5	697.0	-0.6	3.08	3.04	-1.4	0.0
170.0	4.000	19.91	726.4	721.8	-0.6	3.43	3.39	-1.3	0.0
170.0	3.810	19.86	719.3	714.9	-0.6	3.34	3.30	-1.3	0.0
170.0	3.608	19.79	711.9	707.4	-0.6	3.24	3.20	-1.3	0.0
170.0	3.412	19.73	704.2	699.8	-0.6	3.14	3.10	-1.3	0.0
170.0	3.217	19.67	696.7	692.1	-0.7	3.04	3.00	-1.4	0.0
170.0	3.027	19.60	688.8	684.3	-0.7	2.94	2.90	-1.4	0.0
170.0	2.829	19.53	680.4	675.8	-0.7	2.83	2.79	-1.4	0.0
170.0	2.629	19.46	671.4	667.0	-0.7	2.72	2.69	-1.4	0.0
170.0	2.434	19.39	662.4	658.1	-0.7	2.62	2.58	-1.4	0.0
170.0	2.354	19.35	658.6	654.3	-0.7	2.57	2.53	-1.4	0.0
173.0	4.001	19.36	680.2	675.6	-0.7	2.86	2.82	-1.4	0.0
173.0	3.806	19.29	671.9	667.4	-0.7	2.75	2.72	-1.4	0.0
173.0	3.610	19.22	663.2	658.8	-0.7	2.65	2.61	-1.3	0.0

Data from Baidakov et al. [56] (continued)

T	P	ρ	W,exp	W,cal	Dev1	$\partial P/\partial \rho _T$ exp	$\partial P/\partial \rho _T$ cal	Dev2	Wt
K	MPa	mol·dm ⁻³	m·s ⁻¹	m·s ⁻¹	%	MPa·dm ³ ·mol ⁻¹	%		
173.0	3.419	19.14	654.7	650.2	-0.7	2.55	2.51	-1.4	0.0
173.0	3.221	19.06	645.2	640.9	-0.7	2.44	2.40	-1.4	0.0
173.0	3.024	18.98	635.4	631.2	-0.7	2.33	2.29	-1.4	0.0
173.0	2.824	18.89	624.9	620.9	-0.6	2.21	2.18	-1.3	0.0
173.0	2.628	18.80	614.0	610.3	-0.6	2.09	2.07	-1.2	0.0
177.0	4.003	18.52	612.2	607.8	-0.7	2.10	2.07	-1.4	0.0
177.0	3.807	18.42	601.4	597.4	-0.7	1.99	1.96	-1.3	0.0
177.0	3.617	18.32	590.4	586.8	-0.6	1.88	1.85	-1.2	0.0
177.0	3.610	18.32	590.0	586.3	-0.6	1.87	1.85	-1.2	0.0
177.0	3.414	18.21	578.0	574.7	-0.6	1.75	1.74	-1.1	0.0
177.0	3.219	18.09	565.0	562.4	-0.5	1.63	1.62	-0.9	0.0
177.0	3.023	17.97	551.0	549.2	-0.3	1.50	1.50	-0.6	0.0
177.0	2.982	17.94	547.9	546.3	-0.3	1.48	1.47	-0.6	0.0
180.0	4.000	17.76	553.3	550.0	-0.6	1.54	1.52	-1.2	0.0
180.0	3.907	17.70	547.0	543.8	-0.6	1.49	1.47	-1.1	0.0
180.0	3.808	17.63	540.0	537.0	-0.5	1.42	1.41	-1.1	0.0
180.0	3.716	17.56	532.9	530.5	-0.4	1.36	1.35	-0.9	0.0
180.0	3.613	17.48	524.3	522.9	-0.3	1.29	1.29	-0.5	0.0
180.0	3.520	17.41	516.8	515.7	-0.2	1.23	1.23	-0.4	0.0
180.0	3.416	17.32	507.4	507.3	0.0	1.16	1.16	0.0	0.0
180.0	3.346	17.26	500.9	501.4	0.1	1.11	1.11	0.2	0.0
180.0	3.338	17.25	500.0	500.7	0.1	1.10	1.10	0.3	0.0
183.0	3.996	16.79	482.4	481.6	-0.2	0.98	0.98	-0.3	0.0
183.0	3.977	16.78	481.2	479.9	-0.3	0.97	0.96	-0.5	0.0
183.0	3.912	16.71	474.4	473.9	-0.1	0.92	0.92	-0.2	0.0
183.0	3.808	16.59	462.1	463.6	0.3	0.84	0.85	0.7	0.0
183.0	3.731	16.49	452.8	455.5	0.6	0.78	0.79	1.3	0.0
183.0	3.690	16.44	447.1	450.9	0.9	0.75	0.76	1.8	0.0
183.0	3.649	16.39	441.7	446.2	1.0	0.71	0.73	2.1	0.0

Number of Points (Ref. 56) 119

SOUND SPEED:	AAD-%	0.475	BIAS-%	-0.425	RMS-%	0.267	
	AAD	3.504	BIAS	-3.277	RMS	1.589	m·s ⁻¹

Number of Points (Ref. 56) 118

DERIVATIVE:	AAD-%	1.037	BIAS-	-0.929	RMS-%	0.567	
	AAD	0.040	BIAS	-0.039	RMS	0.018	MPa·dm ³ ·mol ⁻¹

Data from Blagoi et al. [57]

T	P	ρ	W,exp	W,cal	Dev1	$\partial P/\partial \rho _T$	$\partial P/\partial \rho _T$	Dev2	Wt
						exp	cal		
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{m} \cdot \text{s}^{-1}$	$\text{m} \cdot \text{s}^{-1}$	%	$\text{MPa} \cdot \text{dm}^3 \cdot \text{mol}^{-1}$	%		
90.9	0.012	28.13	1531.0	1546.2	1.0	23.80	24.37	2.4	0.132
93.6	0.017	27.90	1509.0	1514.2	0.3	23.12	23.31	0.8	0.134
97.7	0.027	27.56	1472.0	1469.8	-0.1	21.84	21.76	-0.4	0.138
99.9	0.034	27.37	1444.0	1447.3	0.2	20.89	20.95	0.3	0.141
101.1	0.038	27.27	1430.0	1435.2	0.4	20.41	20.52	0.5	0.000
103.6	0.049	27.05	1406.0	1410.3	0.3	19.56	19.64	0.4	0.000
105.2	0.057	26.91	1388.0	1394.5	0.5	18.95	19.08	0.7	0.000
110.1	0.089	26.48	1347.0	1346.3	-0.1	17.49	17.42	-0.4	0.000
115.5	0.138	25.98	1285.0	1292.8	0.6	15.53	15.68	0.9	0.000
118.2	0.168	25.73	1262.0	1265.7	0.3	14.79	14.83	0.3	0.000
121.0	0.206	25.46	1236.0	1237.3	0.1	13.99	13.98	-0.1	0.000
124.7	0.264	25.10	1201.0	1199.2	-0.2	12.96	12.89	-0.6	0.000
127.3	0.312	24.84	1173.0	1172.0	-0.1	12.19	12.14	-0.4	0.000
131.6	0.404	24.41	1125.0	1126.3	0.1	10.95	10.94	0.0	0.000
133.7	0.456	24.18	1101.0	1103.5	0.2	10.36	10.38	0.2	0.000
137.7	0.568	23.75	1063.0	1059.5	-0.3	9.42	9.34	-0.9	0.000
143.3	0.758	23.12	994.0	996.1	0.2	7.93	7.95	0.2	0.000
147.4	0.923	22.63	954.0	948.3	-0.6	7.08	6.98	-1.4	0.000
152.9	1.184	21.94	885.0	881.8	-0.4	5.82	5.76	-0.9	0.000
156.2	1.363	21.50	848.0	840.5	-0.9	5.17	5.07	-1.9	0.000
160.1	1.599	20.95	795.0	790.2	-0.6	4.35	4.29	-1.3	0.000
164.4	1.892	20.29	741.0	732.5	-1.1	3.57	3.49	-2.4	0.000
168.8	2.230	19.56	672.0	670.6	-0.2	2.73	2.72	-0.5	0.000
171.7	2.475	19.03	637.0	627.9	-1.4	2.31	2.25	-2.9	0.000
176.5	2.924	18.05	560.0	553.7	-1.1	1.57	1.53	-2.2	0.000
177.8	3.055	17.75	536.0	532.7	-0.6	1.37	1.35	-1.2	0.000

Number of Points (Ref. 57) 26 on saturation boundary

SOUND SPEED:	AAD-%	0.461	BIAS-%	-0.134	RMS-%	0.572
	AAD	4.506	BIAS	-0.030	RMS	5.524 $\text{m} \cdot \text{s}^{-1}$
DERIVATIVE:	AAD-%	0.928	BIAS-%	-0.411	RMS-%	1.147
	AAD	0.086	BIAS	0.018	RMS	0.135 $\text{MPa} \cdot \text{dm}^3 \cdot \text{mol}^{-1}$

Data from Gammon and Douslin [37]

T	P	ρ	W,exp	W,cal	Dev1	$\partial P/\partial \rho _T$ exp	$\partial P/\partial \rho _T$ cal	Dev2	Wt
K	MPa	mol·dm ⁻³	m·s ⁻¹	m·s ⁻¹	%	MPa·dm ³ ·mol ⁻¹	%		
323.15	24.595	10.14	574.3	573.3	-0.2	2.98	2.97	-0.4	0.000
298.15	2.378	1.00	441.9	442.0	0.0	2.28	2.28	0.0	0.857
298.15	5.627	2.50	437.1	437.0	0.0	2.06	2.06	-0.1	0.586
298.15	10.491	5.00	444.6	444.6	0.0	1.88	1.88	0.0	0.489
298.15	15.205	7.49	474.5	474.1	-0.1	1.95	1.95	-0.2	0.000
298.15	19.418	9.53	518.3	517.5	-0.1	2.25	2.24	-0.3	0.000
298.15	20.702	10.08	533.9	532.9	-0.2	2.38	2.37	-0.4	0.000
273.15	16.178	9.63	478.4	477.4	-0.2	1.71	1.70	-0.4	0.000
248.15	12.816	9.75	430.9	429.5	-0.3	1.17	1.16	-0.6	0.000
223.15	9.320	9.88	371.6	370.1	-0.4	0.63	0.62	-0.6	0.000
198.15	5.704	10.05	282.6	282.5	0.0	0.12	0.12	-0.1	0.000
193.05	0.782	0.52	353.2	353.1	0.0	1.42	1.42	0.0	3.567
193.05	1.563	1.11	340.6	340.4	-0.1	1.23	1.23	-0.2	2.485
193.05	2.244	1.70	328.7	328.4	-0.1	1.05	1.05	-0.2	2.039
193.05	2.820	2.30	317.7	317.5	-0.1	0.89	0.88	-0.2	1.789
193.05	3.306	2.90	307.5	307.4	0.0	0.73	0.73	-0.1	1.625
193.05	3.703	3.50	298.3	298.4	0.1	0.60	0.60	0.1	1.511
193.05	4.025	4.10	289.9	290.3	0.1	0.47	0.48	0.2	1.428
193.05	4.281	4.71	282.4	282.9	0.2	0.37	0.37	0.4	1.365
193.05	4.478	5.32	275.6	276.3	0.2	0.28	0.28	0.2	1.319
193.05	4.626	5.93	269.5	270.2	0.3	0.20	0.21	0.4	1.283
193.05	4.729	6.51	264.2	265.0	0.3	0.15	0.15	0.4	0.000
193.05	4.806	7.13	258.9	260.0	0.4	0.10	0.10	1.0	0.000
193.05	4.859	7.75	254.1	255.6	0.6	0.07	0.07	0.8	0.000
193.05	4.897	8.39	249.9	252.0	0.9	0.05	0.05	1.0	0.000
193.05	4.924	9.03	246.7	249.7	1.2	0.04	0.04	2.9	0.000
193.05	4.946	9.64	245.7	249.3	1.5	0.03	0.03	2.9	0.000
193.05	4.962	10.12	246.8	250.6	1.5	0.03	0.03	4.4	0.000
193.05	4.966	10.24	247.5	251.3	1.5	0.03	0.04	3.1	0.000
193.05	4.988	10.83	253.1	256.4	1.3	0.04	0.04	3.0	0.000
193.05	5.016	11.43	263.1	265.7	1.0	0.05	0.05	3.2	0.000
191.45	4.587	6.52	258.4	259.2	0.3	0.12	0.12	0.6	0.000
191.45	4.646	7.15	251.8	253.3	0.6	0.07	0.07	0.8	0.000
191.45	4.683	7.79	244.5	247.8	1.4	0.04	0.04	2.6	0.000
191.45	4.705	8.45	236.8	243.0	2.6	0.02	0.02	3.6	0.000

Data from Gammon and Douslin [37] (continued)

T	P	ρ	W,exp	W,cal	Dev1	$\partial P/\partial \rho _T$	$\partial P/\partial \rho _T$	Dev2	Wt
						exp	cal		
K	MPa	mol·dm ⁻³	m·s ⁻¹	m·s ⁻¹	%	MPa·dm ³ ·mol ⁻¹	%		
191.45	4.717	9.12	229.5	239.4	4.3	0.01	0.01	11.5	0.000
191.45	4.725	9.74	224.5	237.9	6.0	0.01	0.01	16.6	0.000
191.45	4.730	10.17	223.7	238.4	6.5	0.01	0.01	17.2	0.000
191.45	4.731	10.28	224.1	238.7	6.5	0.01	0.01	19.6	0.000
191.45	4.738	10.82	229.2	242.3	5.7	0.01	0.01	13.1	0.000
191.45	4.748	11.40	240.2	250.2	4.2	0.02	0.02	6.8	0.000
190.85	4.533	6.53	256.1	257.0	0.3	0.11	0.11	0.7	0.000
190.85	4.586	7.15	248.6	250.7	0.8	0.06	0.06	1.3	0.000
190.85	4.616	7.80	239.8	244.8	2.1	0.03	0.03	3.0	0.000
190.85	4.632	8.48	228.9	239.4	4.6	0.01	0.01	11.3	0.000
190.85	4.638	9.21	215.8	235.0	8.9	0.00	0.01	18.5	0.000
190.85	4.641	9.89	205.1	233.2	13.7	0.00	0.00	26.9	0.000
190.85	4.643	10.29	204.4	233.7	14.3	0.00	0.00	30.4	0.000
190.85	4.643	10.37	205.1	233.9	14.1	0.00	0.00	34.4	0.000
190.85	4.646	10.86	212.9	237.0	11.3	0.00	0.01	14.2	0.000
190.85	4.650	11.42	225.9	244.5	8.3	0.01	0.01	14.4	0.000
190.63	4.513	6.53	255.2	256.1	0.3	0.10	0.10	0.5	0.000
190.63	4.564	7.15	247.4	249.7	1.0	0.06	0.06	1.5	0.000
190.63	4.592	7.80	237.7	243.6	2.5	0.03	0.03	4.4	0.000
190.63	4.605	8.49	224.5	238.0	6.0	0.01	0.01	10.8	0.000
190.63	4.609	9.28	204.1	233.2	14.2	0.00	0.00	36.6	0.000
190.63	4.610	9.86	191.3	231.5	21.0	0.00	0.00	10.8	0.000
190.63	4.611	10.53	195.2	232.6	19.2	0.00	0.00	36.8	0.000
190.63	4.611	10.51	195.5	232.6	18.9	0.00	0.00	33.9	0.000
190.63	4.612	11.08	205.9	237.2	15.2	0.00	0.00	22.4	0.000
190.63	4.615	11.48	219.1	243.3	11.1	0.01	0.01	17.6	0.000
190.56	4.507	6.53	255.0	255.8	0.3	0.10	0.10	0.4	0.000
190.56	4.556	7.16	246.9	249.4	1.0	0.06	0.06	2.8	0.000
190.56	4.584	7.80	237.0	243.3	2.7	0.03	0.03	4.0	0.000
190.56	4.596	8.48	222.8	237.6	6.7	0.01	0.01	14.0	0.000
190.56	4.600	9.21	199.1	233.0	17.0	0.00	0.00	11.5	0.000
190.56	4.601	10.23	184.2	231.0	25.4	0.00	0.00	127.9	0.000
190.56	4.601	10.95	198.0	235.1	18.8	0.00	0.00	79.3	0.000
190.56	4.601	10.83	196.6	234.0	19.0	0.00	0.00	22.3	0.000
190.56	4.602	11.24	205.4	238.6	16.2	0.00	0.00	30.4	0.000

Data from Gammon and Douslin [37] (continued)

T	P	ρ	W,exp	W,cal	Dev1	$\partial P/\partial \rho _T$	$\partial P/\partial \rho _T$	Dev2	Wt
						exp	cal		
K	MPa	mol·dm ⁻³	m·s ⁻¹	m·s ⁻¹	%	MPa·dm ³ ·mol ⁻¹	%		
190.56	4.603	11.55	217.0	243.9	12.4	0.01	0.01	32.8	0.000
190.50	0.771	0.52	350.5	350.4	0.0	1.40	1.40	-0.1	3.549
190.50	1.538	1.11	337.6	337.3	-0.1	1.21	1.20	-0.1	2.466
190.50	2.203	1.71	325.3	325.0	-0.1	1.02	1.02	-0.2	2.023
190.50	2.760	2.30	313.9	313.7	-0.1	0.85	0.85	-0.2	1.775
190.50	3.226	2.91	303.2	303.2	0.0	0.70	0.70	-0.1	0.000
190.50	3.603	3.51	293.5	293.7	0.0	0.56	0.56	0.0	0.000
190.50	3.902	4.11	284.7	284.9	0.1	0.44	0.44	0.2	0.000
190.50	4.133	4.72	276.5	276.8	0.1	0.33	0.33	0.2	0.000
190.50	4.304	5.32	269.0	269.3	0.1	0.24	0.24	0.0	0.000
190.50	4.425	5.94	261.7	262.1	0.1	0.16	0.16	0.4	0.000
190.50	4.501	6.53	254.7	255.6	0.4	0.10	0.10	0.4	0.000
190.50	4.550	7.15	246.6	249.1	1.0	0.06	0.06	2.9	0.000
190.50	4.577	7.80	236.3	243.0	2.8	0.03	0.03	4.4	0.000
190.50	4.589	8.48	221.0	237.3	7.4	0.01	0.01	17.4	0.000
190.50	4.592	9.04	200.0	233.5	16.8	0.00	0.00	28.7	0.000
190.43	4.495	6.53	254.4	255.3	0.4	0.10	0.10	1.0	0.000
190.43	4.543	7.16	246.1	248.8	1.1	0.05	0.06	2.4	0.000
190.43	4.569	7.80	235.5	242.6	3.0	0.02	0.03	8.4	0.000
190.43	4.580	8.48	218.3	236.9	8.5	0.01	0.01	20.7	0.000
190.25	4.287	5.33	268.3	268.5	0.1	0.23	0.23	0.2	0.000
190.25	4.405	5.94	260.9	261.2	0.1	0.16	0.16	0.0	0.000
190.25	4.479	6.53	253.7	254.6	0.4	0.10	0.10	0.7	0.000
190.25	4.525	7.16	245.0	248.0	1.2	0.05	0.05	2.1	0.000
190.25	4.549	7.80	233.2	241.7	3.6	0.02	0.02	5.3	0.000
189.65	3.861	4.11	282.9	283.1	0.1	0.42	0.42	0.0	0.000
189.65	4.083	4.72	274.5	274.7	0.1	0.31	0.31	0.1	0.000
189.65	4.245	5.33	266.7	266.8	0.0	0.22	0.22	-0.2	0.000
189.65	4.357	5.94	258.9	259.2	0.1	0.14	0.14	-0.1	0.000
189.65	4.424	6.53	251.0	252.3	0.5	0.09	0.09	0.7	0.000
189.65	4.463	7.16	240.5	245.3	2.0	0.04	0.04	4.0	0.000
188.15	0.761	0.52	348.0	347.9	0.0	1.38	1.38	-0.1	0.012
188.15	1.515	1.11	334.8	334.5	-0.1	1.18	1.18	-0.2	0.008
188.15	2.164	1.71	322.1	321.8	-0.1	0.99	0.99	-0.2	0.007
188.15	2.705	2.30	310.3	310.1	-0.1	0.82	0.82	-0.1	0.006

Data from Gammon and Douslin [37] (continued)

T	P	ρ	W, exp	W, cal	Dev1	$\partial P/\partial \rho _T$	$\partial P/\partial \rho _T$	Dev2	Wt
						exp	cal		
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{m} \cdot \text{s}^{-1}$	$\text{m} \cdot \text{s}^{-1}$	%	$\text{MPa} \cdot \text{dm}^3 \cdot \text{mol}^{-1}$	%		
188.15	3.153	2.91	299.2	299.2	0.0	0.67	0.66	0.0	0.000
188.15	3.509	3.51	289.1	289.1	0.0	0.52	0.52	0.0	0.000
188.15	3.787	4.11	279.6	279.7	0.0	0.40	0.40	0.0	0.000
188.15	3.995	4.72	270.9	270.8	0.0	0.29	0.29	0.0	0.000
188.15	4.140	5.33	262.4	262.2	-0.1	0.19	0.19	0.0	0.000
188.15	4.235	5.95	253.4	253.8	0.1	0.11	0.12	0.3	0.000
183.15	0.738	0.52	342.6	342.5	0.0	1.33	1.33	-0.1	0.012
183.15	1.465	1.11	328.6	328.3	-0.1	1.13	1.13	-0.2	0.008
183.15	2.083	1.71	315.1	314.8	-0.1	0.94	0.93	-0.2	0.007
183.15	2.587	2.31	302.4	302.2	-0.1	0.76	0.76	-0.1	0.006
183.15	2.995	2.91	290.4	290.3	-0.1	0.59	0.59	-0.2	0.005
183.15	3.307	3.51	279.1	278.9	-0.1	0.45	0.45	-0.2	0.000
183.15	3.537	4.12	268.4	267.6	-0.3	0.31	0.31	-0.6	0.000
173.15	0.694	0.52	331.5	331.3	-0.1	1.24	1.24	-0.1	0.011
173.15	1.363	1.11	315.8	315.5	-0.1	1.02	1.02	-0.2	0.008
173.15	1.915	1.71	300.4	300.1	-0.1	0.82	0.81	-0.3	0.006
173.15	2.344	2.31	285.7	285.2	-0.2	0.62	0.62	-0.4	0.006
163.15	0.649	0.52	319.9	319.7	-0.1	1.14	1.14	-0.2	0.011
163.15	1.259	1.12	302.2	302.0	-0.1	0.91	0.91	-0.2	0.008
163.15	1.740	1.72	284.6	283.9	-0.2	0.69	0.68	-0.4	0.006
153.15	0.604	0.52	307.7	307.5	-0.1	1.05	1.05	-0.1	0.011
143.15	0.557	0.52	294.9	294.7	-0.1	0.95	0.95	-0.2	0.010
190.50	4.592	11.19	200.3	237.3	18.4	0.00	0.00	19.1	0.000
190.50	4.592	11.33	203.1	239.4	17.9	0.00	0.00	27.3	0.000
190.50	4.592	11.28	203.4	238.6	17.3	0.00	0.00	63.1	0.000
190.50	4.592	11.33	203.6	239.4	17.5	0.00	0.00	25.3	0.000
190.50	4.594	11.61	215.4	244.4	13.4	0.01	0.01	30.0	0.000
190.43	4.582	11.59	209.1	243.3	16.4	0.00	0.01	51.9	0.000
190.43	4.584	11.77	217.7	247.2	13.5	0.01	0.01	38.9	0.000
190.25	4.556	12.09	224.4	253.7	13.0	0.01	0.02	25.5	0.000
190.25	4.557	12.15	227.1	255.3	12.4	0.01	0.02	31.0	0.000
189.65	4.471	13.01	259.0	281.4	8.6	0.05	0.05	18.4	0.000
189.65	4.472	13.03	259.7	282.0	8.6	0.05	0.06	18.5	0.000
188.15	4.267	14.21	314.1	331.0	5.4	0.16	0.18	11.0	0.000
188.15	4.267	14.22	314.2	331.1	5.4	0.16	0.18	10.6	0.000

Data from Gammon and Douslin [37] (continued)

T	P	ρ	W,exp	W,cal	Dev1	$\partial P/\partial \rho _T$	$\partial P/\partial \rho _T$	Dev2	Wt
						exp	cal		
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{m} \cdot \text{s}^{-1}$	$\text{m} \cdot \text{s}^{-1}$	%	$\text{MPa} \cdot \text{dm}^3 \cdot \text{mol}^{-1}$	%		
185.91	3.977	15.32	374.2	385.6	3.0	0.37	0.40	6.0	0.000
183.15	3.642	16.31	434.9	440.5	1.3	0.68	0.69	2.5	0.000
183.15	3.642	16.31	435.0	440.5	1.3	0.68	0.69	2.6	0.000
178.15	3.092	17.67	528.4	527.1	-0.2	1.31	1.31	-0.5	9.928
173.15	2.606	18.75	610.0	606.1	-0.6	2.05	2.02	-1.3	5.181
170.75	2.394	19.21	646.5	642.1	-0.7	2.43	2.40	-1.4	4.019
163.15	1.804	20.49	754.1	749.6	-0.6	3.77	3.72	-1.3	2.608
155.44	1.321	21.60	854.4	850.2	-0.5	5.29	5.23	-1.1	2.024
153.15	1.197	21.91	882.8	878.7	-0.5	5.77	5.71	-1.1	1.908
143.15	0.753	23.14	1001.9	997.9	-0.4	8.06	7.98	-1.0	1.544
140.02	0.643	23.50	1037.6	1033.5	-0.4	8.84	8.75	-1.0	1.461
133.15	0.443	24.24	1113.9	1109.5	-0.4	10.64	10.53	-1.0	1.311
125.09	0.271	25.06	1200.3	1195.1	-0.4	12.92	12.77	-1.1	1.174
123.15	0.239	25.26	1220.6	1215.2	-0.4	13.49	13.34	-1.1	1.146
113.15	0.115	26.20	1322.7	1316.2	-0.5	16.64	16.43	-1.3	1.022
190.43	4.582	8.78	206.8	234.7	13.5	0.00	0.00	38.7	0.000
190.37	4.572	8.44	215.8	236.8	9.8	0.01	0.01	17.3	0.000
190.35	4.569	8.40	215.6	237.0	9.9	0.01	0.01	24.2	0.000
190.25	4.556	8.22	220.8	237.9	7.7	0.01	0.01	21.7	0.000
190.03	4.523	7.79	229.7	240.7	4.8	0.02	0.02	12.0	0.000
189.97	4.516	7.74	230.0	240.9	4.7	0.02	0.02	9.8	0.000
189.65	4.471	7.36	235.9	243.1	3.1	0.03	0.03	6.1	0.000
189.65	4.471	7.36	235.9	243.2	3.1	0.03	0.03	6.6	0.000
189.50	4.448	7.15	239.3	244.7	2.3	0.04	0.04	3.5	0.000
189.40	4.436	7.12	239.1	244.6	2.3	0.04	0.04	4.3	0.000
188.70	4.336	6.54	246.2	248.4	0.9	0.07	0.07	1.6	0.000
188.60	4.326	6.52	245.9	248.3	0.9	0.07	0.07	1.4	0.000
188.15	4.266	6.26	248.2	249.7	0.6	0.08	0.08	1.4	0.000
187.60	4.189	5.95	251.3	251.9	0.2	0.10	0.11	0.3	0.000
187.45	4.173	5.92	251.2	251.8	0.2	0.11	0.11	0.1	0.000
186.10	3.993	5.33	256.1	255.7	-0.2	0.16	0.16	-0.6	0.000
185.90	3.974	5.30	256.0	255.5	-0.2	0.16	0.16	-0.4	0.000
184.15	3.751	4.73	260.5	259.5	-0.4	0.22	0.21	-0.7	0.000
183.90	3.729	4.70	260.4	259.3	-0.4	0.22	0.22	-0.9	0.000
183.15	3.641	4.50	261.7	260.6	-0.4	0.24	0.24	-0.7	0.000

Data from Gammon and Douslin [37] (continued)

T	P	ρ	W,exp	W,cal	Dev1	$\partial P/\partial \rho _T$	$\partial P/\partial \rho _T$	Dev2	Wt
						exp	cal		
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{m} \cdot \text{s}^{-1}$	$\text{m} \cdot \text{s}^{-1}$	%	$\text{MPa} \cdot \text{dm}^3 \cdot \text{mol}^{-1}$	%		
181.55	3.451	4.12	264.7	263.5	-0.5	0.29	0.28	-1.1	0.000
181.30	3.429	4.08	264.8	263.4	-0.5	0.29	0.29	-1.1	0.000
178.25	3.098	3.51	269.0	267.7	-0.5	0.37	0.37	-0.9	0.005
178.05	3.080	3.48	269.1	267.8	-0.5	0.37	0.37	-0.9	0.005
174.25	2.699	2.91	273.7	272.5	-0.4	0.46	0.46	-1.0	0.005
173.95	2.678	2.89	273.6	272.4	-0.5	0.46	0.46	-0.9	0.005
173.15	2.605	2.79	274.4	273.2	-0.5	0.48	0.48	-1.0	0.005
169.15	2.241	2.31	278.6	277.6	-0.4	0.57	0.56	-0.7	0.005
168.55	2.209	2.28	278.3	277.3	-0.4	0.57	0.56	-0.8	0.005
163.15	1.803	1.81	281.9	281.0	-0.3	0.65	0.65	-0.7	0.006
162.65	1.730	1.72	283.8	283.1	-0.3	0.68	0.68	-0.5	0.006
161.45	1.687	1.68	282.8	282.0	-0.3	0.68	0.67	-0.6	0.006
155.05	1.173	1.12	290.5	290.2	-0.1	0.82	0.82	-0.2	0.007
153.15	1.196	1.17	285.8	285.2	-0.2	0.77	0.77	-0.4	0.007
150.65	1.071	1.05	286.3	285.8	-0.2	0.80	0.79	-0.4	0.007
148.15	0.956	0.94	286.6	286.1	-0.2	0.82	0.81	-0.3	0.008
143.15	0.752	0.74	286.6	286.2	-0.1	0.85	0.85	-0.3	0.009
138.15	0.533	0.52	288.2	288.0	-0.1	0.90	0.90	-0.2	0.010
133.15	0.442	0.44	284.6	284.2	-0.1	0.89	0.88	-0.3	0.011
123.15	0.238	0.25	279.9	279.4	-0.2	0.89	0.89	-0.3	0.014
113.15	0.114	0.13	272.8	271.8	-0.4	0.87	0.87	-0.8	0.019

Number of Points (Ref.37) 196

SOUND SPEED: AAD-%	3.379	BIAS-%	3.196	RMS-%	5.712	
AAD	7.556	BIAS	6.649	RMS	11.888	$\text{m} \cdot \text{s}^{-1}$
DERIVATIVE: AAD-%	7.363	BIAS-%	6.963	RMS-%	15.048	
AAD	0.007	BIAS	-0.005	RMS	0.025	$\text{MPa} \cdot \text{dm}^3 \cdot \text{mol}^{-1}$

Number of Points (Ref. 37) 138 outside critical region

SOUND SPEED: AAD-%	0.844	BIAS-%	0.584	RMS-%	1.752	
AAD	2.489	BIAS	1.200	RMS	4.765	$\text{m} \cdot \text{s}^{-1}$

Data from Sivaramin and Gammon [44]

T	P	ρ	W, exp	W, cal	Dev1	$\partial P / \partial \rho _T$	$\partial P / \partial \rho _T$	Dev2	Wt
						exp	cal		
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{m} \cdot \text{s}^{-1}$	$\text{m} \cdot \text{s}^{-1}$	%	$\text{MPa} \cdot \text{dm}^3 \cdot \text{mol}^{-1}$	%		
193.05	1.4555	-	342.31	342.20	-0.032	-	-	-	-
193.05	3.4464	-	304.34	304.34	0.000	-	-	-	-
193.05	4.4289	-	277.41	278.04	0.228	-	-	-	-
193.05	4.8182	-	257.92	259.05	0.439	-	-	-	-
193.05	4.9370	-	245.84	249.23	1.378	-	-	-	-
193.05	5.0192	-	264.32	266.94	0.992	-	-	-	-
193.05	5.1745	-	313.12	315.90	0.889	-	-	-	-
193.05	5.6433	-	392.17	393.83	0.424	-	-	-	-
195.15	1.4748	-	344.79	344.64	-0.042	-	-	-	-
195.15	3.5174	-	307.89	307.88	-0.001	-	-	-	-
195.15	4.5645	-	282.46	283.24	0.276	-	-	-	-
195.15	5.0281	-	266.32	267.32	0.377	-	-	-	-
195.15	5.2175	-	261.11	261.87	0.294	-	-	-	-
195.15	5.3794	-	283.72	284.34	0.218	-	-	-	-
195.15	5.6169	-	330.36	331.88	0.460	-	-	-	-
195.15	6.1971	-	406.00	406.25	0.062	-	-	-	-
200.15	1.5200	-	350.48	350.36	-0.034	-	-	-	-
200.15	3.6831	-	316.08	316.10	0.004	-	-	-	-
200.15	4.8817	-	293.83	294.72	0.303	-	-	-	-
200.15	5.3444	-	285.38	286.65	0.443	-	-	-	-
200.15	5.8840	-	286.39	286.68	0.101	-	-	-	-
200.15	6.2521	-	315.80	316.11	0.097	-	-	-	-
200.15	6.6840	-	361.70	361.84	0.041	-	-	-	-
200.15	7.5229	-	433.29	431.98	-0.301	-	-	-	-
210.15	1.6096	-	361.65	361.42	-0.064	-	-	-	-
210.15	3.9818	-	331.92	331.97	0.016	-	-	-	-
210.15	5.4978	-	314.59	315.28	0.221	-	-	-	-
210.15	6.4755	-	310.70	311.65	0.306	-	-	-	-
210.15	7.2020	-	322.91	322.90	-0.001	-	-	-	-
210.15	7.9731	-	357.87	357.09	-0.218	-	-	-	-
210.15	8.8393	-	407.26	405.64	-0.398	-	-	-	-
210.15	10.1705	-	476.05	473.81	-0.470	-	-	-	-
223.15	1.7246	-	375.27	375.11	-0.043	-	-	-	-
223.15	4.3776	-	350.79	350.77	-0.004	-	-	-	-
223.15	6.2730	-	338.77	339.21	0.131	-	-	-	-

Data from Sivaramin and Gammon [44] (continued)

T	P	ρ	W,exp	W,cal	Dev1	$\partial P/\partial \rho _T$	$\partial P/\partial \rho _T$	Dev2	Wt
						exp	cal		
K	MPa	mol·dm ⁻³	m·s ⁻¹	m·s ⁻¹	%	MPa·dm ³ ·mol ⁻¹	%		
223.15	7.6782	-	341.08	341.36	0.082	-	-	-	-
223.15	8.8588	-	360.17	358.52	-0.458	-	-	-	-
223.15	10.2272	-	400.90	398.98	-0.478	-	-	-	-
223.15	11.8153	-	453.11	456.85	0.825	-	-	-	-
248.15	1.9419	-	399.71	399.49	-0.055	-	-	-	-
248.15	5.1074	-	383.14	383.12	-0.005	-	-	-	-
248.15	7.6438	-	379.16	379.36	0.055	-	-	-	-
248.15	9.8765	-	389.83	389.51	-0.081	-	-	-	-
248.15	11.9829	-	417.23	415.15	-0.497	-	-	-	-
248.15	14.4705	-	464.55	463.08	-0.317	-	-	-	-
273.15	2.1550	-	421.74	421.67	-0.017	-	-	-	-
273.15	5.8826	-	411.50	411.42	-0.019	-	-	-	-
273.15	9.0367	-	413.83	413.86	0.007	-	-	-	-
273.15	11.9865	-	430.46	429.89	-0.133	-	-	-	-
273.15	15.1102	-	463.69	462.90	-0.171	-	-	-	-
273.15	18.6778	-	516.55	515.58	-0.189	-	-	-	-
298.15	2.3772	-	441.86	441.95	0.022	-	-	-	-
298.15	4.5805	-	438.02	437.88	-0.032	-	-	-	-
298.15	6.6411	-	437.04	436.87	-0.039	-	-	-	-
298.15	8.5992	-	439.19	439.07	-0.027	-	-	-	-
298.15	10.4926	-	444.59	444.61	0.004	-	-	-	-
298.15	12.3602	-	453.65	453.61	-0.007	-	-	-	-
298.15	14.2422	-	466.56	466.31	-0.053	-	-	-	-
298.15	16.1884	-	483.45	483.05	-0.083	-	-	-	-
298.15	18.2474	-	504.86	504.20	-0.131	-	-	-	-
298.15	20.4839	-	531.11	530.26	-0.160	-	-	-	-
298.15	22.9728	-	562.60	561.69	-0.162	-	-	-	-
323.15	2.5998	-	460.66	460.70	0.010	-	-	-	-
323.15	5.0523	-	459.14	458.86	-0.061	-	-	-	-
323.15	7.3921	-	460.30	460.03	-0.058	-	-	-	-
323.15	9.6586	-	464.64	464.41	-0.049	-	-	-	-
323.15	11.8912	-	472.31	472.12	-0.039	-	-	-	-
323.15	14.1263	-	483.53	483.31	-0.045	-	-	-	-

Data from Sivaramin and Gammon [44] (continued)

T	P	ρ	W,exp	W,cal	Dev1	$\partial P/\partial \rho _T$	$\partial P/\partial \rho _T$	Dev2	Wt
						exp	cal		
K	MPa	mol·dm ⁻³	m·s ⁻¹	m·s ⁻¹	%	MPa·dm ³ ·mol ⁻¹	%		
323.15	16.4214	-	498.55	498.27	-0.055	-	-	-	-
323.15	18.8148	-	517.76	517.22	-0.105	-	-	-	-
323.15	21.3771	-	541.31	540.62	-0.126	-	-	-	-
323.15	24.1556	-	569.45	568.68	-0.135	-	-	-	-
348.15	2.8212	-	478.08	478.19	0.023	-	-	-	-
348.15	5.5215	-	478.58	478.28	-0.063	-	-	-	-
348.15	11.9927	-	492.36	491.99	-0.074	-	-	-	-
348.15	13.2802	-	497.55	497.23	-0.065	-	-	-	-
348.15	15.8908	-	510.84	510.36	-0.093	-	-	-	-
348.15	18.5881	-	527.81	527.21	-0.114	-	-	-	-
348.15	21.4232	-	548.62	548.02	-0.109	-	-	-	-
348.15	24.4792	-	573.98	573.27	-0.124	-	-	-	-
373.15	3.0434	-	494.48	494.64	0.033	-	-	-	-
373.15	5.9932	-	496.63	496.45	-0.035	-	-	-	-
373.15	8.8836	-	501.54	501.22	-0.063	-	-	-	-
373.15	11.7603	-	509.58	509.17	-0.081	-	-	-	-
373.15	14.6627	-	520.99	520.46	-0.102	-	-	-	-
373.15	17.6313	-	535.78	535.22	-0.104	-	-	-	-
373.15	20.7423	-	554.36	553.81	-0.098	-	-	-	-
373.15	24.0067	-	576.81	576.19	-0.108	-	-	-	-
373.15	27.5422	-	603.75	602.97	-0.129	-	-	-	-
398.15	3.2337	-	510.22	510.24	0.003	-	-	-	-
398.15	6.4583	-	513.95	513.61	-0.065	-	-	-	-
398.15	9.6228	-	520.31	519.91	-0.077	-	-	-	-
398.15	12.8003	-	529.93	529.37	-0.106	-	-	-	-
398.15	16.0370	-	542.82	542.18	-0.119	-	-	-	-
398.15	19.3679	-	559.18	558.45	-0.130	-	-	-	-
398.15	22.8752	-	579.33	578.53	-0.139	-	-	-	-
398.15	26.6023	-	603.37	602.55	-0.136	-	-	-	-
423.15	3.4839	-	525.07	525.18	0.022	-	-	-	-
423.15	6.9249	-	530.37	529.96	-0.077	-	-	-	-
423.15	10.3612	-	538.16	537.66	-0.092	-	-	-	-
423.15	13.8385	-	549.13	548.51	-0.112	-	-	-	-
423.15	17.4008	-	563.41	562.69	-0.127	-	-	-	-
423.15	21.1001	-	581.48	580.38	-0.188	-	-	-	-
423.15	24.9969	-	602.88	601.80	-0.179	-	-	-	-

Data from Sivaramin and Gammon [44] (continued)

Number of Points (Ref.44) 104

SOUND SPEED: AAD-% 0.164 BIAS-% 0.005 RMS-% 0.272
 AAD 0.643 BIAS -0.124 RMS 0.939 m·s⁻¹

Data from Straty [58]

T	P	ρ	W, exp	W, cal	Dev1	$\partial P / \partial \rho _T$ exp	$\partial P / \partial \rho _T$ cal	Dev2	Wt
K	MPa	mol·dm ⁻³	m·s ⁻¹	m·s ⁻¹	%	MPa·dm ³ ·mol ⁻¹	%		
91.00	0.012	28.12	1538.1	1544.9	0.4	24.03	24.33	1.3	8.604
92.00	0.014	28.04	1528.7	1532.8	0.3	23.74	23.93	0.8	8.658
96.00	0.022	27.70	1490.6	1487.7	-0.2	22.48	22.39	-0.4	8.913
100.00	0.034	27.36	1452.2	1446.2	-0.4	21.13	20.92	-1.0	9.213
101.73	0.041	27.21	1435.5	1428.9	-0.5	20.53	20.30	-1.1	-0.000
104.00	0.051	27.02	1413.4	1406.3	-0.5	19.74	19.50	-1.2	9.553
108.00	0.074	26.66	1373.8	1367.0	-0.5	18.36	18.12	-1.3	9.933
112.00	0.104	26.30	1334.1	1327.6	-0.5	17.01	16.80	-1.3	10.349
116.00	0.143	25.94	1294.0	1287.8	-0.5	15.71	15.52	-1.2	10.807
120.00	0.192	25.56	1252.9	1247.5	-0.4	14.45	14.28	-1.1	2.263
124.00	0.252	25.17	1211.3	1206.4	-0.4	13.23	13.09	-1.1	2.377
128.00	0.325	24.77	1169.1	1164.6	-0.4	12.06	11.94	-1.0	2.503
132.00	0.414	24.36	1126.0	1121.9	-0.4	10.94	10.84	-1.0	2.646
136.00	0.518	23.94	1082.2	1078.4	-0.4	9.86	9.77	-0.9	2.809
140.00	0.642	23.50	1037.4	1033.8	-0.4	8.84	8.76	-0.9	2.997
144.00	0.785	23.04	991.7	988.0	-0.4	7.85	7.78	-0.9	3.218
120.00	0.192	25.56	1252.8	1247.5	-0.4	14.44	14.28	-1.1	-0.000
140.00	0.642	23.50	1037.4	1033.8	-0.4	8.84	8.76	-0.9	-0.001
148.00	0.949	22.56	944.8	941.1	-0.4	6.91	6.85	-1.0	3.482
150.00	1.040	22.31	921.0	917.2	-0.4	6.46	6.40	-1.0	3.635
152.00	1.138	22.06	896.6	892.9	-0.4	6.02	5.96	-1.0	3.807
156.00	1.352	21.53	846.9	843.1	-0.5	5.17	5.11	-1.1	4.219
160.00	1.593	20.96	795.5	791.5	-0.5	4.36	4.31	-1.1	4.767
160.00	1.593	20.96	795.5	791.5	-0.5	4.36	4.31	-1.1	-0.001
164.00	1.863	20.36	742.2	738.0	-0.6	3.61	3.56	-1.3	5.545

Data from Straty [58] (continued)

T	P	ρ	W,exp	W,cal	Dev1	$\partial P/\partial \rho _T$ exp	$\partial P/\partial \rho _T$ cal	Dev2	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{m} \cdot \text{s}^{-1}$	$\text{m} \cdot \text{s}^{-1}$	%	$\text{MPa} \cdot \text{dm}^3 \cdot \text{mol}^{-1}$	%		
168.00	2.166	19.70	686.3	682.1	-0.6	2.89	2.85	-1.3	6.789
170.00	2.329	19.35	657.5	653.1	-0.7	2.56	2.52	-1.4	7.766
172.00	2.502	18.97	627.5	623.4	-0.6	2.23	2.20	-1.3	9.281
176.00	2.874	18.16	564.1	561.7	-0.4	1.62	1.60	-0.8	84.709
178.00	3.075	17.70	530.5	529.5	-0.2	1.33	1.33	-0.4	86.608
180.00	3.286	17.20	495.0	496.1	0.2	1.06	1.07	0.4	0.000
182.00	3.508	16.65	457.7	461.3	0.8	0.81	0.83	1.6	0.000
184.00	3.742	16.03	417.2	424.3	1.7	-	-	-	-
186.00	3.988	15.28	370.9	383.5	3.4	-	-	-	-
100.00*	33.385	28.67	1672.6	1670.2	-0.1	30.30	30.28	-0.1	3.277
100.00	26.077	28.42	1630.7	1629.1	-0.1	28.40	28.39	0.0	3.388
100.00	19.123	28.17	1588.1	1586.8	-0.1	26.54	26.53	0.0	3.508
100.00	13.088	27.93	1548.5	1546.8	-0.1	24.88	24.84	-0.1	3.627
100.00	7.244	27.69	1507.4	1504.6	-0.2	23.23	23.14	-0.4	3.759
100.00	1.661	27.44	1465.1	1460.1	-0.3	21.61	21.43	-0.8	3.903
120.00	31.161	27.21	1517.2	1508.6	-0.6	23.78	23.53	-1.1	0.745
120.00	26.233	27.00	1482.8	1475.6	-0.5	22.41	22.20	-0.9	0.769
120.00	19.980	26.70	1436.0	1430.4	-0.4	20.62	20.46	-0.8	0.803
120.00	15.149	26.46	1397.0	1392.3	-0.3	19.20	19.06	-0.7	0.834
120.00	9.258	26.13	1345.2	1341.1	-0.3	17.40	17.27	-0.7	0.878
120.00	4.367	25.84	1290.5	1293.3	0.2	15.66	15.70	0.3	0.929
150.00	34.530	25.26	1339.6	1326.9	-0.9	17.56	17.24	-1.8	0.881
150.00	28.845	24.91	1290.0	1279.6	-0.8	15.92	15.67	-1.6	0.929
150.00	23.669	24.57	1240.3	1232.1	-0.7	14.37	14.19	-1.3	0.982
150.00	18.433	24.18	1184.6	1178.6	-0.5	12.73	12.61	-1.0	1.050
150.00	12.667	23.68	1114.5	1110.7	-0.3	10.83	10.76	-0.7	1.149
150.00	7.263	23.13	1036.6	1034.0	-0.3	8.92	8.87	-0.6	1.284
150.00	3.020	22.60	962.1	959.1	-0.3	7.28	7.23	-0.7	3.378
170.00	31.457	23.58	1183.8	1172.5	-1.0	12.99	12.75	-1.9	1.045
170.00	26.994	23.21	1135.5	1126.4	-0.8	11.66	11.48	-1.6	1.111
170.00	20.773	22.62	1059.2	1053.0	-0.6	9.72	9.61	-1.1	1.235
170.00	17.538	22.27	1013.9	1009.2	-0.5	8.65	8.58	-0.9	1.322
170.00	13.012	21.68	940.7	937.9	-0.3	7.08	7.04	-0.6	1.494
170.00	7.774	20.81	833.5	831.5	-0.2	5.09	5.06	-0.5	1.857
170.00	4.528	20.06	742.9	740.1	-0.4	3.67	3.64	-0.8	2.367

Data from Straty [58] (continued)

T	P	ρ	W,exp	W,cal	Dev1	$\partial P/\partial \rho _T$	$\partial P/\partial \rho _T$	Dev2	Wt
						exp	cal		
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{m} \cdot \text{s}^{-1}$	$\text{m} \cdot \text{s}^{-1}$	%	$\text{MPa} \cdot \text{dm}^3 \cdot \text{mol}^{-1}$	%		
184.00	34.254	22.75	1129.0	1117.6	-1.0	11.68	11.45	-2.0	4.466
184.00	27.883	22.15	1055.1	1046.9	-0.8	9.81	9.66	-1.5	4.946
184.00	22.511	21.54	982.8	977.2	-0.6	8.14	8.06	-1.1	5.533
184.00	17.862	20.90	909.0	905.6	-0.4	6.62	6.58	-0.7	6.306
184.00	13.839	20.21	831.9	830.0	-0.2	5.22	5.19	-0.4	7.413
184.00	10.436	19.46	751.2	749.2	-0.3	3.93	3.91	-0.5	9.183
184.00	7.722	18.65	666.6	664.2	-0.4	2.79	2.77	-0.7	12.672
184.00	5.770	17.79	579.9	579.7	0.0	1.84	1.84	0.0	0.000
184.00	5.301	17.52	552.8	553.9	0.2	1.58	1.59	0.4	0.000
210.00	34.073	20.74	987.0	979.0	-0.8	8.56	8.43	-1.6	0.182
210.00	27.598	19.88	898.0	893.4	-0.5	6.72	6.65	-1.0	0.213
210.00	22.264	18.96	809.8	807.7	-0.3	5.13	5.10	-0.5	0.258
210.00	17.486	17.86	711.5	710.9	-0.1	3.63	3.62	-0.1	0.346
210.00	14.832	17.02	643.9	643.2	-0.1	2.76	2.75	-0.2	0.472
210.00	12.703	16.12	577.5	576.9	-0.1	2.02	2.02	-0.2	0.901
210.00	10.944	15.08	511.5	509.6	-0.4	1.41	1.40	-0.7	0.817
210.00	12.705	16.12	578.0	576.9	-0.2	2.03	2.02	-0.3	-0.001
210.00	10.951	15.09	511.5	509.9	-0.3	1.41	1.40	-0.6	-0.001
210.00	10.173	14.47	477.0	475.2	-0.4	1.14	1.13	-0.7	0.607
210.00	9.646	13.96	451.2	449.6	-0.4	0.95	0.95	-0.7	0.533
240.00	34.638	18.49	863.5	858.7	-0.6	6.40	6.33	-1.1	0.226
240.00	29.111	17.51	782.7	780.0	-0.3	5.00	4.96	-0.7	0.274
240.00	24.656	16.49	707.0	705.7	-0.2	3.86	3.84	-0.4	0.348
240.00	20.885	15.36	632.6	632.2	-0.1	2.89	2.89	-0.1	0.500
240.00	24.662	16.49	706.8	705.8	-0.1	3.85	3.84	-0.3	-0.000
240.00	20.886	15.36	632.8	632.2	-0.1	2.90	2.89	-0.2	-0.000
240.00	18.890	14.61	588.8	588.4	-0.1	2.40	2.40	-0.2	0.746
240.00	16.841	13.65	540.2	539.4	-0.2	1.91	1.91	-0.3	1.662
240.00	15.186	12.68	498.4	497.3	-0.2	1.55	1.54	-0.4	0.711
240.00	14.071	11.90	469.8	468.4	-0.3	1.33	1.32	-0.6	0.582
270.00	34.769	16.30	771.5	769.1	-0.3	5.12	5.09	-0.6	0.001
270.00	30.486	15.37	711.2	709.9	-0.2	4.20	4.19	-0.4	0.001
270.00	25.972	14.15	641.6	641.0	-0.1	3.27	3.27	-0.2	0.002
270.00	21.837	12.70	572.8	572.3	-0.1	2.49	2.49	-0.2	0.004
300.00	34.838	14.33	713.9	712.2	-0.2	4.52	4.50	-0.5	0.001

Data from Straty [58] (continued)

T	P	ρ	W,exp	W,cal	Dev1	$\partial P/\partial \rho _T$ exp	$\partial P/\partial \rho _T$ cal	Dev2	Wt
K	MPa	mol·dm ⁻³	m·s ⁻¹	m·s ⁻¹	%	MPa·dm ³ ·mol ⁻¹		%	
300.00	29.732	13.07	649.5	648.3	-0.2	3.64	3.63	-0.4	0.002
300.00	27.295	12.36	618.0	616.8	-0.2	3.26	3.24	-0.4	0.002
300.00	24.427	11.41	580.4	579.5	-0.2	2.84	2.83	-0.4	0.003
300.00	20.983	10.09	537.3	536.0	-0.2	2.42	2.41	-0.5	0.007

Number of Points (Ref. 58) 99 Data above the starred temperature for this reference were at saturation boundary.

SOUND SPEED: AAD-% 0.414 BIAS-% -0.268 RMS-% 0.502
AAD 3.835 BIAS -3.043 RMS 3.667 m·s⁻¹

Number of Points (Ref. 58) 91 Selected data (omitting those with negative weights). These 91 points contribute to total below.

SOUND SPEED: AAD-% 0.424 BIAS-% -0.264 RMS-% 0.522
AAD 3.910 BIAS -3.048 RMS 3.773 m·s⁻¹

Number of Points (Ref. 58) 97

DERIVATIVE: AAD-% 0.783 BIAS-% -0.683 RMS-% 0.593
AAD 0.079 BIAS -0.067 RMS 0.091 MPa·dm³·mol⁻¹

Data from Van Dael et al. [59]

T	P	ρ	W,exp	W,cal	Dev1	$\partial P/\partial \rho _T$	$\partial P/\partial \rho _T$	Dev2	Wt
						exp	cal		
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{m} \cdot \text{s}^{-1}$	$\text{m} \cdot \text{s}^{-1}$	%	$\text{MPa} \cdot \text{dm}^3 \cdot \text{mol}^{-1}$	%		
94.05	0.018	27.86	1509.0	1509.1	0.0	23.11	23.13	0.1	0.001
94.36	0.018	27.84	1507.0	1505.6	-0.1	23.04	23.02	-0.1	0.001
96.17	0.023	27.69	1489.8	1485.9	-0.3	22.45	22.33	-0.5	0.001
98.50	0.029	27.49	1466.6	1461.5	-0.3	21.64	21.46	-0.8	0.001
101.79	0.041	27.21	1433.9	1428.3	-0.4	20.48	20.27	-1.0	0.001
105.45	0.059	26.89	1400.0	1392.0	-0.6	19.26	18.99	-1.4	0.001
109.09	0.082	26.57	1363.8	1356.2	-0.6	18.01	17.76	-1.4	0.001
112.79	0.111	26.23	1326.8	1319.7	-0.5	16.77	16.54	-1.4	0.001
116.07	0.144	25.93	1293.3	1287.1	-0.5	15.69	15.50	-1.2	0.001
119.78	0.189	25.58	1256.0	1249.7	-0.5	14.54	14.35	-1.3	0.001
123.81	0.249	25.19	1214.5	1208.4	-0.5	13.31	13.15	-1.3	0.001
127.96	0.325	24.78	1170.3	1165.0	-0.4	12.09	11.95	-1.1	0.001
131.97	0.413	24.37	1127.2	1122.3	-0.4	10.97	10.84	-1.1	0.001
136.17	0.523	23.92	1081.0	1076.5	-0.4	9.83	9.73	-1.0	0.001
140.23	0.649	23.47	1035.3	1031.2	-0.4	8.79	8.70	-1.0	0.001
144.49	0.804	22.98	986.7	982.4	-0.4	7.74	7.66	-1.1	0.001
149.01	0.995	22.44	933.3	929.1	-0.5	6.69	6.62	-1.1	0.001
153.78	1.230	21.83	875.7	870.9	-0.5	5.65	5.58	-1.3	0.001
158.02	1.470	21.25	822.2	817.3	-0.6	4.77	4.70	-1.3	0.001
162.81	1.780	20.54	759.1	754.1	-0.7	3.83	3.78	-1.4	0.002
167.50	2.126	19.78	694.3	689.2	-0.7	2.99	2.94	-1.6	0.002
172.02	2.503	18.97	628.2	623.1	-0.8	2.23	2.20	-1.6	0.003
176.44	2.918	18.06	558.1	554.7	-0.6	1.56	1.54	-1.2	0.008
179.47	3.229	17.34	506.0	505.1	-0.2	1.14	1.14	-0.4	0.004
182.51	3.567	-	449.0	452.1	0.7	-	-	-	-
185.93	3.979	-	374.3	385.0	2.9	-	-	-	-
187.55	4.187	-	331.5	346.9	4.7	-	-	-	-
189.60	4.464	-	273.0	283.3	3.8	-	-	-	-

Number of Points (Ref. 59) 28 on saturation boundary

SOUND SPEED: AAD-%	0.820	BIAS-%	0.037	RMS-%	1.342	
AAD	5.481	BIAS	-2.647	RMS	5.657	$\text{m} \cdot \text{s}^{-1}$

Number of Points (Ref. 59) 24

DERIVATIVE: AAD-%	1.074	BIAS-%	-1.064	RMS-%	0.430	
AAD	0.115	BIAS	-0.112	RMS	0.080	$\text{MPa} \cdot \text{dm}^3 \cdot \text{mol}^{-1}$

Data from Van Itterbeek et al. [60]

T	P	ρ	W,exp	W,cal	Dev1	$\partial P/\partial \rho _T$	$\partial P/\partial \rho _T$	Dev2	Wt
						exp	cal		
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{m} \cdot \text{s}^{-1}$	$\text{m} \cdot \text{s}^{-1}$	%	$\text{MPa} \cdot \text{dm}^3 \cdot \text{mol}^{-1}$	%		
111.33	0.112	26.37	1340.9	1334.3	-0.5	17.24	17.02	-1.3	0.000
111.33	0.505	26.39	1345.0	1338.3	-0.5	17.38	17.15	-1.3	0.000
111.33	0.981	26.42	1349.6	1343.1	-0.5	17.53	17.31	-1.2	0.000
111.33	1.973	26.47	1358.7	1352.8	-0.4	17.84	17.64	-1.1	0.000
111.33	2.937	26.53	1367.0	1362.0	-0.4	18.12	17.95	-0.9	0.000
111.33	3.932	26.58	1376.6	1371.4	-0.4	18.45	18.27	-1.0	0.000
111.33	4.913	26.64	1384.8	1380.3	-0.3	18.74	18.59	-0.8	0.000
111.33	5.884	26.69	1393.1	1389.1	-0.3	19.03	18.89	-0.7	0.000
111.33	6.815	26.74	1402.1	1397.3	-0.3	19.34	19.18	-0.8	0.000
111.33	7.569	26.78	1408.5	1403.8	-0.3	19.57	19.42	-0.8	0.000
125.09	0.281	25.07	1200.6	1195.3	-0.4	12.93	12.78	-1.2	0.000
125.09	0.530	25.09	1202.9	1198.4	-0.4	13.00	12.87	-1.0	0.000
125.09	1.010	25.12	1209.0	1204.4	-0.4	13.17	13.04	-1.0	0.000
125.09	1.991	25.20	1220.8	1216.5	-0.4	13.51	13.38	-0.9	0.000
125.09	2.958	25.27	1232.1	1227.9	-0.3	13.84	13.72	-0.9	0.000
125.09	3.917	25.34	1242.7	1239.0	-0.3	14.16	14.05	-0.8	0.000
125.09	4.864	25.40	1253.8	1249.6	-0.3	14.49	14.37	-0.8	0.000
125.09	5.924	25.48	1265.1	1261.2	-0.3	14.84	14.73	-0.8	0.000
125.09	6.846	25.54	1275.0	1270.9	-0.3	15.14	15.03	-0.8	0.000
125.09	7.796	25.60	1285.0	1280.8	-0.3	15.46	15.34	-0.8	0.000
125.09	8.775	25.66	1295.0	1290.7	-0.3	15.77	15.65	-0.8	0.000
125.09	9.788	25.73	1305.2	1300.7	-0.3	16.10	15.98	-0.8	0.000
140.02	0.647	23.50	1038.5	1033.6	-0.5	8.85	8.75	-1.1	0.000
140.02	1.112	23.55	1045.0	1041.6	-0.3	9.01	8.94	-0.8	0.000
140.02	1.988	23.65	1059.5	1056.3	-0.3	9.35	9.28	-0.8	0.000
140.02	2.981	23.75	1075.0	1072.1	-0.3	9.73	9.66	-0.7	0.000
140.02	3.934	23.85	1089.1	1086.7	-0.2	10.07	10.02	-0.6	0.000
140.02	4.931	23.95	1104.0	1101.3	-0.2	10.44	10.38	-0.6	0.000
140.02	5.899	24.04	1117.9	1114.9	-0.3	10.80	10.73	-0.6	0.000
140.02	6.835	24.12	1130.6	1127.6	-0.3	11.13	11.06	-0.6	0.000
140.02	7.893	24.22	1145.3	1141.5	-0.3	11.52	11.43	-0.7	0.000
140.02	8.836	24.30	1157.0	1153.4	-0.3	11.83	11.75	-0.7	0.000
140.02	9.788	24.38	1169.5	1165.1	-0.4	12.17	12.08	-0.8	0.000
140.02	10.609	24.45	1178.7	1174.9	-0.3	12.43	12.35	-0.7	0.000
140.02	11.034	24.48	1183.9	1179.8	-0.3	12.58	12.49	-0.7	0.000

Data from Van Itterbeek et al. [60] (continued)

T	P	ρ	W,exp	W,cal	Dev1	$\partial P/\partial \rho _T$	$\partial P/\partial \rho _T$	Dev2	Wt
						exp	cal		
K	MPa	mol·dm ⁻³	m·s ⁻¹	m·s ⁻¹	%	MPa·dm ³ ·mol ⁻¹	%		
155.44	1.368	21.61	854.0	851.4	-0.3	5.29	5.25	-0.8	0.000
155.44	2.145	21.76	872.9	871.5	-0.2	5.63	5.60	-0.5	0.000
155.44	2.915	21.89	891.3	890.0	-0.1	5.96	5.94	-0.4	0.000
155.44	3.981	22.06	915.1	914.0	-0.1	6.41	6.39	-0.3	0.000
155.44	4.953	22.21	935.5	934.3	-0.1	6.81	6.79	-0.3	0.000
155.44	5.929	22.35	954.5	953.5	-0.1	7.20	7.18	-0.3	0.000
155.44	6.737	22.46	970.5	968.5	-0.2	7.52	7.49	-0.5	0.000
155.44	7.843	22.60	990.5	988.0	-0.2	7.95	7.91	-0.5	0.000
155.44	8.876	22.73	1007.7	1005.3	-0.2	8.33	8.29	-0.5	0.000
155.44	9.778	22.84	1022.5	1019.8	-0.3	8.66	8.61	-0.6	0.000
155.44	10.842	22.96	1038.6	1036.1	-0.2	9.04	8.99	-0.5	0.000
155.44	11.814	23.07	1053.6	1050.4	-0.3	9.39	9.33	-0.6	0.000
155.44	12.777	23.17	1068.6	1064.0	-0.4	9.74	9.66	-0.9	0.000
155.44	13.770	23.27	1080.9	1077.6	-0.3	10.05	9.99	-0.6	0.000
155.44	14.773	23.37	1094.9	1090.8	-0.4	10.40	10.33	-0.7	0.000
155.44	15.594	23.45	1105.5	1101.3	-0.4	10.67	10.59	-0.7	0.000
170.75	2.402	19.21	646.8	642.5	-0.7	2.44	2.40	-1.4	0.000
170.75	3.001	19.45	672.2	670.4	-0.3	2.75	2.73	-0.6	0.000
170.75	3.957	19.77	710.2	708.9	-0.2	3.24	3.22	-0.4	0.000
170.75	4.915	20.04	743.7	742.4	-0.2	3.70	3.68	-0.4	0.000
170.75	6.200	20.37	782.7	781.5	-0.1	4.28	4.26	-0.3	0.000
170.75	7.843	20.73	826.0	824.8	-0.2	4.97	4.96	-0.3	0.000
170.75	8.876	20.93	849.9	849.0	-0.1	5.38	5.37	-0.2	0.000
170.75	9.829	21.10	871.1	869.9	-0.1	5.76	5.74	-0.3	0.000
170.75	10.690	21.24	890.3	887.6	-0.3	6.10	6.07	-0.6	0.000
170.75	11.673	21.40	909.0	906.7	-0.2	6.46	6.43	-0.5	0.000
170.75	12.696	21.56	927.0	925.6	-0.2	6.82	6.80	-0.3	0.000
170.75	13.578	21.68	944.1	941.0	-0.3	7.16	7.11	-0.6	0.000
170.75	14.611	21.82	961.4	958.3	-0.3	7.52	7.47	-0.6	0.000
170.75	15.614	21.96	977.9	974.3	-0.4	7.87	7.81	-0.7	0.000
170.75	16.871	22.11	995.3	993.5	-0.2	8.26	8.23	-0.3	0.000
170.75	18.289	22.28	1015.6	1014.0	-0.2	8.72	8.70	-0.3	0.000
185.91	4.521	0.00	450.0	456.4	1.4	0.00	0.00	0.0	0.000
185.91	5.003	16.74	494.8	497.6	0.6	1.11	1.12	1.2	0.000
185.91	5.934	17.42	556.2	557.3	0.2	1.63	1.63	0.4	0.000

Data from Van Itterbeek et al. [60] (continued)

T	P	ρ	W_{exp}	W_{cal}	Dev1	$\partial P / \partial \rho _T$ exp	$\partial P / \partial \rho _T$ cal	Dev2	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{m} \cdot \text{s}^{-1}$	$\text{m} \cdot \text{s}^{-1}$	%	$\text{MPa} \cdot \text{dm}^3 \cdot \text{mol}^{-1}$	%		
185.91	6.886	17.93	603.0	604.8	0.3	2.10	2.11	0.6	0.000
185.91	7.893	18.36	646.6	646.5	0.0	2.58	2.58	0.0	0.000
185.91	8.927	18.73	685.6	683.3	-0.3	3.05	3.03	-0.6	0.000
185.91	9.808	19.01	707.4	711.3	0.5	3.36	3.39	1.1	0.000
185.91	10.811	19.29	733.7	740.0	0.9	3.73	3.80	1.8	0.000
185.91	11.825	19.54	766.8	766.6	0.0	4.19	4.19	0.0	0.000
185.91	13.253	19.86	800.6	800.5	0.0	4.72	4.72	0.0	0.000
185.91	14.814	20.17	836.3	833.9	-0.3	5.31	5.28	-0.5	0.000
185.91	15.888	20.37	856.1	855.2	-0.1	5.66	5.65	-0.2	0.000
185.91	17.357	20.62	884.2	882.3	-0.2	6.18	6.15	-0.4	0.000
185.91	18.340	20.78	901.8	899.3	-0.3	6.51	6.48	-0.5	0.000
190.03	4.553	0.00	264.2	288.5	9.2	0.00	0.00	0.0	0.000
190.03	4.775	0.00	340.2	359.2	5.6	0.00	0.00	0.0	0.000
190.03	5.295	0.00	415.6	430.5	3.6	0.00	0.00	0.0	0.000
190.03	5.953	16.26	482.3	486.4	0.9	1.04	1.06	1.8	0.000
190.03	6.840	16.96	539.8	541.9	0.4	1.51	1.52	0.8	0.000
190.03	7.792	17.50	590.9	589.0	-0.3	1.99	1.98	-0.6	0.000
190.03	8.856	17.99	634.5	632.8	-0.3	2.46	2.45	-0.5	0.000
190.03	10.102	18.45	677.7	676.4	-0.2	2.99	2.98	-0.3	0.000
190.03	11.348	18.83	715.7	714.1	-0.2	3.49	3.47	-0.4	0.000
190.03	12.574	19.16	748.8	747.1	-0.2	3.96	3.94	-0.4	0.000
190.03	13.790	19.46	778.2	776.7	-0.2	4.40	4.39	-0.3	0.000
190.03	15.037	19.73	807.2	804.5	-0.3	4.86	4.83	-0.6	0.000
190.03	16.334	19.98	833.3	831.2	-0.3	5.31	5.28	-0.5	0.000
190.03	17.509	20.20	855.1	853.7	-0.2	5.69	5.68	-0.3	0.000
190.03	18.735	20.41	878.5	875.8	-0.3	6.12	6.08	-0.6	0.000
190.03	19.971	20.60	900.5	896.8	-0.4	6.53	6.48	-0.8	0.000

Number of Points (Ref. 60) 97

SOUND SPEED: AAD-%	0.492	BIAS-%	-0.007	RMS-%	1.205	
AAD	3.540	BIAS	-1.751	RMS	4.508	$\text{m} \cdot \text{s}^{-1}$

Number of Points (Ref. 60) 93

DERIVATIVE: AAD-%	0.663	BIAS-%	-0.496	RMS-%	0.548	
AAD	0.064	BIAS	-0.060	RMS	0.059	$\text{MPa} \cdot \text{dm}^3 \cdot \text{mol}^{-1}$

Data from Van Itterbeek et al. [60] (continued)

Number of Points Total 661

SOUND SPEED: AAD-%	1.297	BIAS-%	0.831	RMS-%	3.524
AAD	4.440	BIAS	0.573	RMS	8.170 m·s ⁻¹

Number of Points Total 603 excluding critical region data of Ref. [37]

SOUND SPEED: AAD-%	0.516	BIAS-%	0.006	RMS-%	1.108
AAD	2.980	BIAS	-1.259	RMS	4.142 m·s ⁻¹

TABLE A10
COMPARISONS FOR COLLISION INTEGRAL

Notes for Table A10. The temperature in kelvins corresponds to the given reduced temperature for the methane fluid ($t = kT/\epsilon$). The collision integral $\Omega^{(2,2)*}$, int is from the integration results of Ref.[14]; the "cor" result is from the correlation of eq (10).

t	T	$\Omega^{(2,2)*}$	$\Omega^{(2,2)*}$	Dev
	K	int	cor	%
0.50	87.000	2.136 15	2.138 73	0.121
0.55	95.700	2.051 91	2.053 45	0.075
0.60	104.400	1.972 92	1.975 11	0.111
0.65	113.100	1.903 93	1.903 50	-0.023
0.70	121.800	1.839 99	1.838 22	-0.096
0.75	130.500	1.778 44	1.778 77	0.019
0.80	139.200	1.725 05	1.724 65	-0.023
0.85	147.900	1.677 59	1.675 33	-0.135
0.90	156.600	1.632 61	1.630 31	-0.141
0.95	165.300	1.590 74	1.589 15	-0.100
1.00	174.000	1.552 45	1.551 43	-0.065
1.10	191.400	1.485 92	1.484 91	-0.068
1.20	208.800	1.428 35	1.428 28	-0.005
1.30	226.200	1.379 36	1.379 63	0.020
1.40	243.600	1.337 06	1.337 48	0.031
1.50	261.000	1.300 37	1.300 65	0.022
1.60	278.400	1.267 48	1.268 24	0.060
1.70	295.800	1.238 42	1.239 51	0.088
1.80	313.200	1.212 81	1.213 90	0.090
1.90	330.600	1.190 00	1.190 92	0.077
2.00	348.000	1.169 43	1.170 20	0.066
2.20	382.800	1.133 94	1.134 34	0.035
2.40	417.600	1.104 30	1.104 39	0.008
2.60	452.400	1.079 11	1.079 00	-0.010
2.80	487.200	1.057 60	1.057 19	-0.039
3.00	522.000	1.038 97	1.038 24	-0.070
3.20	556.800	1.022 62	1.021 61	-0.098
3.40	591.600	1.008 09	1.006 89	-0.119
3.60	626.400	0.995 07	0.993 74	-0.134
3.80	661.200	0.983 32	0.981 91	-0.143

Table A10 (continued)

t	T	$\Omega^{(2,2)*}$	$\Omega^{(2,2)*}$	Dev
	K	int	cor	%
4.00	696.000	0.972 66	0.971 20	-0.150
4.50	783.000	0.949 72	0.948 32	-0.147
5.00	870.000	0.930 87	0.929 62	-0.135
5.50	957.000	0.914 94	0.913 91	-0.112
6.00	1044.000	0.901 18	0.900 43	-0.083
6.50	1131.000	0.889 09	0.888 65	-0.050

Number of Points (Ref. 14) 36

AAD-%	0.077	BIAS-%	-0.031	RMS-%	0.084
AAD	0.001	BIAS	0.000	RMS	0.001

TABLE A11

COMPARISONS FOR ZERO DENSITY VISCOSITY

Notes for Table A11. The column η_{exp} refers to the reported experimental value at the lowest pressure at the given temperature. These pressures were often at 0.101 325 MPa (1 atm). In the column $\eta_{0,\text{exp}}$, the reported viscosities were corrected to zero pressure by subtracting the value of the excess viscosity at the reported conditions and calculated from the current correlation. The deviations and statistics refer to these corrected values of η_0 . When the experimental data have already been extrapolated to zero pressure, (that is for Refs. 62, 65, 66), there are no entries in the $\eta_{0,\text{exp}}$ column. The weights refer to weighting in the determination of the intermolecular parameters ϵ and σ .

Data from Hellemans et al. [61]

T	η_{exp}	$\eta_{0,\text{exp}}$	$\eta_{0,\text{cal}}$	Dev	Wt
K	$\mu\text{Pa}\cdot\text{s}$	$\mu\text{Pa}\cdot\text{s}$	$\mu\text{Pa}\cdot\text{s}$	%	
298.15	11.092	11.076	11.121	0.407	1.0
323.15	11.941	11.926	11.920	-0.053	1.0
373.15	13.514	13.501	13.445	-0.410	1.0
423.15	14.896	14.884	14.885	0.006	1.0
468.15	16.116	16.105	16.115	0.064	1.0

Number of points (Ref.61) 5

AAD-%	0.188	BIAS-%	0.003	RMS-%	0.261
AAD	0.024	BIAS	-0.001	RMS	0.032 $\mu\text{Pa}\cdot\text{s}$

Data from Dawe et al. [62]

T	η_{exp}	$\eta_{0,\text{exp}}$	$\eta_{0,\text{cal}}$	Dev	Wt
K	$\mu\text{Pa}\cdot\text{s}$	$\mu\text{Pa}\cdot\text{s}$	$\mu\text{Pa}\cdot\text{s}$	%	
293.0	11.00	-	10.954	-0.421	0.0
403.0	14.39	-	14.314	-0.525	0.0
497.0	16.92	-	16.875	-0.266	0.0
601.0	19.45	-	19.452	0.011	0.0
676.0	21.13	-	21.178	0.229	0.0
749.0	22.68	-	22.771	0.403	0.0
823.0	24.26	-	24.312	0.214	0.0
900.0	25.78	-	25.847	0.259	0.0
1050.0	28.55	-	28.673	0.431	0.0

Data from Dawe et al. [62]

Number of points (Ref.62) 9

AAD-%	0.306	BIAS-%	0.037	RMS-%	0.337	
AAD	0.061	BIAS	0.024	RMS	0.065	$\mu\text{Pa}\cdot\text{s}$

Data from Kestin et al. [63]

T	η , exp	η_0 , exp	η_0 , cal	Dev	Wt
K	$\mu\text{Pa}\cdot\text{s}$	$\mu\text{Pa}\cdot\text{s}$	$\mu\text{Pa}\cdot\text{s}$	%	
296.22	11.023	11.007	11.059	0.471	0.0
302.44	11.226	11.210	11.260	0.445	0.0

Number of points (Ref.63) 2

AAD-%	0.458	BIAS-%	0.458	RMS-%	0.013	
AAD	0.051	BIAS	0.051	RMS	0.001	$\mu\text{Pa}\cdot\text{s}$

Data from Timrot et al. [64]

T	η , exp	η_0 , exp	η_0 , cal	Dev	Wt
K	$\mu\text{Pa}\cdot\text{s}$	$\mu\text{Pa}\cdot\text{s}$	$\mu\text{Pa}\cdot\text{s}$	%	
296.85	11.13	11.125	11.079	-0.416	0.0
325.74	12.03	12.026	12.001	-0.204	0.0
375.85	13.53	13.526	13.525	-0.007	0.0
423.45	14.93	14.927	14.893	-0.223	0.0
471.05	16.22	16.217	16.193	-0.149	0.0
523.75	17.59	17.587	17.561	-0.148	0.0
569.35	18.73	18.727	18.693	-0.186	0.0
622.45	19.96	19.957	19.956	-0.007	0.0
675.25	21.18	21.178	21.162	-0.076	0.0

Number of points (Ref.64) 9

AAD-%	0.157	BIAS-%	-0.157	RMS-%	0.118	
AAD	0.023	BIAS	-0.023	RMS	0.014	$\mu\text{Pa}\cdot\text{s}$

Data from Kestin and Yata [65]

T	η , exp	η_0 , exp	η_0 , cal	Dev	Wt
K	$\mu\text{Pa}\cdot\text{s}$	$\mu\text{Pa}\cdot\text{s}$	$\mu\text{Pa}\cdot\text{s}$	%	
293.15	10.924	-	10.959	0.316	0.0
303.15	11.258	-	11.283	0.222	0.0

Number of points (Ref.65) 2

AAD-%	0.269	BIAS-%	0.269	RMS-%	0.047
AAD	0.030	BIAS	0.030	RMS	0.005 $\mu\text{Pa}\cdot\text{s}$

Data from De Rocco and Halford [66]

T	η , exp	η_0 , exp	η_0 , cal	Dev	Wt
K	$\mu\text{Pa}\cdot\text{s}$	$\mu\text{Pa}\cdot\text{s}$	$\mu\text{Pa}\cdot\text{s}$	%	
210.70	8.10	-	8.122	0.2711	0.0
250.10	9.67	-	9.514	-1.6134	0.0
273.16	10.31	-	10.298	-0.1205	0.0
292.70	11.03	-	10.944	-0.7810	0.0
300.70	11.25	-	11.204	-0.4099	0.0
308.20	11.55	-	11.445	-0.9066	0.0
320.70	11.89	-	11.843	-0.3983	0.0
328.70	12.20	-	12.094	-0.8711	0.0
337.30	12.53	-	12.361	-1.3494	0.0
351.10	12.81	-	12.784	-0.2040	0.0
363.10	13.22	-	13.146	-0.5597	0.0
373.20	13.55	-	13.447	-0.7612	0.0
387.90	13.91	-	13.879	-0.2266	0.0
394.40	14.19	-	14.067	-0.8666	0.0
407.20	14.49	-	14.434	-0.3842	0.0
424.40	15.06	-	14.920	-0.9311	0.0
439.90	15.41	-	15.350	-0.3921	0.0
451.60	15.74	-	15.669	-0.4486	0.0
459.40	15.94	-	15.881	-0.3735	0.0
473.16	16.35	-	16.249	-0.6193	0.0

Number of points (Ref.66) 20

AAD-%	0.624	BIAS-%	-0.597	RMS-%	0.420
AAD	0.080	BIAS	-0.078	RMS	0.048 $\mu\text{Pa}\cdot\text{s}$

Data from Maitland and Smith [67]

T	η , exp	η_0 ,exp	η_0 ,cal	Dev	Wt
K	$\mu\text{Pa}\cdot\text{s}$	$\mu\text{Pa}\cdot\text{s}$	$\mu\text{Pa}\cdot\text{s}$	%	
295.0	11.09	11.0747	11.0189	-0.5036	0.0
394.0	14.08	14.0635	14.0555	-0.0572	0.0
547.0	18.21	18.1926	18.1436	-0.2691	0.0
698.0	21.63	21.6120	21.6668	0.2533	0.0
873.0	25.42	25.4016	25.3158	-0.3379	0.0
873.0	25.23	25.2116	25.3158	0.4132	0.0
1022.0	27.83	27.8114	28.1600	1.2536	0.0

Number of points (Ref.67) 7

AAD-%	0.441	BIAS-%	0.107	RMS-%	0.557	
AAD	0.101	BIAS	0.044	RMS	0.139	$\mu\text{Pa}\cdot\text{s}$

Data from Abe et al. [68]

T	η , exp	η_0 ,exp	η_0 ,cal	Dev	Wt
K	$\mu\text{Pa}\cdot\text{s}$	$\mu\text{Pa}\cdot\text{s}$	$\mu\text{Pa}\cdot\text{s}$	%	
298.15	11.10	11.0842	11.1213	0.3346	0.0
333.15	12.28	12.2655	12.2323	-0.2701	0.0
373.15	13.48	13.4667	13.4454	-0.1582	0.0
418.15	14.78	14.7679	14.7444	-0.1586	0.0
468.15	16.10	16.0889	16.1152	0.1636	0.0

Number of points (Ref.68) 5

AAD-%	0.217	BIAS-%	-0.018	RMS-%	0.228	
AAD	0.028	BIAS	-0.003	RMS	0.029	$\mu\text{Pa}\cdot\text{s}$

Data from Clarke and Smith [69]

T	η , exp	η_0 ,exp	η_0 ,cal	Dev	Wt
K	$\mu\text{Pa}\cdot\text{s}$	$\mu\text{Pa}\cdot\text{s}$	$\mu\text{Pa}\cdot\text{s}$	%	
113.8	4.47	4.4656	4.4739	0.1853	0.0
140.1	5.50	5.4905	5.4799	-0.1931	0.0
171.4	6.68	6.6710	6.6702	-0.0126	0.0
200.3	7.76	7.7516	7.7435	-0.1042	0.0
234.1	8.95	8.9423	8.9568	0.1614	0.0
273.0	10.29	10.2831	10.2922	0.0891	0.0
299.1	11.14	11.1307	11.1521	0.1922	0.0
333.2	12.23	12.2214	12.2339	0.1021	0.0
373.9	13.48	13.4721	13.4676	-0.0338	0.0

Number of points (Ref.69) 10

AAD-%	0.119	BIAS-%	0.043	RMS-%	0.128	
AAD	0.010	BIAS	0.005	RMS	0.010	$\mu\text{Pa}\cdot\text{s}$

Data from Giddings et al. [70]

T	η , exp	η_0 ,exp	η_0 ,cal	Dev	Wt
K	$\mu\text{Pa}\cdot\text{s}$	$\mu\text{Pa}\cdot\text{s}$	$\mu\text{Pa}\cdot\text{s}$	%	
283.15	10.67	10.6536	10.6300	-0.2216	0.0
310.93	11.62	11.6047	11.5326	-0.6212	0.0
344.26	12.69	12.6758	12.5751	-0.7945	0.0
377.59	13.70	13.6868	13.5765	-0.8058	0.0
410.93	14.65	14.6377	14.5404	-0.6647	0.0

Number of points (Ref.70) 5

AAD-%	0.622	BIAS-%	-0.622	RMS-%	0.212	
AAD	0.081	BIAS	-0.081	RMS	0.031	$\mu\text{Pa}\cdot\text{s}$

Data from Carmichael et al. [71]

T	η , exp	η_0 , exp	η_0 , cal	Dev	Wt
K	$\mu\text{Pa}\cdot\text{s}$	$\mu\text{Pa}\cdot\text{s}$	$\mu\text{Pa}\cdot\text{s}$	%	
277.594	10.530	10.5117	10.4456	-0.6280	0.0
310.928	11.585	11.5667	11.5325	-0.2956	0.0
377.594	13.631	13.6145	13.5766	-0.2777	0.0
444.261	15.597	15.5817	15.4692	-0.7219	0.0
477.594	16.543	16.5198	16.3663	-0.9287	0.0

Number of points (Ref.71) 5

AAD-%	0.570	BIAS-%	-0.570	RMS-%	0.251	
AAD	0.081	BIAS	-0.081	RMS	0.046	$\mu\text{Pa}\cdot\text{s}$

Number of Points Total 78

AAD-%	0.388	BIAS-%	-0.211	RMS-%	0.456	
AAD	0.056	BIAS	-0.024	RMS	0.073	$\mu\text{Pa}\cdot\text{s}$

TABLE A12

COMPARISONS FOR ZERO DENSITY THERMAL CONDUCTIVITY

Notes for Table A12. The column λ_{exp} refers to the reported experimental value at the lowest pressure at the given temperature. These pressures were often at 0.101 325 MPa (1 atm). In the column λ_0, exp , the reported thermal conductivities were corrected to zero pressure by subtracting the value of the excess thermal conductivity at the reported conditions and calculated from the current correlation. The deviations and statistics refer to these corrected values of λ_0 . When the experimental data have already been extrapolated to zero pressure, (that is for Refs. 8, 72, 73, and 76), there are no entries in the λ_0, exp column. The weights refer to weighting in the determination of the intermolecular parameters in the damping function, eq (12).

Data from Roder [8]

T	λ_{exp}	λ_0, exp	λ_0, cal	Dev	Wt
K	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	%	
133.0	13.92	-	13.72	-1.458	1.0
143.0	14.97	-	14.90	-0.448	1.0
155.0	16.40	-	16.32	-0.459	1.0
163.0	17.33	-	17.27	-0.339	1.0
175.0	18.70	-	18.69	-0.060	1.0
183.0	19.62	-	19.63	0.067	1.0
197.0	21.31	-	21.29	-0.103	1.0
215.0	23.12	-	23.43	1.339	1.0
235.0	25.60	-	25.85	0.975	1.0
255.0	28.03	-	28.34	1.101	1.0
275.0	30.54	-	30.92	1.253	1.0
295.0	33.01	-	33.62	1.854	1.0
310.0	35.36	-	35.73	1.048	1.0

Number of points (Ref. 8) 13

AAD-%	0.808	BIAS-%	0.367	RMS-%	0.919
AAD	0.206	BIAS	0.139	RMS	0.235 $\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Data from Clifford et al. [72]

T	λ, exp	λ_0, exp	λ_0, cal	Dev	Wt
K	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	%	
300.65	34.93	-	34.41	-1.496	0.0

Number of points (Ref.72) 1

AAD-%	1.496	BIAS-%	-1.496	RMS-%	-
AAD	0.523	BIAS	-0.523	RMS	- $\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Data from Assael and Wakeham [73]

T	λ, exp	λ_0, exp	λ_0, cal	Dev	Wt
K	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	%	
308.15	35.35	-	35.47	0.329	0.0

Number of points (Ref.73) 1

AAD-%	0.329	BIAS-%	0.329	RMS-%	-
AAD	0.116	BIAS	0.116	RMS	- $\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Data from Johnston and Grilly [74]

T	λ, exp	λ_0, exp	λ_0, cal	Dev	Wt
K	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	%	
96.76	10.2550	10.2161	9.4505	-7.494	0.0
125.35	13.3679	13.3413	12.8104	-3.979	0.0
140.49	15.0959	15.0703	14.6053	-3.085	0.0
155.29	16.7569	16.7310	16.3591	-2.223	0.0
169.93	18.4347	18.4069	18.0901	-1.721	0.0
185.41	20.1041	20.0700	19.9178	-0.758	0.0
201.24	21.9451	21.9155	21.7905	-0.571	0.0
216.69	23.7819	23.7583	23.6321	-0.531	0.0
231.71	25.5935	25.5734	25.4474	-0.493	0.0
246.86	27.4219	27.4042	27.3154	-0.324	0.0

Data from Johnston and Grilly [74] (continued)

T	λ, exp	λ_0, exp	λ_0, cal	Dev	Wt
K	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	%	
262.85	29.3926	29.3768	29.3402	-0.124	0.0
278.72	31.4218	31.4075	31.4154	0.025	0.0
294.49	33.5808	33.5677	33.5515	-0.048	0.0
324.00	37.5974	37.5861	37.7669	0.481	0.0
338.60	39.9112	39.9006	39.9620	0.154	0.0
353.96	42.4509	42.4410	42.3495	-0.215	0.0
368.33	44.8901	44.8808	44.6538	-0.506	0.0
383.57	47.5972	47.5883	47.1688	-0.882	0.0

Number of points (Ref.74) 18

AAD-%	1.312	BIAS-%	-1.239	RMS-%	1.896
AAD	0.228	BIAS	-0.200	RMS	0.230 $\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Data from Zheng et al. [75]

T	λ, exp	λ_0, exp	λ_0, cal	Dev	Wt
K	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	%	
299.45	34.74	34.68	34.24	-1.233	0.0

Number of points (Ref.75) 1

AAD-%	1.233	BIAS-%	-1.233	RMS-%	-
AAD	0.427	BIAS	-0.427	RMS	- $\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Data from Mann and Dickins [76]

T	λ, exp	λ_0, exp	λ_0, cal	Dev	Wt
K	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	%	
275.18	30.480	-	30.946	1.530	0.0
276.18	30.619	-	31.078	1.501	0.0
277.17	30.853	-	31.210	1.156	0.0
279.17	31.079	-	31.475	1.275	0.0
281.18	31.372	-	31.744	1.184	0.0
283.18	31.665	-	32.012	1.095	0.0

Data from Mann and Dickins [76] (continued)

Number of points (Ref.76) 6

AAD-%	1.290	BIAS-%	1.290	RMS-%	0.168	
AAD	0.400	BIAS	0.400	RMS	0.047	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Data from Mistic and Thodos [77]

T	λ, exp	λ_0, exp	λ_0, cal	Dev	Wt
K	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	%	
275.05	31.4637	31.3798	30.9292	-1.436	0.0
297.75	34.3506	34.2750	34.0029	-0.794	0.0
316.75	37.0702	37.0002	36.7040	-0.801	0.0
348.25	41.8818	41.8195	41.4527	-0.877	0.0

Number of points (Ref.77) 4

AAD-%	0.977	BIAS-%	-0.977	RMS-%	0.267	
AAD	0.346	BIAS	-0.346	RMS	0.069	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Data from Carmichael et al. [78]

T	λ, exp	λ_0, exp	λ_0, cal	Dev	Wt
K	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	%	
277.594	31.219	31.126	31.266	0.450	0.0
310.928	35.235	35.155	35.863	2.017	0.0
377.594	44.628	44.565	46.174	3.612	0.0
410.928	50.505	50.444	51.854	2.794	0.0
444.261	55.717	55.661	57.818	3.876	0.0

Number of points (Ref.78) 5

AAD-%	2.550	BIAS-%	2.550	RMS-%	1.236	
AAD	1.205	BIAS	1.205	RMS	0.706	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Data from Baker and Brokaw [79]

T	λ, exp	λ_0, exp	λ_0, cal	Dev	Wt
K	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	%	
299.8	33.7649	33.6912	34.2885	1.773	0.0
333.0	38.1623	38.0977	39.1114	2.661	0.0
375.5	44.5805	44.5246	45.8281	2.928	0.0
423.3	52.3711	52.3226	54.0374	3.277	0.0
472.3	60.4504	60.4076	63.0125	4.312	0.0

Number of points (Ref.79) 5

AAD-%	2.990	BIAS-%	2.990	RMS-%	0.828	
AAD	1.447	BIAS	1.447	RMS	0.685	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Data from Sokolova and Golubev [80]

T	λ, exp	λ_0, exp	λ_0, cal	Dev	Wt
K	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	%	
238.7	26.08	25.98	26.30	1.245	0.0
231.8	25.25	25.15	25.46	1.244	0.0
224.8	24.45	24.34	24.61	1.102	0.0
216.4	23.47	23.35	23.60	1.048	0.0
210.0	22.71	22.59	22.83	1.093	0.0
183.2	19.68	19.53	19.66	0.662	0.0
176.8	19.01	18.86	18.90	0.206	0.0
165.3	17.75	17.60	17.54	-0.343	0.0
152.6	16.39	16.24	16.04	-1.213	0.0
140.3	15.07	14.90	14.58	-2.160	0.0
118.8	12.71	12.48	12.04	-3.556	0.0

Number of points (Ref.80) 11

AAD-%	1.261	BIAS-%	-0.061	RMS-%	1.536	
AAD	0.235	BIAS	0.049	RMS	0.256	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Data from Le Neindre et al. [81]

T	λ, exp	λ_0, exp	λ_0, cal	Dev	Wt
K	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	%	
307.35	35.6	35.53	35.35	-0.498	0.0
298.65	34.5	34.40	34.13	-0.791	0.0
368.85	45.1	45.04	44.74	-0.678	1.0
407.95	51.4	51.35	51.33	-0.031	1.0
420.25	53.9	53.83	53.50	-0.628	1.0
465.55	62.3	62.24	61.75	-0.789	1.0
523.35	73.2	73.15	72.77	-0.520	1.0
571.85	82.8	82.77	82.25	-0.618	1.0
575.75	84.6	84.57	83.02	-1.826	1.0
621.45	94.0	93.96	92.05	-2.031	1.0

Number of points (Ref.81) 10

AAD-%	0.841	BIAS-%	-0.841	RMS-%	0.582
AAD	0.594	BIAS	-0.594	RMS	0.588 $\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Data from Yorizane et al. [82]

T	λ, exp	λ_0, exp	λ_0, cal	Dev	Wt
K	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	%	
323.35	37.7	37.63	37.67	0.098	0.0
319.95	37.5	37.43	37.17	-0.700	0.0
316.75	37.3	37.23	36.70	-1.418	0.0
312.85	36.7	36.63	36.14	-1.342	0.0
309.35	36.3	36.23	35.64	-1.635	0.0
308.25	35.7	35.63	35.48	-0.419	0.0
303.15	35.1	35.03	34.76	-0.771	0.0
297.75	34.4	34.33	34.00	-0.943	0.0
303.15	35.1	35.03	34.76	-0.771	0.0
309.85	36.6	36.53	35.71	-2.248	0.0
316.75	37.2	37.13	36.70	-1.153	0.0
317.75	37.2	37.13	36.85	-0.762	0.0
323.45	37.7	37.63	37.69	-0.138	0.0

Number of points (Ref.82) 13

AAD-%	0.954	BIAS-%	-0.917	RMS-%	0.637
AAD	0.347	BIAS	-0.333	RMS	0.234 $\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Data from Tanaka et al. [83]

T	λ, exp	λ_0, exp	λ_0, cal	Dev	Wt
K	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$	%	
298.15	33.9	33.83	34.06	0.685	0.0
323.15	37.4	37.33	37.64	0.824	0.0
348.15	41.4	41.34	41.44	0.236	0.0

Number of points (Ref.83) 3

AAD-%	0.582	BIAS-%	0.582	RMS-%	0.251	
AAD	0.212	BIAS	0.212	RMS	0.087	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Number of Points Total with positive weight 21

AAD-%	0.839	BIAS-%	-0.112	RMS-%	1.025	
AAD	0.389	BIAS	-0.176	RMS	0.586	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Number of Points Total referenced in Ref.[1] 74

AAD-%	1.076	BIAS-%	-0.449	RMS-%	1.456	
AAD	0.315	BIAS	-0.135	RMS	0.413	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Number of Points Total 91

AAD-%	1.241	BIAS-%	-0.084	RMS-%	1.705	
AAD	0.424	BIAS	0.028	RMS	0.639	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

TABLE A13

COMPARISONS FOR VISCOSITY AT ELEVATED PRESSURES

Notes for Table A13. The quantities T, P, and η_{exp} refer to experimental quantities; the density was evaluated from the SWEOS. For the data along the saturated liquid boundary of Boon [85] and Haynes [87], however, both the pressure and density were calculated from the ancillary equations for the phase boundary. The tabulated densities were then used as input to calculate the viscosity.

Data from Barua et al. [84]

T	P	ρ	η_{exp}	η_{cal}	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\mu\text{Pa} \cdot \text{s}$	$\mu\text{Pa} \cdot \text{s}$	%	
223.15	2.0265	1.2092	8.820	9.0509	2.618	0.0
223.15	6.0795	4.8458	10.875	11.3032	3.938	0.0
223.15	8.1065	7.8446	13.528	14.1882	4.880	0.0
223.15	12.1590	13.2838	21.641	22.5027	3.982	0.0
223.15	14.1855	14.6807	25.013	25.5006	1.949	0.0
223.15	16.2120	15.6757	27.310	27.9289	2.266	0.0
248.15	1.0133	0.5081	9.555	9.6414	0.904	0.0
248.15	3.0398	1.6405	9.980	10.1550	1.754	0.0
248.15	6.0795	3.7125	11.117	11.3922	2.476	0.0
248.15	8.1060	5.3936	12.390	12.6976	2.483	0.0
248.15	10.1325	7.2752	14.144	14.5088	2.579	0.0
248.15	14.1855	10.8636	18.692	19.1512	2.456	0.0
248.15	16.2120	12.2398	20.865	21.4262	2.690	0.0
273.15	1.4196	0.6469	10.410	10.5567	1.409	0.0
273.15	2.6223	1.2312	10.644	10.8216	1.669	0.0
273.15	4.9426	2.4619	11.264	11.4766	1.888	0.0
273.15	7.0137	3.6802	12.010	12.2591	2.074	0.0
273.15	9.8903	5.5360	13.454	13.7217	1.989	0.0
273.15	13.3516	7.8639	15.799	16.0592	1.647	0.0
273.15	16.8899	10.0448	18.487	18.8258	1.832	0.0
298.15	2.8999	1.2307	11.479	11.6574	1.554	0.0
298.15	5.5455	2.4624	12.123	12.3235	1.654	0.0
298.15	7.9804	3.6810	12.923	13.1148	1.484	0.0
298.15	11.5004	5.5387	14.384	14.5871	1.412	0.0
298.15	15.9404	7.8691	16.731	16.9271	1.172	0.0
298.15	17.7552	8.7601	17.709	17.9814	1.538	0.0
348.15	2.8989	1.0281	13.037	13.1487	0.857	0.0
348.15	5.5648	2.0165	13.504	13.6689	1.221	0.0
348.15	8.1384	3.0010	14.119	14.2697	1.067	0.0
348.15	12.1185	4.5508	15.222	15.3883	1.092	0.0

Data from Barua et al. [84] (continued)

T	P	ρ	η, exp	η, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\mu\text{Pa} \cdot \text{s}$	$\mu\text{Pa} \cdot \text{s}$	%	
348.15	14.6800	5.5415	16.066	16.2187	0.950	0.0
348.15	17.6539	6.6599	17.100	17.2700	0.994	0.0
423.15	1.1703	0.3339	15.063	15.0284	-0.230	0.0
423.15	2.8513	0.8172	15.233	15.2521	0.125	0.0
423.15	5.6793	1.6377	15.620	15.6752	0.354	0.0
423.15	8.5052	2.4615	16.055	16.1555	0.626	0.0
423.15	12.7163	3.6816	16.831	16.9709	0.831	0.0
423.15	15.7844	4.5531	17.496	17.6313	0.773	0.0
423.15	17.2253	4.9545	17.827	17.9579	0.734	0.0

Number of points (Ref.84) 39

AAD-%	1.696	BIAS-%	1.684	RMS-%	1.026
AAD	0.255	BIAS	0.253	RMS	0.182 $\mu\text{Pa} \cdot \text{s}$

Data from Boon et al. [85]

T	P	ρ	η, exp	η, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\mu\text{Pa} \cdot \text{s}$	$\mu\text{Pa} \cdot \text{s}$	%	
91.01	0.0122	28.1199	199.50	200.3647	0.433	0.0
93.77	0.0172	27.8858	182.50	185.5583	1.676	0.0
97.34	0.0259	27.5809	162.40	168.4102	3.701	0.0
100.88	0.0377	27.2756	146.70	153.4119	4.575	0.0
103.84	0.0505	27.0175	138.40	142.2355	2.771	0.0
107.05	0.0681	26.7344	127.20	131.3626	3.272	0.0
109.86	0.0872	26.4835	120.10	122.7949	2.244	0.0
114.15	0.1238	26.0937	112.30	111.2087	-0.972	0.0

Number of points (Ref.85) 8

AAD-%	2.456	BIAS-%	2.213	RMS-%	1.689
AAD	3.554	BIAS	3.281	RMS	2.389 $\mu\text{Pa} \cdot \text{s}$

Data from Carmichael et al. [71]

T	P	ρ	η, exp	η, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\mu\text{Pa} \cdot \text{s}$	$\mu\text{Pa} \cdot \text{s}$	%	
277.594	0.1117	0.0485	10.530	10.4640	-0.627	1.0
277.594	6.9685	3.5515	12.447	12.3242	-0.986	1.0
277.594	14.1301	8.0623	16.990	16.4423	-3.223	1.0
277.594	14.1473	8.0730	17.008	16.4547	-3.253	1.0
277.594	14.1632	8.0828	16.881	16.4661	-2.458	1.0
277.594	27.7051	14.0602	26.417	25.9290	-1.847	1.0
277.594	27.7361	14.0691	26.438	25.9478	-1.854	1.0
277.594	27.7430	14.0711	26.436	25.9519	-1.831	1.0
277.594	35.6368	15.9423	30.814	30.3397	-1.539	1.0
277.594	35.6547	15.9458	30.770	30.3489	-1.368	1.0
277.594	35.6713	15.9491	30.833	30.3575	-1.542	1.0
310.928	0.1207	0.0468	11.685	11.5508	-1.148	1.0
310.928	0.1227	0.0476	11.602	11.5511	-0.439	1.0
310.928	0.1241	0.0481	11.615	11.5513	-0.548	1.0
310.928	0.1262	0.0489	11.684	11.5516	-1.133	1.0
310.928	0.1317	0.0510	11.609	11.5525	-0.487	1.0
310.928	6.2839	2.6594	12.829	12.8643	0.275	1.0
310.928	10.2077	4.5153	14.318	14.1618	-1.091	1.0
310.928	10.2070	4.5149	14.328	14.1615	-1.162	1.0
310.928	13.4034	6.0653	15.587	15.4942	-0.595	1.0
310.928	27.4438	11.7304	22.952	22.6524	-1.305	1.0
310.928	27.4652	11.7370	22.924	22.6632	-1.138	1.0
310.928	27.4679	11.7378	22.741	22.6645	-0.336	1.0
310.928	27.5127	11.7515	22.697	22.6871	-0.044	1.0
310.928	34.5757	13.6235	26.489	26.0815	-1.538	1.0
310.928	34.6129	13.6320	26.454	26.0985	-1.344	1.0
310.928	34.6447	13.6393	26.414	26.1130	-1.139	1.0
310.928	35.1866	13.7622	26.436	26.3598	-0.288	1.0
310.928	35.2107	13.7676	26.439	26.3708	-0.258	1.0
377.594	0.1269	0.0405	13.631	13.5932	-0.277	1.0
377.594	7.0540	2.3327	14.639	14.7501	0.759	1.0
377.594	7.0547	2.3329	14.657	14.7503	0.636	1.0
377.594	13.8770	4.6575	16.389	16.3790	-0.061	1.0
377.594	14.0611	4.7195	16.368	16.4290	0.373	1.0
377.594	14.0694	4.7223	16.363	16.4312	0.417	1.0

Data from Carmichael [71] (continued)

T	P	ρ	η, exp	η, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\mu\text{Pa} \cdot \text{s}$	$\mu\text{Pa} \cdot \text{s}$	%	
377.594	27.6741	8.8847	20.850	20.6467	-0.975	1.0
377.594	27.6844	8.8874	20.940	20.6501	-1.385	1.0
377.594	27.6913	8.8893	20.658	20.6523	-0.027	1.0
377.594	27.9085	8.9471	20.743	20.7239	-0.092	1.0
377.594	27.9340	8.9539	20.849	20.7323	-0.560	1.0
377.594	27.9954	8.9702	20.776	20.7525	-0.113	1.0
377.594	35.0494	10.6868	23.350	23.0703	-1.198	1.0
444.261	0.1338	0.0362	15.597	15.4845	-0.721	1.0
444.261	6.9913	1.9112	16.377	16.4191	0.257	1.0
444.261	6.9933	1.9118	16.357	16.4194	0.381	1.0
444.261	6.9961	1.9126	16.358	16.4198	0.378	1.0
444.261	14.0446	3.8254	17.589	17.6695	0.458	1.0
444.261	14.0466	3.8259	17.573	17.6699	0.552	1.0
444.261	28.6221	7.4148	20.976	20.8781	-0.467	1.0
444.261	28.6621	7.4236	20.918	20.8876	-0.145	1.0
444.261	28.6704	7.4255	20.915	20.8895	-0.122	1.0
444.261	34.8177	8.7200	22.208	22.3553	0.663	1.0
444.261	34.8212	8.7207	22.172	22.3561	0.830	1.0
444.261	35.2997	8.8158	22.513	22.4709	-0.187	1.0
444.261	35.3259	8.8210	22.499	22.4771	-0.097	1.0
444.261	35.3438	8.8245	22.581	22.4814	-0.441	1.0
477.594	0.2158	0.0544	16.543	16.3896	-0.927	1.0
477.594	7.0795	1.7857	17.242	17.2527	0.062	1.0
477.594	7.0823	1.7864	17.253	17.2531	0.001	1.0
477.594	7.0857	1.7873	17.214	17.2536	0.230	1.0
477.594	14.0639	3.5158	18.338	18.3564	0.100	1.0
477.594	14.0666	3.5165	18.372	18.3569	-0.082	1.0
477.594	27.8368	6.6392	20.909	20.9922	0.398	1.0
477.594	27.8464	6.6412	20.921	20.9942	0.350	1.0
477.594	27.9616	6.6651	21.023	21.0178	-0.025	1.0
477.594	34.9349	8.0423	22.285	22.4699	0.830	1.0
477.594	34.9549	8.0461	22.296	22.4741	0.799	1.0

Number of points (Ref.71) 67

AAD-%	0.764	BIAS-%	-0.503	RMS-%	0.905
AAD	0.156	BIAS	-0.108	RMS	0.193 $\mu\text{Pa} \cdot \text{s}$

Data from Diller [9]

T	P	ρ	η, exp	η, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\mu\text{Pa} \cdot \text{s}$	$\mu\text{Pa} \cdot \text{s}$	%	
300.0	27.5171	12.4236	23.08	23.4859	1.759	0.0
300.0	24.6130	11.4741	21.63	21.8836	1.172	0.0
300.0	21.9816	10.4929	20.11	20.3771	1.328	0.0
300.0	19.8617	9.6115	18.89	19.1409	1.328	0.0
300.0	17.5856	8.5754	17.60	17.8172	1.234	0.0
300.0	14.2203	6.9008	16.17	15.9469	-1.380	0.0
300.0	10.6642	5.0361	14.10	14.2183	0.839	0.0
300.0	8.5932	3.9579	13.43	13.3756	-0.405	0.0
300.0	6.5757	2.9418	12.57	12.6805	0.879	0.0
300.0	4.4641	1.9307	12.13	12.0809	-0.404	0.0
300.0	2.3501	0.9808	11.67	11.5988	-0.610	0.0
250.0	33.1075	17.4623	33.91	33.8731	-0.109	0.0
250.0	30.2114	16.8947	32.12	32.1340	0.043	0.0
250.0	26.2641	15.9738	29.56	29.5642	0.014	0.0
250.0	23.4267	15.1618	27.44	27.5203	0.293	0.0
250.0	19.9095	13.8848	24.55	24.6567	0.435	0.0
250.0	15.6382	11.6497	20.33	20.4779	0.727	0.0
250.0	14.2168	10.6548	19.30	18.8990	-2.078	0.0
250.0	12.8282	9.5433	17.24	17.3106	0.410	0.0
250.0	11.4851	8.3599	15.87	15.8044	-0.413	0.0
250.0	10.0994	7.0840	14.56	14.3750	-1.270	0.0
250.0	8.6876	5.8009	13.12	13.1252	0.040	0.0
250.0	7.2482	4.5728	12.31	12.0926	-1.766	0.0
250.0	5.8005	3.4501	11.36	11.2803	-0.701	0.0
250.0	4.5051	2.5444	10.84	10.7125	-1.177	0.0
250.0	3.0433	1.6256	10.57	10.2130	-3.378	0.0
212.0	25.9756	19.4383	40.14	40.0453	-0.236	1.0
212.0	24.0602	19.1042	39.18	38.6561	-1.337	1.0
212.0	22.0279	18.7101	37.20	37.1058	-0.253	1.0
212.0	19.8848	18.2372	35.20	35.3592	0.452	1.0
212.0	18.0669	17.7740	33.66	33.7563	0.286	0.0
212.0	17.8173	17.7049	33.45	33.5253	0.225	0.0
212.0	15.8212	17.0886	31.53	31.5564	0.084	0.0
212.0	15.1417	16.8471	30.36	30.8256	1.534	0.0
212.0	12.5149	15.6714	27.22	27.5556	1.233	0.0

Data from Diller [9] (continued)

T	P	ρ	η, exp	η, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\mu\text{Pa} \cdot \text{s}$	$\mu\text{Pa} \cdot \text{s}$	%	
212.0	12.3572	15.5834	26.86	27.3283	1.743	0.0
212.0	10.7324	14.4780	24.30	24.6547	1.460	0.0
212.0	9.8615	13.6563	22.68	22.8642	0.812	0.0
212.0	9.2284	12.8844	20.78	21.3169	2.584	0.0
212.0	8.6517	11.9841	19.32	19.6613	1.767	0.0
212.0	8.2518	11.2078	18.35	18.3512	0.006	0.0
212.0	7.6827	9.8580	15.71	16.3074	3.803	0.0
212.0	7.3221	8.9005	14.48	15.0219	3.742	0.0
212.0	6.9239	7.8512	13.38	13.7564	2.813	0.0
212.0	6.5161	6.8677	12.19	12.6967	4.156	0.0
212.0	6.0626	5.9185	11.59	11.7826	1.662	0.0
212.0	5.2844	4.6049	10.31	10.6825	3.613	0.0
212.0	4.7580	3.8854	9.69	10.1567	4.816	0.0
212.0	3.8811	2.8909	9.41	9.5148	1.114	0.0
212.0	2.6830	1.8045	9.07	8.9211	-1.642	0.0
212.0	1.3573	0.8328	8.69	8.4809	-2.406	0.0
200.0	26.0666	20.5452	45.55	44.9282	-1.365	1.0
200.0	22.7861	20.0554	43.26	42.5112	-1.731	1.0
200.0	17.1539	18.9907	38.47	37.8847	-1.522	1.0
200.0	13.4880	18.0190	34.49	34.2569	-0.676	1.0
200.0	10.7512	16.9746	31.18	30.8498	-1.059	0.0
200.0	8.9805	15.9606	28.11	27.9351	-0.622	0.0
200.0	7.9300	15.0569	26.03	25.6097	-1.615	0.0
200.0	7.0972	13.9399	23.25	23.0368	-0.917	0.0
200.0	6.0940	10.7792	17.73	17.1987	-2.997	0.0
200.0	5.7235	8.3884	13.97	13.9010	-0.494	0.0
200.0	5.3374	6.5189	12.28	11.8645	-3.383	0.0
200.0	5.0575	5.6154	11.44	11.0312	-3.573	0.0
200.0	4.6874	4.7241	10.71	10.2986	-3.841	0.0
200.0	4.1792	3.8062	10.06	9.6321	-4.253	0.0
200.0	3.5092	2.8863	9.58	9.0494	-5.538	0.0
200.0	2.5405	1.8678	9.05	8.4990	-6.088	0.0
180.0	29.6172	22.6414	58.06	57.9165	-0.247	1.0
180.0	26.0926	22.2956	55.35	55.2777	-0.131	1.0
180.0	22.5630	21.9099	52.91	52.5713	-0.640	1.0

Data from Diller [9] (continued)

T	P	ρ	η, exp	η, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\mu\text{Pa} \cdot \text{s}$	$\mu\text{Pa} \cdot \text{s}$	%	
180.0	18.9364	21.4591	50.00	49.6796	-0.641	1.0
180.0	18.0006	21.3314	49.05	48.9073	-0.291	1.0
180.0	15.5309	20.9659	47.34	46.7988	-1.143	1.0
180.0	14.3643	20.7761	46.07	45.7585	-0.676	1.0
180.0	10.9669	20.1355	42.77	42.4934	-0.647	1.0
180.0	6.6784	18.9933	37.64	37.4444	-0.520	1.0
180.0	4.7313	18.1821	34.47	34.3347	-0.392	1.0
180.0	3.5334	17.4191	31.78	31.7013	-0.248	0.0
170.0	31.3603	23.5728	65.87	66.1360	0.404	1.0
170.0	28.0109	23.2992	63.50	63.4795	-0.032	1.0
170.0	24.6337	22.9996	61.26	60.7878	-0.771	1.0
170.0	21.4364	22.6889	58.20	58.2058	0.010	1.0
170.0	17.7783	22.2923	55.66	55.1763	-0.869	1.0
170.0	14.7678	21.9226	53.31	52.5838	-1.362	1.0
170.0	14.6458	21.9066	53.26	52.4762	-1.472	1.0
170.0	11.6174	21.4778	50.26	49.7178	-1.079	1.0
170.0	8.5905	20.9691	47.07	46.7281	-0.726	1.0
170.0	5.9150	20.4137	43.65	43.7607	0.254	1.0
170.0	3.2114	19.6654	40.24	40.1690	-0.176	1.0
170.0	2.3339	19.3469	38.78	38.7617	-0.047	1.0
170.0	2.3338	19.3468	38.72	38.7616	0.107	1.0
140.0	32.1731	25.8442	97.32	99.9805	2.734	1.0
140.0	28.6862	25.6534	93.95	96.0911	2.279	1.0
140.0	25.5140	25.4705	91.10	92.6413	1.692	1.0
140.0	21.9776	25.2547	88.47	88.8758	0.459	1.0
140.0	18.3655	25.0192	85.03	85.0952	0.077	1.0
140.0	16.7132	24.9056	82.61	83.3812	0.934	1.0
140.0	14.8198	24.7704	81.70	81.4242	-0.338	1.0
140.0	14.3898	24.7389	81.05	80.9804	-0.086	1.0
140.0	11.6975	24.5340	78.46	78.2020	-0.329	1.0
140.0	11.5486	24.5223	78.50	78.0482	-0.576	1.0
140.0	8.7964	24.2966	75.33	75.1958	-0.178	1.0
140.0	8.1090	24.2375	75.22	74.4791	-0.985	1.0
140.0	5.9313	24.0417	71.93	72.1916	0.364	1.0
140.0	4.6192	23.9169	71.39	70.7963	-0.832	1.0

Data from Diller [9] (continued)

T	P	ρ	η, exp	η, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\mu\text{Pa} \cdot \text{s}$	$\mu\text{Pa} \cdot \text{s}$	%	
140.0	3.6012	23.8159	69.54	69.7021	0.233	1.0
140.0	3.5782	23.8136	69.59	69.6772	0.125	1.0
140.0	1.0162	23.5408	67.74	66.8629	-1.295	1.0
140.0	0.6435	23.4986	66.18	66.4447	0.400	1.0
120.0	29.6804	27.1490	135.66	139.1141	2.546	1.0
120.0	26.0938	26.9908	132.02	133.5790	1.181	1.0
120.0	22.8894	26.8433	126.93	128.8088	1.480	1.0
120.0	18.5450	26.6331	121.87	122.5704	0.575	1.0
120.0	14.9691	26.4501	117.36	117.6036	0.208	1.0
120.0	11.8634	26.2826	112.56	113.3914	0.739	1.0
120.0	10.0661	26.1816	110.98	110.9899	0.009	1.0
120.0	8.2936	26.0789	109.04	108.6433	-0.364	1.0
120.0	6.4887	25.9707	105.48	106.2723	0.751	1.0
120.0	4.7333	25.8617	103.04	103.9804	0.913	1.0
120.0	3.0145	25.7511	101.69	101.7460	0.055	1.0
120.0	1.1885	25.6289	99.49	99.3782	-0.112	1.0
100.0	31.3341	28.6020	218.49	220.8303	1.071	1.0
100.0	29.1106	28.5266	215.48	215.6186	0.064	1.0
100.0	27.6657	28.4768	212.13	212.3065	0.083	1.0
100.0	26.8786	28.4494	210.75	210.5254	-0.107	1.0
100.0	25.2648	28.3926	206.80	206.9247	0.060	1.0
100.0	24.0528	28.3494	205.58	204.2630	-0.641	1.0
100.0	23.3380	28.3236	203.68	202.7097	-0.476	1.0
100.0	22.0477	28.2767	201.56	199.9366	-0.805	1.0
100.0	20.4257	28.2169	198.40	196.5039	-0.956	1.0
100.0	18.5381	28.1460	193.94	192.5810	-0.701	1.0
100.0	16.5683	28.0705	190.05	188.5651	-0.781	1.0
100.0	12.5966	27.9134	181.94	180.6900	-0.687	1.0
100.0	9.8678	27.8011	174.37	175.4359	0.611	1.0
100.0	9.4111	27.7820	175.95	174.5682	-0.785	1.0
100.0	7.3829	27.6956	169.50	170.7511	0.738	1.0
100.0	5.8976	27.6310	169.32	167.9918	-0.784	1.0
100.0	4.5249	27.5700	164.74	165.4672	0.441	1.0
100.0	3.3040	27.5149	161.63	163.2414	0.997	1.0
100.0	2.3281	27.4701	162.62	161.4742	-0.705	1.0
100.0	1.7964	27.4455	159.99	160.5160	0.329	1.0

Data from Diller et al. [9] (continued)

Number of points (Ref. 9) 141

AAD-%	1.101	BIAS-%	-0.089	RMS-%	1.598
AAD	0.489	BIAS	0.014	RMS	0.749 $\mu\text{Pa} \cdot \text{s}$

Data from Giddings et al. [70]

T	P	ρ	η, exp	η, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\mu\text{Pa} \cdot \text{s}$	$\mu\text{Pa} \cdot \text{s}$	%	
283.15	0.1013	0.0431	10.67	10.6464	-0.221	4.0
283.15	0.6890	0.2969	10.74	10.7460	0.056	4.0
283.15	1.3790	0.6031	10.86	10.8733	0.123	4.0
283.15	2.0680	0.9180	10.90	11.0126	1.033	4.0
283.15	2.7581	1.2427	11.14	11.1650	0.224	4.0
283.15	3.4471	1.5766	11.31	11.3312	0.188	4.0
283.15	4.1371	1.9208	11.48	11.5127	0.285	4.0
283.15	5.5161	2.6383	11.93	11.9244	-0.047	4.0
283.15	6.8952	3.3941	12.37	12.4083	0.309	4.0
283.15	8.6187	4.3867	13.12	13.1240	0.031	4.0
283.15	10.3220	5.4071	14.08	13.9584	-0.864	4.0
283.15	12.0658	6.4699	14.96	14.9390	-0.141	4.0
283.15	13.7893	7.5111	16.00	16.0161	0.100	4.0
283.15	17.3377	9.5126	18.32	18.4396	0.653	4.0
283.15	20.6804	11.1214	20.70	20.7672	0.324	4.0
283.15	27.5786	13.6062	25.05	25.1734	0.493	4.0
283.15	34.4738	15.3290	28.80	28.9703	0.591	4.0
283.15	41.3680	16.6170	32.25	32.3405	0.281	4.0
283.15	48.2631	17.6396	35.50	35.4399	-0.169	4.0
283.15	55.1583	18.4868	38.50	38.3703	-0.337	0.0
310.93	0.1013	0.0392	11.62	11.5479	-0.620	4.0
310.93	0.6890	0.2693	11.68	11.6402	-0.340	4.0
310.93	1.3790	0.5445	11.79	11.7565	-0.284	4.0
310.93	2.0680	0.8249	11.90	11.8814	-0.156	4.0
310.93	2.7581	1.1113	12.00	12.0159	0.133	4.0
310.93	3.4471	1.4029	12.16	12.1599	-0.001	4.0
310.93	4.1371	1.7004	12.31	12.3144	0.035	4.0
310.93	5.5161	2.3108	12.65	12.6551	0.041	4.0
310.93	6.8952	2.9409	13.03	13.0411	0.085	4.0
310.93	8.6187	3.7515	13.68	13.5898	-0.659	4.0

Data from Giddings et al. [70] (continued)

T	P	ρ	η, exp	η, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\mu\text{Pa} \cdot \text{s}$	$\mu\text{Pa} \cdot \text{s}$	%	
310.93	10.3422	4.5803	14.22	14.2131	-0.048	4.0
310.93	12.0658	5.4174	14.94	14.9087	-0.210	4.0
310.93	13.7893	6.2509	15.71	15.6699	-0.256	4.0
310.93	17.3377	7.9075	17.52	17.3976	-0.699	4.0
310.93	20.6804	9.3362	19.30	19.1372	-0.844	4.0
310.93	27.5786	11.7715	22.80	22.7201	-0.350	4.0
310.93	34.4738	13.5999	26.10	26.0347	-0.250	4.0
310.93	41.3680	15.0082	29.20	29.0564	-0.492	4.0
310.93	48.2631	16.1369	31.80	31.8533	0.168	4.0
310.93	55.1583	17.0733	34.20	34.4918	0.853	4.0
344.26	0.1013	0.0354	12.69	12.5893	-0.794	4.0
344.26	0.6890	0.2423	12.75	12.6742	-0.595	4.0
344.26	1.3790	0.4883	12.84	12.7796	-0.470	4.0
344.26	2.0680	0.7370	12.94	12.8914	-0.375	4.0
344.26	2.7581	0.9893	13.05	13.0100	-0.307	4.0
344.26	3.4471	1.2442	13.15	13.1352	-0.113	4.0
344.26	4.1371	1.5023	13.28	13.2675	-0.094	4.0
344.26	5.5161	2.0262	13.55	13.5535	0.026	4.0
344.26	6.8952	2.5595	13.86	13.8686	0.062	4.0
344.26	8.6187	3.2362	14.29	14.3039	0.097	4.0
344.26	10.3422	3.9200	14.79	14.7849	-0.035	4.0
344.26	12.0658	4.6059	15.33	15.3097	-0.133	4.0
344.26	13.7893	5.2881	15.89	15.8749	-0.095	4.0
344.26	17.3377	6.6588	17.12	17.1463	0.154	4.0
344.26	20.6804	7.8789	18.42	18.4396	0.106	4.0
344.26	27.5786	10.0969	21.23	21.2238	-0.029	4.0
344.26	34.4738	11.8972	23.94	23.9618	0.091	4.0
344.26	41.3680	13.3519	26.50	26.5568	0.214	4.0
344.26	48.2631	14.5478	29.10	29.0044	-0.328	4.0
344.26	55.1583	15.5526	31.30	31.3296	0.095	4.0
377.59	0.1013	0.0323	13.70	13.5897	-0.805	4.0
377.59	0.6890	0.2204	13.76	13.6683	-0.667	4.0
377.59	1.3790	0.4430	13.84	13.7649	-0.542	4.0
377.59	2.0680	0.6671	13.93	13.8663	-0.457	4.0
377.59	2.7581	0.8933	14.03	13.9729	-0.407	4.0

Data from Giddings et al. [70] (continued)

T	P	ρ	η, exp	η, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\mu\text{Pa} \cdot \text{s}$	$\mu\text{Pa} \cdot \text{s}$	%	
377.59	3.4471	1.1207	14.12	14.0842	-0.254	4.0
377.59	4.1371	1.3500	14.23	14.2008	-0.205	4.0
377.59	5.5161	1.8122	14.45	14.4490	-0.007	4.0
377.59	6.8952	2.2788	14.71	14.7178	0.053	4.0
377.59	8.6187	2.8661	15.07	15.0822	0.081	4.0
377.59	10.3422	3.4554	15.47	15.4777	0.050	4.0
377.59	12.0658	4.0438	15.80	15.9027	0.650	4.0
377.59	13.7893	4.6280	16.36	16.3552	-0.029	4.0
377.59	17.3377	5.8055	17.34	17.3621	0.127	4.0
377.59	20.6804	6.8670	18.39	18.3834	-0.036	4.0
377.59	27.5786	8.8593	20.62	20.6153	-0.023	4.0
377.59	34.4738	10.5579	22.86	22.8828	0.100	4.0
377.59	41.3680	11.9874	25.10	25.0967	-0.013	4.0
377.59	48.2631	13.1961	27.20	27.2273	0.100	4.0
377.59	55.1583	14.2300	29.40	29.2743	-0.428	4.0
410.93	0.1013	0.0297	14.65	14.5527	-0.664	4.0
410.93	0.6890	0.2022	14.70	14.6258	-0.505	4.0
410.93	1.3790	0.4057	14.78	14.7151	-0.439	4.0
410.93	2.0680	0.6099	14.86	14.8081	-0.349	4.0
410.93	2.7581	0.8154	14.94	14.9050	-0.234	4.0
410.93	3.4471	1.0213	15.03	15.0056	-0.162	4.0
410.93	4.1371	1.2282	15.12	15.1102	-0.065	4.0
410.93	5.5161	1.6436	15.32	15.3307	0.070	4.0
410.93	6.8952	2.0607	15.54	15.5663	0.170	4.0
410.93	8.6187	2.5829	15.84	15.8818	0.264	4.0
410.93	10.3422	3.1046	16.17	16.2197	0.308	4.0
410.93	12.0658	3.6239	16.33	16.5790	1.525	4.0
410.93	13.7893	4.1387	16.91	16.9582	0.285	4.0
410.93	17.3377	5.1773	17.74	17.7943	0.306	4.0
410.93	20.6804	6.1195	18.61	18.6377	0.149	4.0
410.93	27.5786	7.9189	20.49	20.4876	-0.012	4.0
410.93	34.4738	9.5003	22.40	22.3977	-0.010	4.0
410.93	41.3680	10.8712	24.30	24.2988	-0.005	4.0
410.93	48.2631	12.0584	26.10	26.1577	0.221	4.0
410.93	55.1583	13.0925	28.00	27.9639	-0.129	4.0

Number of points (Ref.70) 100

AAD-%	0.281	BIAS-%	-0.055	RMS-%	0.386
AAD	0.049	BIAS	-0.006	RMS	0.071 $\mu\text{Pa} \cdot \text{s}$

Data from Gonzalez et al. [86]

T	P	ρ	η, exp	η, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\mu\text{Pa} \cdot \text{s}$	$\mu\text{Pa} \cdot \text{s}$	%	
310.928	1.3789	0.5444	12.01	11.7564	-2.112	0.0
310.928	2.7579	1.1112	12.10	12.0158	-0.696	0.0
310.928	4.1368	1.7002	12.54	12.3142	-1.800	0.0
310.928	5.5158	2.3107	12.76	12.6550	-0.823	0.0
310.928	6.8947	2.9407	13.16	13.0409	-0.905	0.0
310.928	10.3421	4.5803	14.46	14.2131	-1.708	0.0
310.928	13.7895	6.2511	15.95	15.6699	-1.756	0.0
310.928	20.6842	9.3378	19.56	19.1393	-2.151	0.0
310.928	27.5789	11.7717	23.14	22.7204	-1.813	0.0
310.928	34.4737	13.6000	26.65	26.0348	-2.309	0.0
310.928	41.3684	15.0083	29.90	29.0567	-2.820	0.0
310.928	55.1579	17.0733	35.47	34.4919	-2.758	0.0
344.261	1.3789	0.4882	13.08	12.7797	-2.296	0.0
344.261	2.7579	0.9892	13.28	13.0100	-2.033	0.0
344.261	4.1368	1.5022	13.46	13.2675	-1.430	0.0
344.261	5.5158	2.0260	13.73	13.5534	-1.286	0.0
344.261	6.8947	2.5593	14.08	13.8685	-1.502	0.0
344.261	10.3421	3.9200	14.90	14.7849	-0.773	0.0
344.261	13.7895	5.2882	15.95	15.8750	-0.470	0.0
344.261	20.6842	7.8802	18.68	18.4411	-1.279	0.0
344.261	27.5789	10.0969	21.63	21.2239	-1.878	0.0
344.261	34.4737	11.8971	24.46	23.9617	-2.037	0.0
344.261	41.3684	13.3519	27.50	26.5569	-3.430	0.0
344.261	55.1579	15.5525	32.22	31.3294	-2.764	0.0
377.594	1.3789	0.4430	14.05	13.7650	-2.028	0.0
377.594	2.7579	0.8932	14.22	13.9729	-1.737	0.0
377.594	4.1368	1.3499	14.40	14.2008	-1.383	0.0
377.594	5.5158	1.8120	14.63	14.4491	-1.237	0.0
377.594	6.8947	2.2786	14.81	14.7178	-0.623	0.0
377.594	13.7895	4.6280	16.46	16.3553	-0.636	0.0
377.594	20.6842	6.8680	18.60	18.3846	-1.158	0.0
377.594	27.5789	8.8593	20.64	20.6153	-0.120	0.0
377.594	34.4737	10.5577	23.27	22.8827	-1.665	0.0
377.594	41.3684	11.9874	25.56	25.0967	-1.812	0.0
377.594	55.1579	14.2298	30.03	29.2740	-2.517	0.0

Data from Gonzalez et al. [86] (continued)

T	P	ρ	η, exp	η, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\mu\text{Pa} \cdot \text{s}$	$\mu\text{Pa} \cdot \text{s}$	%	
410.928	1.3789	0.4057	15.09	14.7150	-2.485	0.0
410.928	2.7579	0.8153	15.26	14.9049	-2.327	0.0
410.928	4.1368	1.2281	15.34	15.1101	-1.499	0.0
410.928	5.5158	1.6435	15.50	15.3306	-1.093	0.0
410.928	6.8947	2.0605	15.66	15.5662	-0.599	0.0
410.928	10.3421	3.1046	16.33	16.2197	-0.676	0.0
410.928	13.7895	4.1388	17.02	16.9582	-0.363	0.0
410.928	20.6842	6.1206	18.82	18.6386	-0.964	0.0
410.928	34.4737	9.5003	22.83	22.3976	-1.894	0.0
410.928	41.3684	10.8713	24.86	24.2989	-2.257	0.0
410.928	55.1579	13.0925	29.08	27.9638	-3.838	0.0
444.261	1.3789	0.3744	16.00	15.6322	-2.299	0.0
444.261	4.1368	1.1280	16.37	15.9943	-2.295	0.0
444.261	6.8947	1.8847	16.72	16.4039	-1.891	0.0
444.261	13.7895	3.7574	17.85	17.6198	-1.289	0.0
444.261	20.6842	5.5417	19.33	19.0567	-1.414	0.0
444.261	27.5789	7.1813	20.92	20.6325	-1.374	0.0
444.261	34.4737	8.6512	22.63	22.2728	-1.579	0.0

Number of points (Ref.86) 53

AAD-%	1.658	BIAS-%	-1.658	RMS-%	0.768
AAD	0.335	BIAS	-0.335	RMS	0.248 $\mu\text{Pa} \cdot \text{s}$

Data from Haynes [87]

T	P	ρ	η, exp	η, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\mu\text{Pa} \cdot \text{s}$	$\mu\text{Pa} \cdot \text{s}$	%	
95.0	0.01983	27.78109	178.44724	179.40555	0.5370	2.0
100.0	0.03441	27.35180	156.97692	156.96669	-0.0065	2.0
105.0	0.05643	26.91566	138.38713	138.16422	-0.1611	2.0
110.0	0.08820	26.47086	122.58596	122.38943	-0.1603	2.0
115.0	0.13232	26.01545	109.07683	109.10539	0.0262	2.0

Data from Haynes [87] (continued)

T	P	ρ	η, exp	η, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\mu\text{Pa} \cdot \text{s}$	$\mu\text{Pa} \cdot \text{s}$	%	
120.0	0.19158	25.54730	97.56533	97.85224	0.2941	2.0
125.0	0.26896	25.06409	88.35418	88.24503	-0.1235	2.0
130.0	0.36760	24.56319	81.04580	79.96689	-1.3312	2.0
135.0	0.49072	24.04154	73.34020	72.75987	-0.7913	2.0
140.0	0.64165	23.49559	67.33754	66.41512	-1.3699	2.0
145.0	0.82379	22.92098	61.23474	60.76358	-0.7694	2.0
150.0	1.04065	22.31228	55.73642	55.66745	-0.1238	2.0
155.0	1.29580	21.66242	51.43842	51.01256	-0.8279	2.0
160.0	1.59296	20.96180	46.54146	46.70134	0.3435	2.0
165.0	1.93607	20.19664	41.94595	42.64546	1.6677	2.0
170.0	2.32936	19.34572	37.64927	38.75676	2.9416	2.0
175.0	2.77762	18.37296	34.35499	34.93156	1.6783	2.0
180.0	3.28655	17.20702	30.95908	31.01327	0.1750	2.0
185.0	3.86361	15.66142	26.15027	26.65399	1.9263	2.0
190.0	4.52082	12.49998	19.76671	19.75384	-0.0651	2.0

Number of points (Ref.87) 20

AAD-%	0.766	BIAS-%	0.193	RMS-%	1.081
AAD	0.424	BIAS	0.014	RMS	0.556 $\mu\text{Pa} \cdot \text{s}$

Data from Hellemans et al. [88]

T	P	ρ	η, exp	η, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\mu\text{Pa} \cdot \text{s}$	$\mu\text{Pa} \cdot \text{s}$	%	
96.8	0.0405	27.6352	169.0	171.2001	1.302	0.0
96.8	0.2837	27.6462	170.0	171.6593	0.976	0.0
96.8	1.9657	27.7211	173.0	174.8539	1.072	0.0
96.8	1.8238	27.7149	180.0	174.5834	-3.009	0.0
96.8	5.8262	27.8869	180.0	182.3155	1.286	0.0
96.8	7.8122	27.9690	191.0	186.2324	-2.496	0.0
96.8	9.3523	28.0314	188.0	189.3108	0.697	0.0
106.0	0.0808	26.8426	133.0	135.2417	1.685	0.0
106.0	1.9252	26.9391	135.0	138.2104	2.378	0.0
106.0	4.0327	27.0458	138.0	141.6371	2.636	0.0

Data from Hellemans et al. [88] (continued)

T	P	ρ	η, exp	η, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\mu\text{Pa} \cdot \text{s}$	$\mu\text{Pa} \cdot \text{s}$	%	
106.0	5.8465	27.1349	141.0	144.6196	2.567	0.0
106.0	7.9439	27.2349	145.0	148.1123	2.146	0.0
106.0	9.5448	27.3093	149.0	150.8128	1.217	0.0
115.3	0.1517	26.0031	107.0	108.7093	1.597	0.0
115.3	2.1380	26.1265	110.0	111.4579	1.325	0.0
115.3	4.0023	26.2380	112.0	114.0509	1.831	0.0
115.3	6.0592	26.3565	117.0	116.9325	-0.058	0.0
115.3	7.8122	26.4540	119.0	119.4099	0.344	0.0
115.3	0.1224	26.5783	123.0	122.7114	-0.235	0.0
125.0	0.2736	25.0747	90.0	88.4116	-1.765	0.0
125.0	3.8098	25.3383	93.6	92.7271	-0.933	0.0
125.0	6.1504	25.5004	95.8	95.5786	-0.231	0.0
125.0	7.7108	25.6039	100.7	97.4845	-3.193	0.0
125.0	9.8083	25.7378	98.3	100.0576	1.788	0.0
138.7	0.6181	23.6455	69.5	68.0467	-2.091	0.0
138.7	1.9252	23.7854	71.2	69.5065	-2.378	0.0
138.7	3.9415	23.9875	73.6	71.7128	-2.564	0.0
138.7	5.8465	24.1657	76.5	73.7595	-3.582	0.0
138.7	7.9540	24.3504	78.8	75.9945	-3.560	0.0
138.7	9.4435	24.4743	80.2	77.5619	-3.289	0.0
145.6	0.8613	22.8527	63.5	60.1486	-5.278	0.0
145.6	1.1146	22.8866	63.7	60.4347	-5.126	0.0
145.6	1.9961	23.0012	66.0	61.4168	-6.944	0.0
145.6	3.9821	23.2416	68.3	63.5643	-6.934	0.0
145.6	5.8465	23.4487	71.3	65.5170	-8.111	0.0
145.6	7.7919	23.6491	72.5	67.5067	-6.887	0.0
145.6	9.5955	23.8230	75.8	69.3193	-8.550	0.0
156.3	1.3780	21.4872	48.8	49.8724	2.198	0.0
156.3	2.5129	21.7009	49.1	51.2355	4.349	0.0
156.3	4.0530	21.9621	51.5	52.9799	2.874	0.0
156.3	6.0187	22.2588	52.1	55.0765	5.713	0.0
156.3	8.0959	22.5388	51.5	57.1789	11.027	0.0
156.3	9.7069	22.7374	53.3	58.7506	10.226	0.0
171.4	2.4619	19.0923	35.5	37.7034	6.207	0.0
171.4	3.9314	19.6399	36.8	40.0699	8.886	0.0

Data from Hellemans et al. [88] (continued)

T	P	ρ	η, exp	η, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\mu\text{Pa} \cdot \text{s}$	$\mu\text{Pa} \cdot \text{s}$	%	
171.4	5.9072	20.1983	38.1	42.6942	12.058	0.0
171.4	7.6906	20.6046	39.6	44.7578	13.025	0.0
171.4	9.6360	20.9816	40.2	46.8052	16.431	0.0
183.0	3.6477	16.3848	27.0	28.5960	5.911	0.0
183.0	5.5222	17.8916	28.4	33.3737	17.513	0.0
183.0	7.7716	18.8385	29.9	36.8849	23.361	0.0
183.0	9.9602	19.4847	30.7	39.5636	28.872	0.0
187.3	4.1645	14.7229	22.5	24.3686	8.305	0.0
187.3	5.8870	17.0254	23.7	30.6393	29.280	0.0
187.3	7.8628	18.0876	23.9	34.1682	42.963	0.0
187.3	9.7069	18.7569	25.3	36.6581	44.894	0.0

Number of points (Ref.88) 56

AAD-%	7.074	BIAS-%	4.317	RMS-%	11.118
AAD	3.405	BIAS	1.160	RMS	4.006 $\mu\text{Pa} \cdot \text{s}$

Data from Huang et al. [89]

T	P	ρ	η, exp	η, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\mu\text{Pa} \cdot \text{s}$	$\mu\text{Pa} \cdot \text{s}$	%	
173.15	2.6067	18.7496	38.5	36.3444	-5.599	0.0
173.15	4.0279	19.3416	40.5	38.7816	-4.243	0.0
173.15	6.7132	20.1296	43.8	42.3765	-3.250	0.0
173.15	10.0699	20.8403	47.7	46.0341	-3.492	0.0
173.15	13.4265	21.3968	51.2	49.2358	-3.836	0.0
173.15	20.1397	22.2632	57.3	54.9746	-4.058	0.0
173.15	26.8529	22.9416	62.7	60.3075	-3.816	0.0
173.15	33.5662	23.5072	67.6	65.5140	-3.086	0.0
153.15	1.1975	21.9082	54.2	52.6900	-2.786	0.0
153.15	4.0279	22.3571	57.0	55.8884	-1.950	0.0
153.15	6.7132	22.7182	59.9	58.6908	-2.019	0.0
153.15	10.0699	23.1097	63.1	62.0007	-1.742	0.0
153.15	13.4265	23.4536	66.4	65.1794	-1.838	0.0
153.15	20.1397	24.0428	72.7	71.3503	-1.857	0.0
153.15	26.8529	24.5415	78.8	77.4837	-1.670	0.0

Data from Huang et al. [89] (continued)

T	P	ρ	η, exp	η, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\mu\text{Pa} \cdot \text{s}$	$\mu\text{Pa} \cdot \text{s}$	%	
153.15	33.5662	24.9774	84.7	83.7509	-1.121	0.0
133.15	0.4426	24.2432	76.7	75.3883	-1.710	0.0
133.15	4.0279	24.5639	81.0	79.4553	-1.907	0.0
133.15	6.7132	24.7821	84.0	82.4523	-1.842	0.0
133.15	10.0699	25.0340	87.8	86.1768	-1.849	0.0
133.15	13.4265	25.2667	91.7	89.9079	-1.954	0.0
133.15	20.1397	25.6872	99.0	97.4929	-1.522	0.0
133.15	26.8529	26.0613	106.0	105.3840	-0.581	0.0
133.15	33.5662	26.4001	114.0	113.7365	-0.231	0.0
123.15	0.2384	25.2560	94.0	91.8162	-2.323	0.0
123.15	4.0279	25.5268	99.0	96.5397	-2.485	0.0
123.15	6.7132	25.7047	102.0	99.8924	-2.066	0.0
123.15	10.0699	25.9135	107.0	104.1160	-2.695	0.0
123.15	13.4265	26.1094	111.0	108.3998	-2.342	0.0
123.15	20.1397	26.4698	120.0	117.2396	-2.300	0.0
123.15	26.8529	26.7963	129.0	126.5817	-1.875	0.0
123.15	33.5662	27.0959	137.0	136.5954	-0.295	0.0
113.15	0.1151	26.2001	114.0	114.1058	0.093	0.0
113.15	4.0279	26.4292	119.0	119.7182	0.604	0.0
113.15	6.7132	26.5772	123.0	123.6223	0.506	0.0
113.15	10.0699	26.7530	128.0	128.5843	0.456	0.0
113.15	13.4265	26.9200	133.0	133.6591	0.496	0.0
113.15	20.1397	27.2312	142.0	144.2348	1.574	0.0
113.15	26.8529	27.5175	152.0	155.5272	2.321	0.0
113.15	33.5662	27.7832	162.0	167.7264	3.535	0.0
103.15	0.0479	27.0909	144.0	145.1668	0.810	0.0
103.15	4.0279	27.2857	151.0	151.9432	0.625	0.0
103.15	6.7132	27.4107	156.0	156.6087	0.390	0.0
103.15	10.0699	27.5607	162.0	162.5659	0.349	0.0
103.15	13.4265	27.7043	168.0	168.6842	0.407	0.0
103.15	20.1397	27.9751	181.0	181.4927	0.272	0.0
103.15	26.8529	28.2271	193.0	195.2203	1.150	0.0
103.15	33.5662	28.4633	206.0	210.0740	1.978	0.0

Number of points (Ref.89) 48

AAD-%	1.873	BIAS-%	-1.225	RMS-%	1.885
AAD	1.635	BIAS	-0.596	RMS	1.843 $\mu\text{Pa} \cdot \text{s}$

Data from Kestin and Yata [65]

T	P	ρ	η, exp	η, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\mu\text{Pa} \cdot \text{s}$	$\mu\text{Pa} \cdot \text{s}$	%	
293.15	2.5524	1.0984	11.321	11.4289	0.953	0.0
293.15	2.0255	0.8631	11.217	11.3196	0.914	0.0
293.15	1.5219	0.6424	11.137	11.2213	0.757	0.0
293.15	1.0153	0.4245	11.054	11.1283	0.672	0.0
293.15	0.5087	0.2107	10.986	11.0409	0.500	0.0
293.15	0.1064	0.0437	10.936	10.9754	0.360	0.0
293.15	0.0500	0.0205	10.924	10.9664	0.388	0.0
303.15	2.2443	0.9238	11.590	11.6751	0.734	0.0
303.15	1.9221	0.7870	11.526	11.6125	0.750	0.0
303.15	1.5280	0.6216	11.462	11.5389	0.671	0.0
303.15	1.0072	0.4063	11.387	11.4466	0.524	0.0
303.15	0.5147	0.2059	11.318	11.3642	0.408	0.0
303.15	0.5137	0.2055	11.318	11.3641	0.407	0.0
303.15	0.5066	0.2027	11.322	11.3629	0.361	0.0
303.15	0.1155	0.0459	11.276	11.3008	0.220	0.0
303.15	0.1125	0.0447	11.268	11.3003	0.287	0.0
303.15	0.1054	0.0419	11.267	11.2992	0.286	0.0
303.15	0.0500	0.0199	11.258	11.2907	0.290	0.0

Number of points (Ref.65) 18

AAD-%	0.527	BIAS-%	0.527	RMS-%	0.222
AAD	0.059	BIAS	0.059	RMS	0.025 $\mu\text{Pa} \cdot \text{s}$

Number of Points Total with positive weight 267

AAD-%	0.559	BIAS-%	-0.161	RMS-%	0.791
AAD	0.292	BIAS	-0.025	RMS	0.559 $\mu\text{Pa} \cdot \text{s}$

Number of Points Total referenced in Ref. [1] 532

AAD-%	1.710	BIAS-%	0.246	RMS-%	4.122
AAD	0.786	BIAS	0.092	RMS	1.613 $\mu\text{Pa} \cdot \text{s}$

Number of Points Total 550

AAD-%	1.672	BIAS-%	0.255	RMS-%	4.055
AAD	0.762	BIAS	0.092	RMS	1.586 $\mu\text{Pa} \cdot \text{s}$

TABLE A14

COMPARISONS FOR THERMAL CONDUCTIVITY AT ELEVATED PRESSURES

Notes for Table A14. The quantities T, P, and λ_{exp} refer to experimental quantities; the density was evaluated from the SWEOS. The tabulated densities were then used as input to calculate the thermal conductivity.

Data from Assael and Wakeham [73]

T	P	ρ	λ_{exp}	λ_{cal}	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
307.48	1.84	0.741	36.45	36.60	0.412	0.0
307.27	2.60	1.060	37.01	37.14	0.351	0.0
307.16	3.31	1.364	37.62	37.68	0.159	0.0
307.03	3.93	1.636	38.09	38.19	0.263	0.0
306.96	4.49	1.885	38.62	38.67	0.129	0.0
306.82	5.06	2.144	39.22	39.19	-0.076	0.0
306.73	5.79	2.480	39.99	39.90	-0.225	0.0
306.62	6.48	2.804	40.78	40.61	-0.417	0.0
306.58	7.12	3.109	41.53	41.31	-0.530	0.0
306.87	7.81	3.436	42.71	42.15	-1.311	0.0
306.73	8.36	3.706	43.39	42.81	-1.337	0.0
306.66	8.79	3.918	43.99	43.35	-1.455	0.0
306.52	9.27	4.157	44.65	43.97	-1.523	0.0

Number of Points (Ref. 73) 13

AAD-%	0.630	BIAS-%	-0.428	RMS-%	0.706
AAD	0.266	BIAS	-0.191	RMS	0.303 $\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Data from Clifford et al. [72]

T	P	ρ	λ_{exp}	λ_{cal}	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
301.10	1.61	0.661	35.85	35.57	-0.781	0.0
300.98	2.10	0.869	36.06	35.91	-0.416	0.0
300.90	2.36	0.982	36.35	36.10	-0.688	0.0
300.89	3.06	1.288	36.98	36.66	-0.865	0.0
300.64	3.60	1.531	37.29	37.09	-0.536	0.0

Data from Clifford et al. [72] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
300.54	4.08	1.749	37.72	37.50	-0.583	0.0
300.35	4.56	1.972	38.22	37.93	-0.759	0.0
300.30	5.04	2.198	38.73	38.39	-0.878	0.0
300.15	5.87	2.595	39.67	39.24	-1.084	0.0
300.05	6.58	2.943	40.39	40.03	-0.891	0.0
299.95	7.42	3.363	41.57	41.02	-1.323	0.0
299.85	8.11	3.714	42.90	41.89	-2.354	0.0
299.73	9.18	4.267	44.00	43.35	-1.477	0.0
299.61	10.18	4.793	45.58	44.82	-1.667	0.0
299.49	11.15	5.308	47.04	46.33	-1.509	0.0
299.40	12.13	5.830	48.68	47.94	-1.520	0.0
299.32	13.08	6.334	50.26	49.55	-1.413	0.0
299.16	14.12	6.886	51.84	51.38	-0.887	0.0
299.09	15.15	7.421	53.68	53.21	-0.876	0.0
299.05	15.72	7.712	54.55	54.23	-0.587	0.0
298.93	18.14	8.897	58.83	58.51	-0.544	0.0
298.88	19.60	9.564	61.32	61.01	-0.506	0.0
298.80	21.17	10.240	63.53	63.60	0.110	0.0
298.78	22.81	10.893	66.30	66.17	-0.196	0.0
298.77	24.20	11.408	68.31	68.26	-0.073	0.0
298.73	25.48	11.854	70.68	70.12	-0.792	0.0
298.73	27.17	12.399	72.69	72.47	-0.303	0.0
298.65	28.64	12.844	74.64	74.45	-0.255	0.0
298.66	30.09	13.249	76.69	76.33	-0.469	0.0
298.65	31.41	13.597	78.35	77.99	-0.459	0.0
298.65	32.85	13.953	79.91	79.75	-0.200	0.0
298.65	33.90	14.200	81.48	81.01	-0.577	0.0
298.67	35.35	14.522	82.76	82.70	-0.072	0.0

Number of Points (Ref. 72) 33

AAD-%	0.777	BIAS-%	-0.771	RMS-%	0.531
AAD	0.378	BIAS	-0.374	RMS	0.233 $\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Data from Ikenberry and Rice [90]

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
98.90	39.82	28.949	287.36	234.92	-18.249	0.0
98.93	30.44	28.645	267.61	227.58	-14.958	0.0
98.99	20.31	28.286	225.48	219.25	-2.763	0.0
99.01	10.13	27.890	216.52	210.41	-2.822	0.0
99.02	5.12	27.677	211.71	205.82	-2.782	0.0
99.02	2.56	27.563	209.16	203.41	-2.749	0.0
99.03	0.16	27.451	206.90	201.09	-2.808	0.0
125.47	50.67	27.624	218.99	215.69	-1.507	0.0
125.49	40.68	27.235	210.12	206.97	-1.499	0.0
125.55	30.41	26.788	200.33	197.43	-1.448	0.0
125.53	20.41	26.300	189.91	187.57	-1.232	0.0
125.54	10.15	25.712	178.24	176.45	-1.004	0.0
125.61	5.08	25.371	171.38	170.35	-0.601	0.0
125.62	2.43	25.178	168.03	167.02	-0.601	0.0
150.23	50.74	26.087	192.38	189.73	-1.377	0.0
150.25	40.54	25.577	182.84	179.88	-1.619	0.0
150.28	30.44	24.995	171.67	169.34	-1.357	0.0
150.28	20.48	24.312	159.54	157.91	-1.022	0.0
150.28	10.13	23.409	145.60	144.17	-0.982	0.0
150.29	5.04	22.834	137.40	136.18	-0.888	0.0
150.30	2.62	22.510	132.88	131.91	-0.730	0.0
175.13	50.67	24.523	166.52	165.89	-0.378	0.0
175.14	40.58	23.879	156.19	155.42	-0.493	0.0
175.17	30.41	23.095	144.43	143.74	-0.478	0.0
175.15	20.41	22.107	130.92	130.56	-0.275	0.0
175.16	10.13	20.596	114.06	113.25	-0.710	0.0
175.15	5.13	19.345	102.76	101.19	-1.528	0.0
200.20	50.67	22.946	145.31	145.38	0.048	0.0
200.20	40.41	22.115	134.22	134.22	0.000	0.0
200.21	30.41	21.084	122.05	121.89	-0.131	0.0
200.22	20.28	19.601	106.86	106.75	-0.103	0.0
200.18	13.01	17.837	92.80	92.23	-0.614	0.0
200.18	10.17	16.652	85.73	84.40	-1.551	0.0
200.18	7.63	14.653	78.28	74.66	-4.624	0.0
200.10	5.11	5.735	41.92	42.01	0.215	0.0

Data from Ikenberry and Rice [90] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
200.08	2.48	1.813	25.02	25.46	1.759	0.0
200.08	0.28	0.174	21.59	22.00	1.899	0.0
235.01	50.74	20.786	123.34	123.08	-0.211	0.0
235.00	40.54	19.681	112.13	111.74	-0.348	0.0
235.00	30.68	18.228	99.50	99.03	-0.472	0.0
234.99	20.28	15.717	82.30	81.92	-0.462	0.0
235.00	13.06	11.882	64.89	64.29	-0.925	0.0
234.98	10.10	8.769	53.18	52.69	-0.921	0.0
234.96	5.07	3.294	32.89	32.91	0.061	0.0
234.95	2.49	1.419	27.91	28.44	1.899	0.0

Number of Points (Ref. 90) 45

AAD-%	1.847	BIAS-%	-1.585	RMS-%	3.472
AAD	3.683	BIAS	-3.614	RMS	9.466 $\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Data from Le Neindre et al. [81]

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
307.35	0.10	0.039	35.60	35.42	-0.506	0.0
298.65	0.14	0.057	34.50	34.23	-0.783	0.0
304.45	1.00	0.401	35.80	35.60	-0.559	0.0
298.55	1.00	0.410	35.00	34.79	-0.600	0.0
303.85	4.40	1.870	38.80	38.21	-1.521	0.0
298.45	5.00	2.197	38.40	38.14	-0.677	0.0
306.35	5.80	2.489	40.70	39.86	-2.064	0.0
302.85	7.30	3.254	41.90	41.15	-1.790	0.0
298.85	10.10	4.772	45.50	44.66	-1.846	0.0
304.75	10.50	4.817	46.80	45.57	-2.628	0.0
301.45	10.50	4.908	46.30	45.39	-1.965	0.0
304.15	13.70	6.462	51.30	50.58	-1.404	0.0
299.35	14.70	7.178	53.20	52.40	-1.504	0.0
303.45	16.30	7.780	55.70	55.01	-1.239	0.0
302.75	18.50	8.847	59.30	58.79	-0.860	0.0

Data from Le Neindre et al. [81] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
298.75	20.40	9.920	62.60	62.35	-0.399	0.0
302.05	21.60	10.214	64.30	63.88	-0.653	0.0
303.25	22.30	10.417	65.40	64.82	-0.887	0.0
302.75	26.90	12.057	71.60	71.48	-0.168	0.0
298.45	30.60	13.399	77.00	77.01	0.013	0.0
302.55	32.30	13.577	78.70	78.39	-0.394	0.0
302.35	38.60	14.970	86.30	85.64	-0.765	0.0
298.65	40.70	15.577	89.00	88.66	-0.382	0.0
302.35	45.40	16.155	93.80	92.73	-1.141	0.0
298.75	50.90	17.140	99.70	98.92	-0.782	0.0
302.25	51.40	17.024	99.90	98.57	-1.331	0.0
302.05	58.20	17.868	106.60	104.83	-1.660	0.0
298.65	60.90	18.329	108.80	108.07	-0.671	0.0
301.75	69.00	18.982	115.90	114.12	-1.536	0.0
298.65	71.50	19.345	118.40	117.02	-1.166	0.0
301.65	78.50	19.793	123.20	121.75	-1.177	0.0
298.65	82.10	20.196	126.80	125.41	-1.096	0.0
301.45	87.00	20.431	129.50	128.30	-0.927	0.0
298.55	93.90	21.008	134.40	134.28	-0.089	0.0
301.25	95.90	21.027	136.40	134.89	-1.107	0.0
298.45	101.70	21.485	141.10	139.92	-0.836	0.0
301.15	103.60	21.491	141.90	140.40	-1.057	0.0
301.15	106.90	21.677	143.50	142.70	-0.557	0.0
301.35	116.20	22.161	150.60	148.98	-1.076	0.0
368.85	0.10	0.033	45.10	44.79	-0.687	0.0
368.75	1.10	0.362	45.60	45.30	-0.658	0.0
368.75	4.80	1.615	47.50	47.51	0.021	0.0
369.05	10.20	3.511	52.00	51.64	-0.692	0.0
369.25	20.60	7.065	61.90	61.85	-0.081	0.0
368.85	31.00	10.047	72.00	72.49	0.681	0.0
368.65	41.80	12.409	81.90	82.34	0.537	0.0
368.55	51.40	14.028	90.00	90.18	0.200	0.0
368.75	60.90	15.311	97.20	97.36	0.165	0.0
368.75	71.60	16.509	105.10	104.96	-0.133	0.0
368.75	81.50	17.442	112.00	111.63	-0.330	0.0

Data from Le Neindre et al. [81] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
368.55	92.10	18.311	119.20	118.50	-0.587	0.0
368.35	102.30	19.045	125.20	124.87	-0.264	0.0
407.95	0.10	0.029	51.40	51.38	-0.039	0.0
407.65	3.30	0.986	53.00	52.90	-0.189	0.0
406.85	10.50	3.191	58.00	57.21	-1.362	0.0
406.25	17.60	5.332	63.30	62.60	-1.106	0.0
405.85	24.30	7.207	68.70	68.28	-0.611	0.0
405.65	30.80	8.828	74.00	73.84	-0.216	0.0
406.65	38.50	10.453	80.70	80.18	-0.644	0.0
406.15	45.40	11.736	86.00	85.43	-0.663	0.0
405.65	52.50	12.879	91.30	90.53	-0.843	0.0
405.15	59.50	13.862	96.30	95.33	-1.007	0.0
404.35	67.20	14.820	101.80	100.38	-1.395	0.0
403.75	77.30	15.895	108.20	106.75	-1.340	0.0
402.85	83.30	16.479	112.00	110.43	-1.402	0.0
404.25	95.90	17.468	119.50	117.78	-1.439	0.0
404.25	104.50	18.088	124.30	122.66	-1.319	0.0
404.35	114.70	18.749	130.20	128.30	-1.459	0.0
420.25	0.14	0.040	53.90	53.56	-0.631	0.0
420.25	1.00	0.287	54.40	53.95	-0.827	0.0
420.45	5.00	1.450	56.30	55.99	-0.551	0.0
420.55	10.20	2.977	59.60	59.11	-0.822	0.0
420.45	20.60	5.918	67.10	66.76	-0.507	0.0
420.35	31.00	8.487	75.10	75.12	0.027	0.0
420.25	40.80	10.492	82.50	82.65	0.182	0.0
420.25	51.30	12.245	90.00	90.09	0.100	0.0
420.25	60.90	13.569	96.60	96.42	-0.186	0.0
420.15	71.40	14.791	104.00	102.95	-1.010	0.0
420.05	81.60	15.804	110.00	109.00	-0.909	0.0
419.95	92.10	16.710	116.50	115.00	-1.288	0.0
419.85	101.70	17.442	121.40	120.31	-0.898	0.0
465.55	0.14	0.036	62.30	61.81	-0.787	0.0
465.55	1.00	0.259	62.80	62.16	-1.019	0.0
465.55	5.00	1.297	64.20	63.91	-0.452	0.0
466.05	10.20	2.638	67.00	66.64	-0.537	0.0

Data from Le Neindre et al. [81] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
465.85	20.80	5.257	73.20	73.02	-0.246	0.0
465.65	30.80	7.460	79.60	79.68	0.101	0.0
465.55	40.80	9.350	86.10	86.29	0.221	0.0
465.45	51.10	10.996	92.30	92.74	0.477	0.0
465.35	60.80	12.312	98.20	98.45	0.255	0.0
465.25	71.00	13.501	104.20	104.14	-0.058	0.0
465.15	81.70	14.578	110.20	109.85	-0.318	0.0
465.15	92.20	15.500	116.10	115.25	-0.732	0.0
464.95	102.50	16.305	121.30	120.39	-0.750	0.0
483.25	0.55	0.137	65.20	65.29	0.138	0.0
486.85	1.20	0.297	66.40	66.23	-0.256	0.0
483.15	3.40	0.848	66.60	66.43	-0.255	0.0
486.55	6.80	1.681	69.10	68.57	-0.767	0.0
482.85	7.30	1.819	68.60	68.13	-0.685	0.0
482.65	11.80	2.927	70.80	70.37	-0.607	0.0
487.05	15.10	3.682	73.50	72.92	-0.789	0.0
486.65	21.60	5.169	77.20	76.66	-0.699	0.0
485.25	28.40	6.632	81.10	80.67	-0.530	0.0
484.85	35.90	8.083	85.60	85.33	-0.315	0.0
484.55	42.70	9.264	89.80	89.48	-0.356	0.0
484.35	54.10	10.980	96.30	96.16	-0.145	0.0
484.35	55.10	11.116	96.80	96.73	-0.072	0.0
484.05	65.70	12.449	102.50	102.53	0.029	0.0
483.95	70.60	12.999	105.20	105.12	-0.076	0.0
483.95	72.60	13.213	106.30	106.17	-0.122	0.0
483.75	75.50	13.517	107.80	107.65	-0.139	0.0
483.65	79.40	13.905	109.90	109.64	-0.237	0.0
483.55	84.30	14.365	112.50	112.09	-0.364	0.0
483.55	87.30	14.633	114.20	113.58	-0.543	0.0
483.45	95.10	15.288	118.30	117.38	-0.778	0.0
483.45	104.90	16.033	122.90	122.05	-0.692	0.0
483.45	109.80	16.378	125.10	124.34	-0.608	0.0
483.65	112.80	16.577	125.40	125.74	0.271	0.0
523.35	0.14	0.032	73.20	72.82	-0.519	0.0
523.35	1.00	0.230	73.70	73.13	-0.773	0.0

Data from Le Neindre et al. [81] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
523.25	5.00	1.145	74.70	74.63	-0.094	0.0
523.25	10.40	2.363	76.80	76.94	0.182	0.0
523.15	20.40	4.512	81.60	81.87	0.331	0.0
523.05	30.70	6.515	87.00	87.48	0.552	0.0
522.95	40.80	8.242	92.20	93.08	0.954	0.0
522.85	50.90	9.745	97.70	98.52	0.839	0.0
522.65	60.70	11.019	102.90	103.56	0.641	0.0
522.65	71.40	12.228	108.30	108.83	0.489	0.0
522.55	82.40	13.316	114.00	114.00	0.000	0.0
522.45	94.90	14.397	120.20	119.66	-0.449	0.0
571.85	0.10	0.021	82.80	82.29	-0.616	0.0
571.65	5.30	1.106	85.30	84.02	-1.501	0.0
571.45	10.50	2.168	87.30	85.96	-1.535	0.0
571.35	20.70	4.147	91.60	90.35	-1.365	0.0
571.15	30.30	5.850	95.90	94.85	-1.095	0.0
570.85	40.50	7.472	100.60	99.77	-0.825	0.0
570.85	50.90	8.928	105.40	104.77	-0.598	0.0
570.65	60.50	10.120	109.80	109.21	-0.537	0.0
570.55	72.60	11.438	115.20	114.59	-0.530	0.0
570.45	83.70	12.499	120.00	119.33	-0.558	0.0
570.35	95.40	13.490	125.20	124.15	-0.839	0.0
570.25	107.90	14.431	130.40	129.14	-0.966	0.0
570.15	117.40	15.078	134.30	132.84	-1.087	0.0
570.05	124.70	15.542	137.50	135.63	-1.360	0.0
575.75	0.10	0.021	84.60	83.06	-1.820	0.0
575.75	1.00	0.209	85.20	83.35	-2.171	0.0
575.75	5.10	1.057	86.10	84.74	-1.580	0.0
575.35	10.10	2.072	87.40	86.54	-0.984	0.0
575.65	20.50	4.077	91.80	91.02	-0.850	0.0
575.55	30.60	5.852	96.20	95.72	-0.499	0.0
575.45	40.80	7.455	100.70	100.61	-0.089	0.0
575.35	50.70	8.833	105.50	105.30	-0.190	0.0
575.35	60.60	10.054	110.30	109.86	-0.399	0.0
575.25	69.20	11.005	114.20	113.68	-0.455	0.0
575.25	80.60	12.130	119.10	118.57	-0.445	0.0

Data from Le Neindre et al. [81] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
575.15	91.60	13.094	123.80	123.10	-0.565	0.0
575.05	103.50	14.024	129.00	127.86	-0.884	0.0
621.45	0.14	0.027	94.00	92.09	-2.032	0.0
621.45	1.00	0.193	94.50	92.35	-2.275	0.0
621.45	5.00	0.958	95.40	93.59	-1.897	0.0
621.45	10.20	1.929	96.80	95.36	-1.488	0.0
621.25	20.30	3.722	100.20	99.15	-1.048	0.0
621.25	30.50	5.382	104.00	103.38	-0.596	0.0
621.15	40.50	6.852	108.40	107.66	-0.683	0.0
621.05	50.70	8.195	112.30	112.02	-0.249	0.0
620.95	60.90	9.395	116.70	116.28	-0.360	0.0
620.95	68.40	10.196	119.90	119.34	-0.467	0.0
620.95	81.40	11.442	125.40	124.48	-0.734	0.0
620.95	92.10	12.354	129.40	128.55	-0.657	0.0
620.75	102.20	13.139	133.10	132.27	-0.624	0.0
648.65	0.50	0.093	98.70	97.57	-1.145	0.0
648.55	3.40	0.626	100.50	98.39	-2.100	0.0
648.45	7.00	1.277	101.80	99.49	-2.269	0.0
648.45	11.20	2.021	103.10	100.87	-2.163	0.0
648.25	21.10	3.689	106.20	104.40	-1.695	0.0
648.15	30.50	5.150	109.70	108.05	-1.504	0.0
647.95	40.70	6.592	113.40	112.13	-1.120	0.0
647.95	50.30	7.816	117.30	116.02	-1.091	0.0
647.85	59.40	8.868	120.60	119.64	-0.796	0.0
647.75	71.60	10.132	125.10	124.35	-0.600	0.0
647.65	83.20	11.200	129.30	128.68	-0.480	0.0
647.65	95.10	12.179	134.30	132.99	-0.975	0.0
647.75	117.10	13.741	141.50	140.64	-0.608	0.0
647.85	119.40	13.887	142.30	141.43	-0.611	0.0
648.05	121.10	13.992	142.50	142.03	-0.330	0.0
726.55	1.00	0.165	114.50	113.00	-1.310	0.0
726.45	3.60	0.590	115.30	113.65	-1.431	0.0
725.15	40.10	5.822	126.10	125.00	-0.872	0.0
725.05	50.70	7.060	128.90	128.67	-0.178	0.0
725.15	60.80	8.131	131.30	132.18	0.670	0.0
725.25	72.00	9.207	134.80	136.00	0.890	0.0
725.45	81.00	9.996	137.90	139.01	0.805	0.0
725.75	89.00	10.646	141.70	141.65	-0.035	0.0

Data from Le Neindre et al. [81] (continued)

Number of Points (Ref. 81) 193

AAD-%	0.778	BIAS-%	-0.677	RMS-%	0.664
AAD	0.735	BIAS	-0.632	RMS	0.657 mW·m ⁻¹ ·K ⁻¹

Data from Mardolcar and de Castro [91]

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	mol·dm ⁻³	mW·m ⁻¹ ·K ⁻¹		%	
110.868	0.204	26.414	184.60	185.17	0.309	9.7
111.002	1.100	26.453	185.59	185.97	0.205	9.7
110.971	2.236	26.521	187.00	187.26	0.139	9.7
111.202	3.270	26.558	188.06	188.07	0.005	9.7
111.024	4.269	26.628	189.03	189.37	0.180	9.6
110.897	5.269	26.692	190.10	190.60	0.263	9.6
111.038	6.337	26.737	191.04	191.53	0.256	9.6
110.718	7.404	26.819	192.55	193.06	0.265	9.6
110.952	8.645	26.862	194.09	194.02	-0.036	9.5
124.806	0.721	25.129	164.41	165.97	0.949	10.1
124.985	1.755	25.190	166.20	167.05	0.511	10.1
125.059	2.719	25.254	167.39	168.18	0.472	10.1
125.034	3.822	25.336	168.97	169.60	0.373	10.0
124.867	4.924	25.429	170.41	171.18	0.452	10.0
125.196	5.957	25.469	172.13	171.99	-0.081	10.0
124.728	7.060	25.586	173.44	173.94	0.288	9.9
124.784	8.369	25.666	175.10	175.40	0.171	9.9
155.480	1.514	21.634	122.11	121.93	-0.147	11.3
155.251	2.306	21.810	122.85	123.98	0.920	11.3
154.953	2.891	21.950	125.47	125.62	0.120	11.2
155.192	3.374	21.997	125.94	126.23	0.230	11.2
154.969	4.132	22.145	127.52	128.01	0.384	11.1
155.034	4.924	22.255	129.08	129.40	0.248	11.1
155.285	5.648	22.328	130.18	130.36	0.138	11.0
154.726	6.302	22.484	131.09	132.28	0.908	11.0
154.995	7.129	22.562	132.64	133.33	0.520	11.0
154.598	7.887	22.702	134.03	135.11	0.806	10.9
155.167	8.576	22.724	135.51	135.50	-0.007	10.9
180.336	3.753	17.485	89.69	87.39	-2.564	12.5
180.509	4.132	17.703	91.15	88.90	-2.468	12.5

Data from Mardolcar and de Castro [91] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
180.132	4.580	18.070	93.03	91.49	-1.655	12.4
180.172	5.027	18.290	93.96	93.16	-0.851	12.4
180.255	5.578	18.523	95.12	94.98	-0.147	12.4
180.139	6.095	18.756	97.01	96.84	-0.175	12.3
180.058	6.784	19.019	99.01	99.03	0.020	12.2
179.989	7.335	19.211	100.49	100.67	0.179	12.2
179.905	8.231	19.487	102.61	103.12	0.497	12.1

Number of Points (Ref. 91) 37

AAD-%	0.485	BIAS-%	0.045	RMS-%	0.763
AAD	0.602	BIAS	0.192	RMS	0.801 $\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Data from Prasad et al. [92]

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
139.920	59.998	27.104	204.88	208.52	1.777	0.0
140.070	59.998	27.095	204.70	208.36	1.788	0.0
139.950	50.001	26.696	196.45	199.67	1.639	0.0
139.970	50.001	26.694	195.83	199.65	1.951	0.0
140.000	40.004	26.240	187.30	190.31	1.607	0.0
140.010	40.004	26.239	187.37	190.30	1.564	0.0
140.090	30.006	25.720	176.87	180.25	1.911	0.0
140.000	30.006	25.727	177.60	180.35	1.548	0.0
120.080	10.004	26.171	179.56	183.48	2.183	0.0
120.010	10.004	26.177	179.65	183.57	2.182	0.0
120.080	10.004	26.171	179.74	183.48	2.081	0.0
119.900	20.002	26.713	190.16	194.09	2.067	0.0
119.890	20.002	26.713	190.80	194.10	1.730	0.0
120.040	29.999	27.160	199.96	203.48	1.760	0.0
119.910	29.999	27.169	200.32	203.63	1.652	0.0
119.940	40.004	27.575	208.87	212.56	1.767	0.0
119.860	40.004	27.580	209.33	212.65	1.586	0.0
121.010	50.001	27.877	212.99	219.91	3.249	0.0
139.900	20.002	25.136	166.86	169.61	1.648	0.0
139.930	20.002	25.134	166.32	169.58	1.960	0.0

Data from Prasad et al. [92] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
139.890	10.004	24.408	154.05	157.42	2.188	0.0
139.890	10.004	24.408	154.20	157.42	2.088	0.0
139.890	10.004	24.408	153.85	157.42	2.320	0.0
139.920	4.999	23.962	147.09	150.46	2.291	0.0
139.900	4.999	23.964	147.19	150.49	2.242	0.0
139.950	2.496	23.707	143.24	146.66	2.388	0.0
139.950	2.496	23.707	143.39	146.66	2.280	0.0
159.930	2.496	21.172	115.33	117.32	1.725	0.0
159.940	2.496	21.170	115.08	117.30	1.929	0.0
159.900	20.002	23.447	143.77	146.36	1.801	0.0
159.890	20.002	23.448	143.74	146.37	1.830	0.0
159.960	29.999	24.237	156.17	158.49	1.486	0.0
159.980	29.999	24.236	155.82	158.47	1.701	0.0
159.980	10.004	22.375	129.31	131.69	1.841	0.0
159.980	10.004	22.375	129.16	131.69	1.959	0.0
159.980	4.999	21.638	120.29	122.64	1.954	0.0
160.010	4.999	21.634	119.94	122.60	2.218	0.0
160.040	2.496	21.155	115.18	117.15	1.710	0.0
160.000	2.496	21.161	114.93	117.21	1.984	0.0
160.000	40.004	24.884	166.74	169.33	1.553	0.0
160.000	40.004	24.884	166.64	169.33	1.614	0.0
160.000	49.994	25.438	176.81	179.32	1.420	0.0
159.950	49.994	25.441	176.98	179.37	1.350	0.0
159.980	59.998	25.925	185.53	188.69	1.703	0.0
159.970	59.998	25.926	185.80	188.70	1.561	0.0
160.050	69.996	26.357	193.60	197.48	2.004	0.0
159.940	69.996	26.363	194.17	197.59	1.761	0.0
179.960	69.996	25.262	176.98	179.87	1.633	0.0
180.000	69.996	25.260	177.06	179.84	1.570	0.0
179.910	59.998	24.758	168.28	170.76	1.474	0.0
179.960	50.001	24.178	158.37	160.98	1.648	0.0
179.920	40.004	23.506	148.17	150.48	1.559	0.0
179.950	29.999	22.681	136.53	138.74	1.619	0.0
180.000	20.002	21.598	122.91	125.06	1.749	0.0
179.980	20.002	21.600	122.79	125.08	1.865	0.0

Data from Prasad et al. [92] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
179.980	9.997	19.923	106.00	107.18	1.113	0.0
179.980	9.997	19.923	105.83	107.18	1.276	0.0
179.980	4.999	18.320	93.92	93.36	-0.596	0.0
179.990	4.999	18.318	94.16	93.34	-0.871	0.0
199.990	69.996	24.174	161.18	164.15	1.843	0.0
200.010	59.998	23.588	152.39	154.82	1.595	0.0
200.010	59.998	23.588	152.44	154.82	1.561	0.0
200.010	50.001	22.909	142.54	144.83	1.607	0.0
200.000	40.004	22.093	131.59	133.90	1.755	0.0
199.990	29.999	21.054	119.76	121.52	1.470	0.0
199.990	20.002	19.575	104.91	106.48	1.497	0.0
200.000	10.004	16.597	84.95	84.07	-1.036	0.0
199.990	10.004	16.599	84.65	84.08	-0.673	0.0
199.990	4.999	5.458	40.15	40.35	0.498	0.0
220.020	69.996	23.105	147.79	150.52	1.847	0.0
220.000	69.996	23.106	147.89	150.53	1.785	0.0
220.050	59.998	22.436	139.11	141.15	1.466	0.0
220.010	50.001	21.648	128.97	131.08	1.636	0.0
220.050	40.004	20.670	118.07	119.89	1.541	0.0
220.110	29.999	19.367	105.42	106.96	1.461	0.0
220.000	20.002	17.358	89.67	90.80	1.260	0.0
220.030	9.997	11.685	66.15	63.42	-4.127	0.0
240.020	69.996	22.063	137.42	138.98	1.135	0.0
240.060	59.998	21.308	128.56	129.68	0.871	0.0
240.000	50.001	20.407	118.30	119.66	1.150	0.0
240.000	40.004	19.264	106.96	108.47	1.412	0.0
240.000	29.999	17.684	94.38	95.42	1.102	0.0
240.060	20.002	15.039	78.35	78.67	0.408	0.0
260.030	69.996	21.051	128.14	129.39	0.975	0.0
260.000	59.998	20.217	119.20	120.31	0.931	0.0
260.000	50.001	19.200	109.25	110.44	1.089	0.0
260.030	40.004	17.889	98.59	99.43	0.852	0.0
260.050	30.006	16.034	86.20	86.59	0.452	0.0
300.180	69.996	19.143	114.95	115.36	0.357	0.0
299.330	69.996	19.182	115.72	115.60	-0.104	0.0

Data from Prasad et al. [92] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
300.070	69.996	19.148	114.75	115.39	0.558	0.0
300.080	69.996	19.148	114.55	115.39	0.733	0.0
300.000	59.998	18.167	106.00	106.93	0.877	0.0
300.010	59.998	18.167	106.39	106.93	0.508	0.0
300.000	49.994	16.952	97.09	97.76	0.690	0.0
300.030	49.994	16.950	97.22	97.75	0.545	0.0
300.030	40.004	15.370	86.59	87.62	1.190	0.0
300.050	40.004	15.369	86.64	87.62	1.131	0.0
299.970	29.999	13.141	74.99	75.98	1.320	0.0
299.970	29.999	13.141	75.09	75.98	1.185	0.0
299.960	20.002	9.675	60.81	61.56	1.233	0.0
300.040	20.002	9.670	61.01	61.55	0.885	0.0
300.000	9.997	4.686	43.04	44.56	3.532	0.0
299.930	9.997	4.688	43.14	44.56	3.292	0.0
300.240	4.999	2.179	35.13	38.35	9.166	0.0
299.660	4.999	2.184	35.33	38.28	8.350	0.0
299.870	4.999	2.182	35.73	38.30	7.193	0.0
300.000	4.999	2.181	35.81	38.32	7.009	0.0
320.020	69.996	18.271	110.32	110.64	0.290	0.0
320.070	69.996	18.269	110.47	110.63	0.145	0.0
320.000	59.998	17.227	101.51	102.54	1.015	0.0
319.950	59.998	17.229	101.96	102.55	0.579	0.0
319.950	50.001	15.941	92.80	93.83	1.110	0.0
319.940	50.001	15.941	92.60	93.83	1.328	0.0
319.980	40.004	14.271	83.05	84.24	1.433	0.0
319.980	40.004	14.271	82.90	84.24	1.616	0.0
319.960	29.999	11.964	72.75	73.30	0.756	0.0
319.980	29.999	11.963	71.86	73.30	2.004	0.0
320.060	20.002	8.610	59.19	60.10	1.537	0.0
320.040	20.002	8.611	59.19	60.11	1.554	0.0
319.980	10.004	4.220	44.92	46.00	2.404	0.0
320.000	10.004	4.219	44.79	46.00	2.701	0.0
339.800	69.996	17.451	106.60	107.14	0.507	0.0
339.960	10.004	3.854	47.18	47.96	1.653	0.0
339.980	10.004	3.854	47.67	47.97	0.629	0.0

Data from Prasad et al. [92] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
340.000	10.004	3.853	47.67	47.97	0.629	0.0
340.050	69.996	17.441	106.05	107.10	0.990	0.0
340.020	69.996	17.442	105.66	107.11	1.372	0.0
340.000	59.998	16.349	98.53	99.40	0.883	0.0
340.020	59.998	16.348	98.39	99.40	1.027	0.0
339.980	50.001	15.006	90.13	91.14	1.121	0.0
339.960	40.004	13.284	81.33	82.11	0.959	0.0
339.950	29.999	10.967	71.26	71.87	0.856	0.0
340.230	20.002	7.782	58.67	59.93	2.148	0.0
400.150	69.996	15.264	102.24	102.25	0.010	0.0
400.070	59.998	14.092	95.35	95.67	0.336	0.0
399.990	50.001	12.685	87.89	88.67	0.887	0.0
399.950	40.004	10.956	79.47	81.10	2.051	0.0
399.920	29.999	8.799	71.29	72.78	2.090	0.0
399.880	20.002	6.150	63.87	63.93	0.094	0.0
399.890	10.004	3.105	54.03	55.81	3.294	0.0
379.920	69.996	15.945	102.25	103.07	0.802	0.0
379.970	59.998	14.786	95.98	96.13	0.156	0.0
379.980	50.001	13.383	88.08	88.74	0.749	0.0
380.030	40.004	11.635	79.98	80.71	0.913	0.0
379.970	40.004	11.637	79.93	80.71	0.976	0.0
379.990	30.006	9.410	71.16	71.80	0.899	0.0
380.090	20.002	6.594	61.76	62.06	0.486	0.0
379.910	10.004	3.313	52.97	52.94	-0.057	0.0
359.900	69.996	16.670	104.39	104.65	0.249	0.0
357.900	69.996	16.746	104.54	104.85	0.297	0.0
359.890	59.998	15.540	96.62	97.33	0.735	0.0
359.890	50.001	14.159	89.34	89.52	0.201	0.0
359.900	40.004	12.412	80.52	81.00	0.596	0.0
359.890	30.006	10.129	70.68	71.44	1.075	0.0
359.910	20.002	7.136	60.69	60.65	-0.066	0.0
359.940	20.002	7.135	60.69	60.65	-0.066	0.0
359.940	10.011	3.561	50.07	50.31	0.479	0.0
260.580	69.996	21.024	129.47	129.15	-0.247	0.0
260.510	59.998	20.190	119.32	120.09	0.645	0.0

Data from Prasad et al. [92] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
260.480	50.001	19.171	109.35	110.24	0.814	0.0
260.530	40.004	17.855	98.79	99.23	0.445	0.0
260.570	29.999	15.991	86.61	86.38	-0.266	0.0
260.710	20.009	12.803	71.73	70.01	-2.398	0.0
260.900	15.003	10.005	60.45	58.81	-2.713	0.0
261.150	20.009	12.759	70.62	69.86	-1.076	0.0
261.170	9.997	6.215	46.18	44.83	-2.923	0.0
261.690	4.999	2.666	32.65	34.40	5.360	0.0
261.930	4.999	2.662	32.45	34.43	6.102	0.0
277.150	69.996	20.216	122.16	122.61	0.368	0.0
277.310	59.998	19.305	113.22	113.69	0.415	0.0
277.430	49.994	18.188	103.41	104.04	0.609	0.0
277.720	40.004	16.729	93.36	93.27	-0.096	0.0
277.980	29.999	14.651	81.06	80.80	-0.321	0.0
278.280	20.002	11.202	65.16	65.11	-0.077	0.0
278.520	15.003	8.531	55.87	54.89	-1.754	0.0
279.190	9.997	5.358	44.47	43.97	-1.124	0.0
279.510	5.006	2.413	35.72	36.08	1.008	0.0
279.630	5.013	2.416	35.72	36.10	1.064	0.0
279.990	9.997	5.327	44.61	43.97	-1.435	0.0

Number of Points (Ref.92) 180

AAD-%	1.525	BIAS-%	1.280	RMS-%	1.547
AAD	1.633	BIAS	1.474	RMS	1.383 $\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Data from Roder [8]

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
111.827	0.561	26.348	184.27	184.23	-0.022	9.7
111.655	0.556	26.363	184.76	184.46	-0.162	9.7
111.255	0.551	26.399	184.75	185.02	0.146	9.7
110.983	0.546	26.423	185.12	185.39	0.146	9.7
111.762	11.644	26.945	196.81	195.99	-0.417	9.5

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
111.363	11.641	26.976	196.79	196.50	-0.147	9.5
111.215	11.635	26.988	197.54	196.68	-0.435	9.5
110.985	11.630	27.006	197.58	196.97	-0.309	9.5
111.768	22.698	27.445	207.04	206.53	-0.246	9.3
111.688	22.693	27.450	207.62	206.62	-0.482	9.3
111.301	22.688	27.479	207.75	207.07	-0.327	9.3
111.173	22.682	27.488	208.46	207.22	-0.595	9.3
111.613	34.119	27.909	216.81	216.80	-0.005	9.2
111.472	34.117	27.918	217.79	216.96	-0.381	9.2
111.231	34.112	27.935	217.61	217.22	-0.179	9.2
110.997	34.109	27.950	217.96	217.48	-0.220	9.2
111.508	44.939	28.301	225.69	225.92	0.102	9.1
111.347	44.932	28.311	226.02	226.09	0.031	9.0
111.101	44.926	28.326	226.24	226.34	0.044	9.0
110.863	44.920	28.341	226.67	226.59	-0.035	9.0
111.433	56.744	28.687	234.94	235.35	0.175	8.9
111.181	56.740	28.702	235.17	235.60	0.183	8.9
110.963	56.735	28.715	235.42	235.81	0.166	8.9
110.745	56.726	28.728	235.54	236.03	0.208	8.9
111.218	68.635	29.052	243.25	244.57	0.543	8.8
111.104	68.639	29.058	243.68	244.68	0.410	8.8
110.894	68.647	29.070	243.81	244.88	0.439	8.8
110.631	68.659	29.086	244.05	245.15	0.451	8.8
134.645	0.316	0.303	14.83	14.60	-1.551	14.7
134.119	0.316	0.304	14.75	14.54	-1.424	14.9
133.606	0.315	0.305	14.75	14.49	-1.763	14.4
133.127	0.314	0.305	14.71	14.44	-1.835	14.3
135.369	0.778	24.035	151.36	150.68	-0.449	10.4
135.054	0.772	24.069	151.81	151.13	-0.448	10.4
134.663	0.761	24.110	152.03	151.69	-0.224	10.4
134.383	0.745	24.139	152.45	152.07	-0.249	10.4
135.395	11.718	24.951	166.43	165.43	-0.601	10.1
135.072	11.715	24.980	166.87	165.84	-0.617	10.1
134.724	11.709	25.010	167.08	166.28	-0.479	10.1
134.433	11.694	25.035	167.55	166.64	-0.543	10.1

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
135.255	22.964	25.687	179.51	178.46	-0.585	9.8
134.855	22.963	25.718	180.09	178.94	-0.639	9.8
134.596	22.961	25.738	179.96	179.24	-0.400	9.8
134.300	22.959	25.760	180.38	179.60	-0.432	9.8
135.304	34.181	26.279	190.82	189.87	-0.498	9.6
134.983	34.180	26.302	191.06	190.24	-0.429	9.6
134.717	34.177	26.320	191.53	190.53	-0.522	9.6
134.482	34.172	26.336	191.75	190.79	-0.501	9.6
135.055	45.585	26.817	201.44	200.89	-0.273	9.4
134.801	45.577	26.833	201.70	201.15	-0.273	9.4
134.607	45.574	26.846	202.24	201.36	-0.435	9.4
134.390	45.564	26.859	202.25	201.59	-0.326	9.4
135.242	56.761	27.257	210.85	210.56	-0.138	9.3
134.920	56.753	27.276	211.14	210.89	-0.118	9.3
134.722	56.743	27.288	211.86	211.08	-0.368	9.3
134.408	56.735	27.306	211.76	211.41	-0.165	9.3
135.053	67.925	27.675	219.96	220.11	0.068	9.1
134.764	67.926	27.692	220.06	220.41	0.159	9.1
134.496	67.926	27.707	220.36	220.68	0.145	9.1
134.259	67.928	27.720	220.67	220.92	0.113	9.1
145.151	0.357	0.315	15.97	15.80	-1.064	16.1
144.549	0.357	0.317	15.90	15.74	-1.006	16.1
144.034	0.357	0.318	15.84	15.68	-1.010	16.1
143.587	0.357	0.319	15.84	15.64	-1.263	15.6
144.746	0.650	0.612	16.58	16.58	0.000	16.7
144.258	0.650	0.615	16.59	16.54	-0.301	16.3
143.690	0.650	0.619	16.60	16.50	-0.602	15.9
143.403	0.650	0.620	16.52	16.48	-0.242	16.2
154.710	0.429	0.355	17.08	16.99	-0.527	17.5
154.129	0.429	0.357	17.17	16.93	-1.398	15.9
153.687	0.429	0.358	16.97	16.88	-0.530	17.5
153.161	0.429	0.359	16.91	16.82	-0.532	17.5
155.000	0.731	0.635	17.81	17.70	-0.618	17.0
154.460	0.731	0.638	17.73	17.66	-0.395	17.1
153.983	0.731	0.641	17.71	17.61	-0.565	17.0

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
153.493	0.731	0.644	17.62	17.57	-0.284	17.2
154.611	1.082	1.014	18.76	18.80	0.213	16.6
154.165	1.082	1.019	18.66	18.78	0.643	16.9
153.622	1.082	1.025	18.64	18.76	0.644	16.8
153.277	1.082	1.029	18.52	18.75	1.242	17.1
155.515	1.600	21.645	121.79	122.07	0.230	11.3
155.080	1.599	21.707	122.60	122.73	0.106	11.3
154.711	1.598	21.759	123.06	123.30	0.195	11.3
154.339	1.595	21.811	123.44	123.86	0.340	11.2
155.315	6.757	22.476	131.93	132.27	0.258	11.0
154.878	6.755	22.527	132.63	132.85	0.166	11.0
154.565	6.754	22.562	132.94	133.27	0.248	11.0
154.223	6.757	22.602	133.18	133.73	0.413	11.0
155.484	14.577	23.343	143.99	144.11	0.083	10.7
155.132	14.576	23.376	144.44	144.53	0.062	10.6
154.797	14.575	23.408	144.87	144.92	0.035	10.6
154.491	14.579	23.437	145.20	145.30	0.069	10.6
155.595	25.316	24.239	157.93	157.73	-0.127	10.3
155.239	25.314	24.267	158.29	158.11	-0.114	10.3
154.966	25.310	24.289	158.67	158.41	-0.164	10.3
154.586	25.318	24.319	158.89	158.84	-0.031	10.3
155.724	36.001	24.941	169.52	169.51	-0.006	10.1
155.402	36.001	24.964	169.96	169.84	-0.071	10.0
154.976	35.997	24.994	170.56	170.28	-0.164	10.0
154.755	35.978	25.009	170.93	170.49	-0.257	10.0
155.563	46.637	25.547	180.80	180.44	-0.199	9.8
155.228	46.631	25.568	180.94	180.77	-0.094	9.8
154.890	46.626	25.589	181.48	181.11	-0.204	9.8
154.570	46.626	25.610	181.85	181.43	-0.231	9.8
155.419	56.930	26.055	190.60	190.28	-0.168	9.6
154.980	56.927	26.081	190.79	190.71	-0.042	9.6
154.681	56.921	26.099	191.18	190.99	-0.099	9.6
154.420	56.919	26.115	191.54	191.25	-0.151	9.6
155.151	67.027	26.508	199.46	199.53	0.035	9.5
154.884	67.028	26.523	199.42	199.78	0.181	9.5

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
154.564	67.035	26.541	200.13	200.10	-0.015	9.5
154.234	67.043	26.560	200.37	200.42	0.025	9.5
165.249	0.446	0.342	18.21	18.19	-0.110	19.0
164.627	0.446	0.344	18.11	18.12	0.055	19.5
164.008	0.446	0.345	18.07	18.05	-0.111	19.0
163.654	0.446	0.346	18.03	18.01	-0.111	19.0
164.789	0.935	0.771	19.12	19.11	-0.052	18.1
164.336	0.935	0.774	19.12	19.07	-0.262	17.8
163.737	0.935	0.778	19.03	19.02	-0.053	18.0
163.372	0.935	0.781	18.91	18.98	0.370	18.5
164.151	1.657	1.578	21.41	21.53	0.560	16.7
163.770	1.657	1.587	21.44	21.53	0.420	16.5
163.435	1.657	1.594	21.47	21.54	0.326	16.4
163.111	1.657	1.601	21.41	21.54	0.607	16.5
175.467	0.406	0.290	19.22	19.30	0.416	21.8
174.780	0.406	0.291	19.09	19.22	0.681	23.3
174.244	0.406	0.292	19.11	19.16	0.262	20.9
173.672	0.406	0.293	19.08	19.09	0.052	20.0
174.946	1.015	0.778	20.29	20.26	-0.148	18.7
174.370	1.015	0.782	20.15	20.21	0.298	19.2
173.887	1.015	0.785	20.15	20.16	0.050	18.8
173.424	1.015	0.788	20.10	20.11	0.050	18.8
174.393	1.751	1.500	22.07	22.12	0.227	17.8
173.984	1.751	1.507	22.03	22.10	0.318	17.8
173.504	1.751	1.515	22.16	22.08	-0.361	17.3
173.135	1.752	1.523	21.94	22.07	0.593	17.8
173.762	2.459	2.478	25.67	25.67	0.000	16.2
173.415	2.460	2.497	25.79	25.74	-0.194	16.1
173.064	2.461	2.516	25.85	25.82	-0.116	16.1
172.766	2.462	2.533	25.28	25.89	2.413	16.9
175.226	4.616	19.151	99.77	99.49	-0.281	12.1
174.785	4.616	19.236	100.43	100.18	-0.249	12.1
174.407	4.615	19.308	101.07	100.76	-0.307	12.1
174.021	4.616	19.381	101.29	101.35	0.059	12.1
175.360	12.710	21.033	117.36	117.96	0.511	11.5

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
175.020	12.708	21.072	117.69	118.34	0.552	11.5
174.534	12.705	21.128	118.18	118.89	0.601	11.5
174.088	12.712	21.180	118.62	119.41	0.666	11.5
175.653	19.724	21.980	128.32	129.05	0.569	11.2
175.178	19.722	22.025	129.01	129.53	0.403	11.1
174.793	19.720	22.061	129.57	129.93	0.278	11.1
174.357	19.724	22.103	129.80	130.38	0.447	11.1
175.719	26.457	22.692	137.72	138.26	0.392	10.9
175.380	26.455	22.720	138.11	138.58	0.340	10.9
174.924	26.450	22.757	138.61	139.02	0.296	10.9
174.570	26.446	22.787	138.79	139.36	0.411	10.9
175.558	33.801	23.346	147.01	147.42	0.279	10.6
175.163	33.796	23.375	147.43	147.78	0.237	10.6
174.813	33.792	23.401	147.73	148.11	0.257	10.6
174.483	33.794	23.425	148.27	148.42	0.101	10.6
175.820	41.291	23.881	155.22	155.57	0.225	10.4
175.338	41.288	23.914	155.73	156.00	0.173	10.4
175.061	41.285	23.933	156.08	156.25	0.109	10.4
174.654	41.276	23.960	156.53	156.61	0.051	10.4
175.705	48.148	24.335	162.60	162.84	0.148	10.3
175.305	48.149	24.361	162.91	163.20	0.178	10.2
174.788	48.142	24.393	163.32	163.65	0.202	10.2
174.596	48.145	24.406	163.48	163.83	0.214	10.2
175.547	55.061	24.748	169.59	169.82	0.136	10.1
175.051	55.062	24.778	169.93	170.26	0.194	10.1
174.704	55.058	24.799	170.64	170.56	-0.047	10.1
174.439	55.051	24.815	170.91	170.79	-0.070	10.1
175.386	61.637	25.107	175.83	176.18	0.199	10.0
175.017	61.642	25.128	176.36	176.51	0.085	9.9
174.659	61.637	25.149	176.57	176.81	0.136	9.9
174.273	61.641	25.171	177.02	177.15	0.073	9.9
175.485	68.363	25.431	181.95	182.21	0.143	9.8
175.204	68.360	25.446	182.24	182.45	0.115	9.8
174.804	68.375	25.469	182.35	182.81	0.252	9.8
174.506	68.379	25.486	182.64	183.07	0.235	9.8

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
185.421	0.752	0.520	20.72	20.96	1.158	23.4
184.903	0.752	0.522	20.77	20.90	0.626	21.4
184.371	0.752	0.524	20.79	20.84	0.241	20.3
183.963	0.752	0.525	20.11	20.79	3.381	44.7
185.602	1.507	1.124	22.16	22.33	0.767	20.0
185.087	1.508	1.130	22.09	22.28	0.860	20.0
184.516	1.508	1.135	22.06	22.23	0.771	19.8
184.171	1.508	1.138	21.51	22.19	3.161	23.4
185.078	2.252	1.856	24.16	24.28	0.497	18.6
184.541	2.251	1.866	23.97	24.25	1.168	19.0
184.292	2.252	1.872	23.74	24.25	2.148	19.6
183.844	2.252	1.882	24.07	24.23	0.665	18.5
184.688	2.884	2.664	26.94	27.11	0.631	17.7
184.300	2.884	2.681	26.99	27.14	0.556	17.6
183.918	2.884	2.697	26.92	27.18	0.966	17.7
183.674	2.885	2.710	27.23	27.21	-0.073	17.2
184.243	3.449	3.735	32.46	32.48	0.062	16.5
183.964	3.449	3.766	32.51	32.67	0.492	16.6
183.733	3.450	3.795	33.64	32.86	-2.319	15.7
183.486	3.450	3.825	34.04	33.06	-2.879	15.5
199.676	1.013	0.654	22.71	22.86	0.661	21.5
199.006	1.013	0.657	22.69	22.79	0.441	20.9
199.033	1.014	0.658	22.60	22.79	0.841	22.1
198.544	1.014	0.660	22.58	22.74	0.709	21.7
199.330	1.531	1.032	23.44	23.58	0.597	20.6
198.735	1.531	1.036	23.44	23.53	0.384	20.2
198.347	1.532	1.040	23.24	23.49	1.076	21.4
198.016	1.531	1.042	22.90	23.46	2.445	24.2
199.379	2.669	2.000	25.82	25.88	0.232	19.3
198.893	2.670	2.011	25.92	25.87	-0.193	18.9
198.471	2.671	2.020	25.86	25.86	0.000	19.1
198.055	2.669	2.026	25.89	25.84	-0.193	18.9
198.901	3.520	2.942	28.76	28.69	-0.243	18.4
198.535	3.520	2.956	28.94	28.72	-0.760	18.2
198.178	3.520	2.971	28.84	28.75	-0.312	18.4

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
197.847	3.519	2.983	28.74	28.79	0.174	18.6
198.920	4.156	3.845	32.41	32.16	-0.771	17.8
198.545	4.156	3.872	32.46	32.29	-0.524	17.8
198.129	4.156	3.904	32.35	32.44	0.278	18.1
197.856	4.156	3.925	32.71	32.55	-0.489	17.8
198.576	4.568	4.642	36.11	36.01	-0.277	17.6
198.243	4.568	4.683	36.40	36.28	-0.330	17.5
197.957	4.569	4.721	36.66	36.53	-0.355	17.5
197.623	4.568	4.763	36.88	36.83	-0.136	17.5
198.546	4.860	5.348	40.13	40.08	-0.125	17.3
198.321	4.860	5.390	40.52	40.41	-0.271	17.2
197.947	4.861	5.467	40.67	41.03	0.885	17.5
197.737	4.861	5.510	40.65	41.39	1.820	17.8
198.059	5.049	6.048	44.89	44.97	0.178	17.0
197.769	5.049	6.133	44.98	45.76	1.734	17.5
197.600	5.049	6.185	45.24	46.26	2.255	17.6
197.361	5.049	6.264	45.18	47.03	4.095	18.2
197.928	5.172	6.580	48.44	49.04	1.239	17.1
197.711	5.172	6.667	49.06	49.90	1.712	17.2
197.542	5.172	6.739	49.72	50.64	1.850	17.2
197.323	5.172	6.839	49.96	51.67	3.423	17.6
197.897	5.229	6.858	50.60	51.24	1.265	17.0
197.733	5.229	6.934	51.05	52.01	1.881	17.1
197.549	5.230	7.031	51.94	52.99	2.022	17.1
197.367	5.229	7.122	52.49	53.96	2.801	17.3
197.769	5.328	7.467	53.77	56.24	4.594	0.0
197.637	5.328	7.553	54.38	57.10	5.002	0.0
197.424	5.329	7.709	55.10	58.67	6.479	0.0
197.318	5.328	7.782	55.35	59.43	7.371	0.0
197.894	5.407	7.894	57.20	59.34	3.741	0.0
197.711	5.408	8.046	57.96	60.76	4.831	0.0
197.560	5.408	8.176	58.54	61.97	5.859	0.0
197.396	5.407	8.320	59.71	63.31	6.029	0.0
198.115	5.500	8.384	61.27	62.37	1.795	0.0
197.914	5.500	8.573	61.86	63.92	3.330	0.0

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
197.829	5.500	8.659	62.56	64.59	3.245	0.0
197.597	5.499	8.901	63.01	66.41	5.396	0.0
198.226	5.692	9.855	68.75	68.57	-0.262	15.4
198.053	5.692	10.068	69.21	69.31	0.144	15.4
197.882	5.692	10.286	69.19	69.92	1.055	15.5
197.678	5.693	10.559	70.18	70.51	0.470	15.2
198.474	5.965	11.521	71.59	69.54	-2.864	14.4
198.275	5.966	11.722	71.75	69.80	-2.718	14.3
198.070	5.966	11.919	72.03	70.05	-2.749	14.3
197.904	5.967	12.079	72.53	70.24	-3.157	14.2
198.471	6.571	13.638	74.06	71.86	-2.971	13.7
198.290	6.571	13.733	73.72	72.13	-2.157	13.8
198.023	6.572	13.872	74.24	72.54	-2.290	13.7
197.943	6.571	13.910	74.35	72.66	-2.273	13.7
198.650	7.445	14.955	77.03	75.94	-1.415	13.5
198.306	7.446	15.073	77.59	76.44	-1.482	13.4
197.917	7.447	15.202	77.58	77.00	-0.748	13.5
197.672	7.447	15.282	78.22	77.35	-1.112	13.4
198.998	8.899	16.143	82.02	81.47	-0.671	13.2
198.586	8.899	16.239	82.43	81.98	-0.546	13.1
198.134	8.900	16.345	82.95	82.55	-0.482	13.1
197.859	8.900	16.408	83.31	82.89	-0.504	13.1
199.382	11.180	17.276	88.43	88.28	-0.170	12.8
198.850	11.180	17.369	88.94	88.86	-0.090	12.8
198.640	11.180	17.405	89.21	89.08	-0.146	12.8
198.159	11.180	17.487	89.73	89.61	-0.134	12.7
199.233	14.451	18.412	96.32	96.48	0.166	12.4
198.829	14.449	18.466	96.69	96.87	0.186	12.4
198.513	14.449	18.508	97.01	97.17	0.165	12.4
197.985	14.452	18.580	97.36	97.69	0.339	12.4
199.647	19.223	19.463	105.59	105.42	-0.161	12.0
199.171	19.221	19.515	105.73	105.84	0.104	12.0
198.766	19.217	19.558	105.77	106.19	0.397	12.0
198.521	19.214	19.584	106.75	106.40	-0.328	12.0
200.860	26.073	20.469	114.55	115.34	0.690	11.7

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
200.358	26.073	20.514	115.03	115.74	0.617	11.7
199.942	26.070	20.551	115.46	116.08	0.537	11.7
199.516	26.067	20.589	115.52	116.42	0.779	11.7
201.141	35.267	21.550	126.69	127.38	0.545	11.3
200.642	35.265	21.588	127.33	127.76	0.338	11.3
200.211	35.263	21.620	127.63	128.09	0.360	11.3
199.725	35.263	21.657	127.79	128.47	0.532	11.3
200.885	47.247	22.643	140.78	141.27	0.348	10.9
200.367	47.244	22.677	141.41	141.65	0.170	10.8
199.989	47.240	22.701	141.38	141.93	0.389	10.9
199.680	47.238	22.721	141.74	142.16	0.296	10.8
201.164	62.619	23.684	156.25	156.47	0.141	10.5
200.687	62.619	23.711	156.68	156.82	0.089	10.4
200.378	62.620	23.729	156.87	157.05	0.115	10.4
200.002	62.621	23.750	157.19	157.32	0.083	10.4
201.156	69.413	24.079	163.11	162.77	-0.208	10.3
200.706	69.417	24.104	163.28	163.10	-0.110	10.3
200.328	69.421	24.125	163.56	163.38	-0.110	10.3
200.030	69.426	24.141	163.91	163.60	-0.189	10.3
215.053	1.068	0.633	24.40	24.58	0.738	22.1
214.489	1.068	0.635	24.27	24.52	1.030	23.0
213.947	1.068	0.637	24.32	24.46	0.576	21.5
213.426	1.068	0.639	24.11	24.40	1.203	23.7
215.328	1.747	1.076	25.39	25.46	0.276	20.1
214.790	1.747	1.080	25.34	25.41	0.276	20.1
214.260	1.747	1.083	25.27	25.35	0.317	20.1
213.806	1.748	1.087	25.12	25.31	0.756	20.8
214.864	3.035	2.049	27.64	27.54	-0.362	18.8
214.326	3.036	2.059	27.49	27.51	0.073	19.1
213.846	3.036	2.067	27.86	27.48	-1.364	18.1
213.566	3.038	2.074	27.61	27.46	-0.543	18.7
214.431	4.165	3.103	30.69	30.34	-1.140	17.9
214.021	4.165	3.117	30.68	30.34	-1.108	17.9
213.625	4.165	3.131	30.67	30.35	-1.043	18.0
213.296	4.165	3.143	30.69	30.35	-1.108	17.9

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
215.344	5.021	4.028	33.84	33.41	-1.271	17.5
214.428	5.021	4.080	33.98	33.53	-1.324	17.5
213.774	5.021	4.119	34.21	33.63	-1.695	17.3
213.072	5.021	4.162	34.39	33.75	-1.861	17.2
214.675	5.810	5.168	38.44	37.76	-1.769	16.9
214.439	5.811	5.192	38.21	37.86	-0.916	17.1
214.014	5.813	5.238	38.06	38.05	-0.026	17.4
213.567	5.810	5.279	39.16	38.22	-2.400	16.6
214.369	6.372	6.164	42.81	42.14	-1.565	16.5
214.079	6.373	6.209	42.83	42.36	-1.097	16.6
213.712	6.370	6.259	42.67	42.61	-0.141	16.9
213.474	6.371	6.298	43.09	42.81	-0.650	16.7
213.934	6.928	7.386	47.97	47.87	-0.208	16.4
213.759	6.929	7.428	48.31	48.09	-0.455	16.3
213.375	6.929	7.516	48.62	48.56	-0.123	16.3
213.185	6.930	7.563	49.03	48.81	-0.449	16.2
213.566	7.356	8.495	52.95	52.91	-0.076	15.9
213.304	7.357	8.575	53.01	53.30	0.547	16.0
213.126	7.358	8.631	53.68	53.58	-0.186	15.9
212.961	7.356	8.677	53.66	53.80	0.261	15.9
213.712	7.759	9.444	56.44	56.66	0.390	15.6
213.375	7.759	9.558	57.37	57.15	-0.383	15.5
213.200	7.760	9.620	57.56	57.41	-0.261	15.5
213.080	7.759	9.660	57.26	57.58	0.559	15.6
213.798	8.254	10.564	60.38	60.44	0.099	15.2
213.577	8.255	10.643	60.79	60.73	-0.099	15.1
213.415	8.255	10.700	61.04	60.94	-0.164	15.1
213.191	8.255	10.780	61.31	61.22	-0.147	15.1
213.742	8.697	11.473	63.46	63.22	-0.378	14.8
213.550	8.697	11.537	63.92	63.44	-0.751	14.7
213.349	8.698	11.607	64.11	63.67	-0.686	14.7
213.104	8.696	11.686	64.49	63.93	-0.868	14.6
213.965	9.310	12.406	66.72	66.07	-0.974	14.4
213.642	9.311	12.504	67.07	66.41	-0.984	14.3
213.475	9.312	12.556	67.04	66.58	-0.686	14.4

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
213.336	9.309	12.593	67.24	66.71	-0.788	14.3
214.655	10.068	13.183	69.21	68.69	-0.751	14.1
214.386	10.069	13.255	69.76	68.96	-1.147	14.1
214.165	10.069	13.313	69.79	69.17	-0.888	14.1
213.890	10.070	13.386	70.16	69.44	-1.026	14.0
214.865	11.106	14.143	73.03	72.46	-0.781	13.8
214.535	11.106	14.216	73.33	72.76	-0.777	13.8
214.277	11.106	14.274	73.71	72.99	-0.977	13.8
213.865	11.107	14.365	74.08	73.38	-0.945	13.7
215.388	12.417	14.987	76.99	76.33	-0.857	13.5
214.771	12.418	15.104	77.41	76.86	-0.711	13.5
214.164	12.420	15.219	78.00	77.40	-0.769	13.5
213.575	12.422	15.330	78.22	77.93	-0.371	13.5
215.850	14.257	15.899	81.17	81.16	-0.012	13.3
215.227	14.257	15.997	81.80	81.67	-0.159	13.3
214.710	14.257	16.079	82.21	82.09	-0.146	13.2
214.290	14.256	16.144	82.28	82.44	0.194	13.2
216.298	16.764	16.828	86.64	86.84	0.231	13.0
215.635	16.766	16.917	87.24	87.35	0.126	13.0
215.026	16.764	16.997	87.62	87.82	0.228	12.9
214.509	16.767	17.067	87.84	88.23	0.444	12.9
215.935	20.275	17.890	93.75	94.22	0.501	12.6
215.396	20.274	17.950	94.22	94.62	0.425	12.6
214.891	20.273	18.007	94.76	94.99	0.243	12.6
214.387	20.270	18.062	94.91	95.36	0.474	12.6
216.265	24.891	18.846	101.43	101.91	0.473	12.3
215.719	24.888	18.898	101.99	102.29	0.294	12.3
215.148	24.888	18.952	102.20	102.69	0.479	12.3
214.700	24.886	18.995	102.68	103.01	0.321	12.2
215.940	31.251	19.899	111.15	111.47	0.288	11.9
215.396	31.251	19.944	111.37	111.84	0.422	11.9
214.911	31.248	19.983	111.76	112.17	0.367	11.9
214.518	31.245	20.015	111.99	112.44	0.402	11.9
215.647	39.620	20.942	121.78	122.29	0.419	11.5
215.127	39.618	20.979	122.24	122.63	0.319	11.5

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
214.645	39.614	21.013	122.54	122.95	0.335	11.5
214.236	39.613	21.042	122.71	123.23	0.424	11.5
215.862	48.553	21.785	131.78	132.20	0.319	11.2
215.441	48.554	21.812	132.02	132.47	0.341	11.2
214.911	48.549	21.845	132.38	132.82	0.332	11.2
214.480	48.547	21.873	132.96	133.10	0.105	11.1
216.114	57.652	22.492	141.03	141.36	0.234	10.9
215.631	57.648	22.520	141.39	141.67	0.198	10.9
215.140	57.648	22.549	141.70	141.99	0.205	10.9
214.778	57.645	22.570	141.82	142.23	0.289	10.9
215.841	66.100	23.084	149.35	149.62	0.181	10.7
215.368	66.103	23.110	149.75	149.93	0.120	10.7
214.932	66.101	23.134	150.16	150.21	0.033	10.6
214.525	66.103	23.157	150.37	150.48	0.073	10.6
215.706	69.263	23.289	152.59	152.61	0.013	10.6
215.349	69.269	23.309	153.09	152.85	-0.157	10.6
214.975	69.277	23.329	153.29	153.10	-0.124	10.6
214.553	69.276	23.352	153.48	153.38	-0.065	10.6
234.956	0.977	0.520	26.53	26.75	0.829	23.5
234.383	0.978	0.522	26.45	26.68	0.870	23.7
233.637	0.978	0.524	26.34	26.60	0.987	24.2
233.152	0.979	0.526	26.32	26.54	0.836	23.4
236.032	3.145	1.834	29.45	29.44	-0.034	19.2
235.316	3.146	1.843	29.45	29.38	-0.238	19.0
234.753	3.147	1.851	29.35	29.33	-0.068	19.1
234.261	3.148	1.857	29.36	29.28	-0.272	19.0
235.158	5.135	3.346	33.53	33.08	-1.342	17.7
234.655	5.135	3.361	33.61	33.07	-1.607	17.6
234.220	5.135	3.374	33.61	33.06	-1.636	17.6
233.740	5.135	3.389	33.61	33.05	-1.666	17.5
236.400	7.129	5.155	38.39	38.91	1.355	17.8
235.396	7.129	5.218	39.46	39.05	-1.039	17.1
234.339	7.131	5.290	39.52	39.23	-0.734	17.1
233.533	7.132	5.347	40.43	39.37	-2.622	16.5
235.044	9.424	7.925	49.71	49.39	-0.644	16.0

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
234.249	9.425	8.033	51.04	49.80	-2.429	15.6
233.554	9.426	8.130	50.41	50.17	-0.476	16.0
232.938	9.427	8.220	50.29	50.51	0.437	16.1
235.259	11.469	10.306	58.58	58.47	-0.188	15.2
234.432	11.470	10.447	59.03	58.98	-0.085	15.2
233.788	11.471	10.560	59.74	59.38	-0.603	15.1
233.227	11.472	10.660	59.26	59.73	0.793	15.3
235.523	13.600	12.235	65.54	65.67	0.198	14.6
234.841	13.600	12.346	66.03	66.07	0.061	14.5
234.078	13.601	12.471	66.42	66.51	0.136	14.5
233.513	13.602	12.564	66.70	66.85	0.225	14.5
235.351	15.750	13.694	71.73	71.70	-0.042	14.1
234.621	15.750	13.799	72.19	72.11	-0.111	14.0
234.028	15.751	13.885	72.38	72.45	0.097	14.0
233.472	15.751	13.965	72.82	72.78	-0.055	14.0
235.036	17.692	14.709	76.44	76.49	0.065	13.7
234.425	17.692	14.788	76.87	76.83	-0.052	13.7
233.812	17.693	14.868	77.12	77.18	0.078	13.7
233.349	17.693	14.928	77.40	77.45	0.065	13.6
234.799	20.536	15.827	81.88	82.54	0.806	13.4
234.255	20.535	15.888	82.72	82.84	0.145	13.3
233.698	20.535	15.951	83.18	83.15	-0.036	13.3
233.233	20.535	16.004	83.48	83.42	-0.072	13.3
235.343	23.411	16.625	87.34	87.51	0.195	13.1
234.724	23.411	16.688	87.68	87.85	0.194	13.0
234.109	23.411	16.750	87.84	88.19	0.398	13.0
233.639	23.410	16.798	88.45	88.46	0.011	13.0
235.025	26.932	17.496	93.32	93.46	0.150	12.8
234.553	26.932	17.539	93.11	93.72	0.655	12.8
234.168	26.932	17.575	93.83	93.93	0.107	12.7
233.546	26.931	17.631	93.95	94.28	0.351	12.7
235.148	30.368	18.160	98.44	98.51	0.071	12.5
234.592	30.366	18.206	98.94	98.81	-0.131	12.5
234.248	30.361	18.234	99.22	98.99	-0.232	12.5
233.560	30.360	18.292	99.35	99.37	0.020	12.5

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
234.964	34.092	18.795	103.31	103.71	0.387	12.3
234.389	34.091	18.839	103.59	104.02	0.415	12.3
233.804	34.090	18.885	103.95	104.34	0.375	12.3
233.473	34.089	18.910	103.56	104.52	0.927	12.3
235.426	37.551	19.262	107.55	107.89	0.316	12.1
234.763	37.547	19.310	107.94	108.24	0.278	12.1
234.319	37.547	19.342	108.24	108.48	0.222	12.1
233.849	37.543	19.376	108.25	108.73	0.443	12.1
235.318	41.022	19.718	111.89	112.14	0.223	11.9
234.701	41.021	19.761	112.12	112.47	0.312	11.9
234.205	41.021	19.795	112.39	112.74	0.311	11.9
233.707	41.018	19.829	112.63	113.01	0.337	11.9
235.189	44.354	20.116	116.37	116.05	-0.275	11.8
234.641	44.354	20.152	115.99	116.34	0.302	11.8
234.130	44.351	20.186	116.43	116.62	0.163	11.8
233.731	44.350	20.212	116.93	116.84	-0.077	11.7
235.016	47.931	20.508	120.00	120.09	0.075	11.6
234.521	47.932	20.540	120.28	120.36	0.067	11.6
234.030	47.927	20.570	120.52	120.62	0.083	11.6
233.633	47.928	20.595	120.49	120.84	0.290	11.6
234.971	51.244	20.836	123.41	123.63	0.178	11.5
234.454	51.246	20.867	123.89	123.91	0.016	11.5
234.029	51.243	20.893	124.23	124.14	-0.072	11.5
233.650	51.240	20.916	124.65	124.34	-0.249	11.5
235.440	55.105	21.158	127.30	127.32	0.016	11.4
234.914	55.104	21.189	127.66	127.61	-0.039	11.4
234.391	55.102	21.219	128.01	127.89	-0.094	11.4
233.958	55.098	21.244	128.22	128.13	-0.070	11.3
235.316	58.418	21.445	130.73	130.68	-0.038	11.3
234.894	58.416	21.469	130.80	130.90	0.076	11.3
234.436	58.416	21.495	131.20	131.15	-0.038	11.3
233.899	58.413	21.525	131.57	131.45	-0.091	11.2
235.308	61.887	21.721	134.15	134.02	-0.097	11.2
234.767	61.887	21.751	134.48	134.32	-0.119	11.2
234.277	61.885	21.778	134.61	134.59	-0.015	11.1

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
233.911	61.882	21.798	134.51	134.79	0.208	11.2
235.226	65.387	21.987	137.52	137.36	-0.116	11.1
234.756	65.384	22.012	137.80	137.61	-0.138	11.1
234.141	65.382	22.045	138.34	137.95	-0.282	11.0
233.842	65.381	22.061	138.07	138.11	0.029	11.0
235.239	68.761	22.225	140.80	140.44	-0.256	11.0
234.730	68.761	22.252	141.04	140.72	-0.227	11.0
234.268	68.757	22.276	141.56	140.97	-0.417	10.9
233.731	68.757	22.304	141.60	141.27	-0.233	10.9
255.835	1.020	0.495	29.06	29.29	0.791	23.8
255.177	1.020	0.496	29.00	29.20	0.690	23.4
254.645	1.019	0.497	28.87	29.14	0.935	24.8
253.943	1.019	0.498	28.81	29.05	0.833	24.2
256.518	2.714	1.384	30.98	31.00	0.065	19.6
255.864	2.714	1.389	30.81	30.93	0.389	20.0
255.237	2.716	1.394	30.80	30.86	0.195	19.7
254.735	2.717	1.399	30.76	30.81	0.163	19.7
255.777	4.718	2.587	33.81	33.50	-0.917	18.2
255.276	4.721	2.597	33.67	33.46	-0.624	18.3
254.679	4.726	2.610	33.65	33.42	-0.684	18.3
254.209	4.732	2.622	33.50	33.39	-0.328	18.5
256.067	6.551	3.825	37.09	36.72	-0.998	17.6
255.011	6.552	3.858	37.07	36.69	-1.025	17.6
254.140	6.555	3.886	36.97	36.68	-0.784	17.7
253.452	6.558	3.910	37.16	36.67	-1.319	17.5
256.771	6.788	3.975	37.63	37.23	-1.063	17.5
255.562	6.788	4.013	37.65	37.20	-1.195	17.5
254.504	6.789	4.048	37.68	37.18	-1.327	17.4
256.308	8.785	5.525	42.54	41.99	-1.293	16.8
255.358	8.785	5.576	42.74	42.07	-1.568	16.7
254.477	8.785	5.624	42.76	42.14	-1.450	16.8
253.831	8.786	5.660	43.15	42.21	-2.178	16.5
256.639	11.182	7.487	49.11	49.00	-0.224	16.3
255.633	11.183	7.570	49.34	49.23	-0.223	16.3
254.824	11.183	7.639	49.49	49.42	-0.141	16.3

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
254.114	11.187	7.704	49.73	49.60	-0.261	16.2
256.101	13.268	9.233	55.38	55.51	0.235	15.7
255.217	13.269	9.325	55.49	55.80	0.559	15.7
254.473	13.270	9.405	55.59	56.04	0.809	15.7
253.901	13.273	9.469	55.89	56.24	0.626	15.7
256.416	15.396	10.740	60.85	61.27	0.690	15.2
255.651	15.397	10.825	61.12	61.54	0.687	15.2
254.967	15.399	10.904	61.34	61.79	0.734	15.2
254.357	15.401	10.975	61.67	62.02	0.568	15.1
256.151	17.518	12.052	65.96	66.43	0.713	14.7
255.415	17.519	12.134	66.19	66.70	0.771	14.7
254.730	17.521	12.212	66.43	66.96	0.798	14.7
254.159	17.522	12.276	66.67	67.18	0.765	14.7
255.901	20.351	13.442	71.95	72.38	0.598	14.2
255.130	20.352	13.522	72.27	72.68	0.567	14.2
254.542	20.353	13.584	72.66	72.90	0.330	14.1
254.029	20.351	13.637	72.60	73.10	0.689	14.2
256.273	23.422	14.554	77.46	77.82	0.465	13.8
255.560	23.422	14.622	77.81	78.09	0.360	13.8
254.902	23.423	14.686	77.92	78.35	0.552	13.8
254.313	23.423	14.742	78.09	78.58	0.627	13.8
255.901	26.850	15.604	83.05	83.53	0.578	13.5
255.234	26.850	15.662	83.38	83.79	0.492	13.4
254.549	26.851	15.722	83.45	84.07	0.743	13.4
254.205	26.849	15.752	83.91	84.20	0.346	13.4
255.776	30.401	16.465	88.33	88.81	0.543	13.2
255.193	30.399	16.512	88.52	89.04	0.587	13.1
254.584	30.400	16.561	89.07	89.29	0.247	13.1
254.087	30.397	16.601	89.15	89.50	0.393	13.1
255.663	33.905	17.178	93.23	93.62	0.418	12.9
255.054	33.907	17.224	93.61	93.88	0.288	12.9
254.579	33.909	17.260	93.88	94.08	0.213	12.8
254.064	33.909	17.299	93.94	94.29	0.373	12.8
255.663	37.376	17.778	97.80	98.03	0.235	12.7
255.091	37.374	17.818	98.11	98.27	0.163	12.6

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
254.512	37.373	17.859	98.20	98.51	0.316	12.6
254.068	37.374	17.891	98.38	98.70	0.325	12.6
256.199	40.731	18.254	101.93	101.83	-0.098	12.5
255.692	40.729	18.288	102.18	102.04	-0.137	12.4
255.244	40.727	18.317	102.49	102.23	-0.254	12.4
256.203	44.631	18.784	105.93	106.27	0.321	12.3
255.607	44.631	18.822	106.28	106.52	0.226	12.3
254.993	44.631	18.861	106.34	106.78	0.414	12.3
254.544	44.632	18.890	106.82	106.98	0.150	12.2
256.097	48.090	19.214	109.70	110.07	0.337	12.1
255.479	48.089	19.252	110.07	110.33	0.236	12.1
254.909	48.089	19.287	110.33	110.58	0.227	12.1
254.428	48.087	19.316	110.59	110.78	0.172	12.1
255.939	51.674	19.624	113.61	113.87	0.229	12.0
255.358	51.673	19.658	113.79	114.12	0.290	12.0
254.925	51.672	19.683	113.97	114.31	0.298	12.0
254.412	51.673	19.713	114.22	114.53	0.271	11.9
256.371	56.210	20.060	117.93	118.22	0.246	11.8
255.786	56.209	20.093	118.19	118.48	0.245	11.8
255.239	56.207	20.123	118.43	118.71	0.236	11.8
254.711	56.208	20.153	118.39	118.95	0.473	11.8
254.267	56.203	20.177	119.12	119.14	0.017	11.8
255.471	59.687	20.434	121.84	121.97	0.107	11.7
255.429	59.690	20.436	121.89	121.99	0.082	11.7
254.396	59.684	20.492	122.09	122.45	0.295	11.7
254.078	59.683	20.509	122.46	122.59	0.106	11.6
255.957	63.260	20.719	125.86	125.11	-0.596	11.5
255.379	63.260	20.749	126.59	125.36	-0.972	11.5
254.993	63.255	20.769	124.68	125.53	0.682	11.6
254.436	63.252	20.798	125.37	125.78	0.327	11.5
255.922	66.477	20.984	128.80	128.06	-0.575	11.4
255.361	66.480	21.013	128.65	128.32	-0.257	11.4
254.827	66.474	21.040	128.88	128.55	-0.256	11.4
254.429	66.473	21.060	128.52	128.73	0.163	11.4
275.820	1.015	0.453	31.52	31.79	0.857	25.6

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
275.218	1.015	0.454	31.44	31.71	0.859	25.6
274.623	1.015	0.455	31.34	31.64	0.957	26.4
274.083	1.016	0.457	31.34	31.57	0.734	24.4
276.019	2.495	1.153	32.88	33.05	0.517	20.6
275.382	2.495	1.156	32.89	32.98	0.274	20.1
274.765	2.496	1.160	32.77	32.90	0.397	20.3
274.285	2.497	1.163	32.74	32.84	0.305	20.2
275.546	4.446	2.159	35.09	35.01	-0.228	18.8
275.066	4.447	2.165	34.95	34.96	0.029	19.0
274.433	4.448	2.173	34.99	34.90	-0.257	18.8
274.021	4.449	2.178	34.89	34.85	-0.115	18.9
275.252	6.508	3.329	38.04	37.71	-0.868	17.9
274.818	6.508	3.338	38.09	37.68	-1.076	17.8
274.354	6.507	3.347	38.07	37.64	-1.129	17.7
274.121	6.507	3.352	38.16	37.63	-1.389	17.6
277.314	8.401	4.425	41.35	40.93	-1.016	17.4
276.746	8.402	4.443	41.34	40.92	-1.016	17.3
276.190	8.405	4.462	41.26	40.90	-0.873	17.4
275.541	8.407	4.483	41.20	40.89	-0.752	17.4
276.595	10.552	5.821	45.51	45.15	-0.791	16.9
276.054	10.553	5.846	45.48	45.17	-0.682	16.9
275.617	10.555	5.867	45.43	45.19	-0.528	16.9
275.127	10.559	5.892	45.47	45.22	-0.550	16.9
276.632	12.673	7.199	50.04	49.87	-0.340	16.4
276.126	12.674	7.230	50.12	49.92	-0.399	16.4
275.640	12.675	7.260	50.08	49.98	-0.200	16.4
275.203	12.678	7.288	50.07	50.03	-0.080	16.4
276.728	14.652	8.444	54.39	54.39	0.000	16.0
276.201	14.653	8.481	54.43	54.47	0.073	16.0
275.829	14.655	8.509	54.49	54.54	0.092	16.0
275.408	14.656	8.540	54.52	54.61	0.165	16.0
276.345	16.954	9.820	59.29	59.52	0.388	15.5
275.929	16.954	9.853	59.45	59.60	0.252	15.5
275.539	16.956	9.885	59.41	59.69	0.471	15.5
275.111	16.957	9.920	59.39	59.78	0.657	15.5

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
276.052	19.153	10.986	63.56	64.02	0.724	15.1
275.714	19.154	11.014	63.73	64.10	0.581	15.1
275.280	19.155	11.051	63.82	64.20	0.595	15.1
275.004	19.155	11.075	63.83	64.27	0.689	15.1
276.700	21.322	11.913	67.46	67.85	0.578	14.8
275.909	21.323	11.979	67.57	68.05	0.710	14.8
275.069	21.324	12.051	67.82	68.26	0.649	14.7
274.513	21.325	12.098	67.84	68.40	0.825	14.7
276.428	23.529	12.802	71.33	71.64	0.435	14.4
275.693	23.529	12.862	71.46	71.83	0.518	14.4
274.982	23.531	12.921	71.68	72.02	0.474	14.4
274.401	23.535	12.971	71.55	72.18	0.881	14.4
276.181	26.983	13.959	76.78	77.03	0.326	14.0
275.483	26.984	14.014	76.96	77.23	0.351	14.0
274.770	26.986	14.070	77.18	77.43	0.324	14.0
274.248	26.988	14.112	77.28	77.57	0.375	14.0
276.033	30.486	14.917	81.88	82.01	0.159	13.7
275.358	30.487	14.967	81.86	82.20	0.415	13.7
274.715	30.488	15.015	82.31	82.39	0.097	13.6
274.239	30.490	15.051	82.32	82.53	0.255	13.6
276.647	33.987	15.671	86.53	86.39	-0.162	13.4
276.018	33.989	15.715	86.78	86.58	-0.230	13.3
275.248	33.987	15.768	86.84	86.81	-0.035	13.3
274.869	33.991	15.796	87.10	86.93	-0.195	13.3
276.150	37.531	16.399	90.67	90.87	0.221	13.1
275.502	37.530	16.441	89.76	91.07	1.459	13.3
274.848	37.529	16.485	91.82	91.27	-0.599	13.0
274.390	37.528	16.515	88.26	91.41	3.569	13.4
276.052	41.154	17.024	94.92	95.08	0.169	12.9
275.385	41.153	17.066	95.86	95.29	-0.595	12.8
274.737	41.151	17.107	95.28	95.50	0.231	12.9
274.280	41.151	17.136	95.76	95.65	-0.115	12.9
275.921	44.660	17.563	99.29	98.98	-0.312	12.7
275.284	44.660	17.602	100.15	99.18	-0.969	12.6
274.679	44.660	17.639	99.36	99.38	0.020	12.7

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
274.171	44.660	17.670	99.27	99.55	0.282	12.7
275.776	48.079	18.039	102.77	102.63	-0.136	12.5
275.237	48.080	18.071	102.90	102.81	-0.087	12.5
274.656	48.078	18.104	102.84	103.00	0.156	12.5
274.170	48.078	18.132	103.64	103.16	-0.463	12.5
276.282	51.734	18.464	106.45	106.16	-0.272	12.4
275.668	51.733	18.499	106.52	106.36	-0.150	12.4
275.120	51.733	18.529	106.82	106.55	-0.253	12.3
274.592	51.732	18.559	106.77	106.73	-0.037	12.3
276.367	55.237	18.859	109.87	109.54	-0.300	12.2
275.610	55.235	18.899	110.00	109.80	-0.182	12.2
275.048	55.235	18.930	110.26	109.99	-0.245	12.2
274.537	55.233	18.957	110.59	110.17	-0.380	12.2
276.173	58.748	19.239	113.29	112.93	-0.318	12.1
275.531	58.747	19.272	113.47	113.15	-0.282	12.1
274.999	58.748	19.300	113.61	113.34	-0.238	12.1
274.471	58.749	19.328	113.93	113.52	-0.360	12.0
276.101	62.502	19.608	116.94	116.40	-0.462	11.9
275.477	62.503	19.640	117.10	116.62	-0.410	11.9
274.905	62.499	19.669	117.22	116.82	-0.341	11.9
274.457	62.497	19.692	117.44	116.98	-0.392	11.9
275.948	65.832	19.919	120.04	119.42	-0.516	11.8
275.385	65.838	19.948	120.10	119.63	-0.391	11.8
274.943	65.840	19.970	120.14	119.79	-0.291	11.8
274.423	65.839	19.996	120.16	119.98	-0.150	11.8
276.499	69.251	20.186	122.80	122.21	-0.480	11.7
275.940	69.252	20.213	123.06	122.41	-0.528	11.7
275.379	69.254	20.240	123.27	122.62	-0.527	11.7
274.798	69.256	20.268	123.33	122.83	-0.405	11.7
296.783	0.988	0.407	34.02	34.54	1.529	49.1
296.042	0.988	0.409	33.89	34.44	1.623	57.3
295.352	0.988	0.410	33.83	34.35	1.537	47.6
294.797	0.989	0.411	33.57	34.27	2.085	59.8
296.430	1.949	0.819	34.77	35.19	1.208	24.2
295.783	1.949	0.821	34.65	35.11	1.328	24.7

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
295.177	1.950	0.823	34.65	35.03	1.097	23.6
294.638	1.950	0.825	34.51	34.96	1.304	24.5
296.023	3.911	1.705	36.48	36.79	0.850	20.4
295.413	3.912	1.710	36.51	36.72	0.575	20.0
294.915	3.913	1.714	36.40	36.66	0.714	20.2
294.458	3.914	1.718	36.38	36.61	0.632	20.1
296.320	5.976	2.696	38.82	38.95	0.335	19.0
295.741	5.978	2.705	38.79	38.89	0.258	18.9
295.153	5.981	2.714	38.66	38.83	0.440	19.0
294.671	5.974	2.717	38.62	38.77	0.388	19.0
295.849	8.077	3.778	41.52	41.53	0.024	18.1
295.213	8.079	3.792	41.59	41.48	-0.264	18.0
294.626	8.082	3.806	41.52	41.44	-0.193	18.0
294.135	8.087	3.819	41.46	41.41	-0.121	18.0
295.366	10.365	5.016	44.99	44.92	-0.156	17.4
294.726	10.367	5.037	45.03	44.90	-0.289	17.4
294.274	10.369	5.052	44.96	44.89	-0.156	17.4
293.791	10.373	5.069	44.98	44.88	-0.222	17.4
294.991	12.169	6.017	48.08	47.98	-0.208	16.9
294.453	12.171	6.039	47.98	47.98	0.000	17.0
293.987	12.173	6.058	48.22	47.99	-0.477	16.8
293.540	12.176	6.078	48.13	48.00	-0.270	16.9
296.186	14.295	7.114	51.70	51.80	0.193	16.6
295.091	14.297	7.168	51.78	51.85	0.135	16.5
294.119	14.297	7.215	51.74	51.90	0.309	16.6
293.367	14.299	7.254	51.59	51.94	0.678	16.6
295.764	16.379	8.219	55.29	55.65	0.651	16.2
294.721	16.379	8.277	55.35	55.74	0.705	16.2
293.904	16.381	8.324	55.34	55.82	0.867	16.2
293.091	16.382	8.372	55.32	55.90	1.048	16.2
295.420	18.657	9.348	59.17	59.79	1.048	15.8
294.415	18.658	9.411	59.36	59.91	0.927	15.8
293.588	18.659	9.464	59.36	60.02	1.112	15.8
292.903	18.662	9.509	59.52	60.11	0.991	15.8
295.068	21.429	10.589	63.90	64.52	0.970	15.3

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
294.252	21.432	10.644	64.09	64.65	0.874	15.3
293.482	21.432	10.696	64.09	64.77	1.061	15.3
292.793	21.434	10.744	64.31	64.88	0.886	15.3
295.659	25.128	11.939	69.21	70.11	1.300	14.9
294.864	25.127	11.992	69.71	70.24	0.760	14.8
294.012	25.128	12.050	69.69	70.39	1.004	14.8
293.449	25.126	12.088	69.76	70.48	1.032	14.8
295.578	28.719	13.068	74.60	75.10	0.670	14.4
294.771	28.716	13.121	74.85	75.24	0.521	14.3
294.080	28.712	13.166	74.95	75.37	0.560	14.3
293.601	28.713	13.199	74.84	75.46	0.828	14.4
296.573	32.484	13.996	79.14	79.70	0.708	14.1
295.711	32.483	14.051	79.27	79.87	0.757	14.0
295.042	32.484	14.094	79.26	80.01	0.946	14.1
294.303	32.485	14.142	79.89	80.16	0.338	14.0
296.404	36.134	14.828	83.42	84.07	0.779	13.8
295.521	36.135	14.883	83.66	84.25	0.705	13.7
294.862	36.136	14.924	83.84	84.40	0.668	13.7
294.272	36.136	14.960	83.98	84.52	0.643	13.7
296.324	39.442	15.484	87.33	87.80	0.538	13.5
295.531	39.442	15.531	87.43	87.97	0.618	13.5
294.765	39.444	15.577	87.56	88.15	0.674	13.5
294.155	39.444	15.614	87.86	88.29	0.489	13.5
296.156	42.826	16.086	91.03	91.46	0.472	13.3
295.472	42.826	16.126	91.27	91.62	0.383	13.3
294.753	42.827	16.167	91.25	91.79	0.592	13.3
294.259	42.827	16.196	91.36	91.91	0.602	13.3
296.097	46.333	16.640	94.70	95.08	0.401	13.1
295.347	46.333	16.682	94.92	95.26	0.358	13.1
294.739	46.333	16.716	94.97	95.41	0.463	13.1
294.112	46.334	16.751	95.24	95.56	0.336	13.0
296.086	49.998	17.160	98.47	98.70	0.234	12.9
295.349	50.000	17.200	98.67	98.89	0.223	12.9
294.672	50.000	17.236	98.83	99.06	0.233	12.8
294.162	50.001	17.264	99.14	99.19	0.050	12.8

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
295.878	53.680	17.645	102.13	102.26	0.127	12.7
295.267	53.681	17.677	102.20	102.42	0.215	12.7
294.552	53.682	17.714	102.37	102.60	0.225	12.7
294.003	53.685	17.743	102.49	102.75	0.254	12.7
295.330	57.061	18.072	105.41	105.52	0.104	12.5
294.706	57.060	18.104	105.58	105.68	0.095	12.5
294.110	57.061	18.134	105.84	105.85	0.009	12.5
293.609	57.062	18.159	105.74	105.98	0.227	12.5
295.232	60.576	18.461	108.65	108.70	0.046	12.4
294.648	60.576	18.490	108.85	108.86	0.009	12.4
294.036	60.578	18.520	108.97	109.03	0.055	12.4
293.630	60.577	18.540	109.09	109.14	0.046	12.4
295.187	63.953	18.807	111.77	111.66	-0.098	12.2
294.555	63.958	18.838	112.04	111.84	-0.179	12.2
294.012	63.952	18.864	111.93	111.99	0.054	12.2
293.475	63.951	18.889	112.41	112.14	-0.240	12.2
295.776	67.319	19.101	114.71	114.36	-0.305	12.1
295.118	67.321	19.132	114.91	114.55	-0.313	12.1
294.631	67.320	19.155	115.10	114.69	-0.356	12.1
294.106	67.323	19.180	115.21	114.84	-0.321	12.1
309.085	1.076	0.426	35.91	36.30	1.086	31.5
308.341	1.076	0.427	36.10	36.20	0.277	21.7
307.755	1.077	0.428	35.81	36.11	0.838	27.3
307.128	1.077	0.429	35.58	36.03	1.265	35.3
309.214	2.675	1.083	37.42	37.46	0.107	19.9
308.624	2.675	1.086	37.33	37.38	0.134	19.9
308.033	2.676	1.089	37.01	37.30	0.784	21.5
307.414	2.678	1.092	36.93	37.22	0.785	21.5
309.391	4.743	1.979	39.36	39.21	-0.381	18.7
308.849	4.743	1.983	39.10	39.14	0.102	19.2
308.250	4.743	1.988	39.15	39.07	-0.204	18.9
307.648	4.744	1.994	39.01	38.99	-0.051	19.1
309.635	6.732	2.883	41.48	41.21	-0.651	18.1
309.040	6.732	2.891	41.53	41.15	-0.915	17.9
308.464	6.733	2.899	41.46	41.08	-0.917	17.9

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
307.941	6.733	2.906	41.27	41.03	-0.582	18.2
309.267	8.876	3.907	44.26	43.68	-1.310	17.4
308.712	8.876	3.918	43.95	43.63	-0.728	17.7
308.170	8.877	3.930	44.02	43.59	-0.977	17.5
307.710	8.877	3.939	44.03	43.55	-1.090	17.5
310.021	11.038	4.942	47.19	46.64	-1.166	17.0
308.898	11.039	4.973	47.15	46.58	-1.209	17.0
307.879	11.039	5.001	46.83	46.52	-0.662	17.2
307.031	11.039	5.025	46.95	46.48	-1.001	17.1
309.673	13.147	5.984	50.09	49.76	-0.659	16.8
308.603	13.147	6.021	49.96	49.73	-0.460	16.9
307.642	13.148	6.056	50.23	49.72	-1.015	16.7
306.841	13.148	6.084	50.33	49.70	-1.252	16.6
309.353	15.185	6.980	53.20	52.98	-0.414	16.5
308.309	15.186	7.024	53.23	53.00	-0.432	16.4
307.523	15.186	7.057	53.23	53.01	-0.413	16.4
306.746	15.186	7.090	53.25	53.02	-0.432	16.4
310.102	17.278	7.919	56.39	56.33	-0.106	16.2
308.975	17.278	7.972	56.47	56.38	-0.159	16.1
308.110	17.277	8.013	56.44	56.42	-0.035	16.1
307.320	17.276	8.051	56.46	56.45	-0.018	16.1
309.770	19.464	8.894	59.73	59.82	0.151	15.8
308.761	19.463	8.946	59.86	59.89	0.050	15.8
307.944	19.463	8.990	59.83	59.95	0.201	15.8
307.225	19.462	9.028	60.00	60.00	0.000	15.7
309.480	22.418	10.097	64.11	64.34	0.359	15.4
308.591	22.418	10.147	64.22	64.42	0.311	15.4
307.806	22.418	10.192	64.22	64.50	0.436	15.4
307.109	22.418	10.233	64.11	64.57	0.718	15.4
309.260	26.028	11.381	69.20	69.44	0.347	14.9
308.444	26.028	11.429	69.41	69.54	0.187	14.9
307.756	26.028	11.470	69.41	69.63	0.317	14.9
307.136	26.028	11.508	69.52	69.70	0.259	14.9
310.093	29.477	12.376	73.93	73.80	-0.176	14.5
309.235	29.477	12.427	73.95	73.92	-0.041	14.5

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
308.527	29.476	12.469	74.17	74.01	-0.216	14.5
307.869	29.475	12.508	74.30	74.10	-0.269	14.4
309.694	33.098	13.346	78.15	78.21	0.077	14.2
308.929	33.097	13.390	78.27	78.32	0.064	14.2
308.143	33.098	13.436	78.33	78.44	0.140	14.2
307.480	33.098	13.475	78.50	78.54	0.051	14.2
309.498	36.518	14.135	81.99	82.10	0.134	13.9
308.688	36.519	14.181	82.22	82.23	0.012	13.9
308.056	36.520	14.218	82.15	82.34	0.231	13.9
307.447	36.521	14.253	82.16	82.44	0.341	13.9
309.222	39.909	14.831	85.88	85.79	-0.105	13.7
308.550	39.909	14.869	86.03	85.90	-0.151	13.6
307.881	39.911	14.906	86.21	86.02	-0.220	13.6
307.206	39.914	14.945	86.23	86.15	-0.093	13.6
309.943	43.084	15.364	89.13	88.92	-0.236	13.5
309.132	43.083	15.408	89.28	89.07	-0.235	13.4
308.403	43.081	15.447	89.18	89.20	0.022	13.5
307.807	43.079	15.479	89.70	89.31	-0.435	13.4
309.716	46.727	15.968	93.03	92.56	-0.505	13.2
309.019	46.727	16.004	93.12	92.69	-0.462	13.2
308.324	46.726	16.040	93.05	92.82	-0.247	13.2
307.749	46.725	16.071	93.25	92.94	-0.332	13.2
309.703	50.127	16.468	96.30	95.79	-0.530	13.0
308.899	50.126	16.509	96.44	95.95	-0.508	13.0
308.226	50.126	16.543	96.38	96.09	-0.301	13.0
307.650	50.126	16.573	96.65	96.21	-0.455	13.0
309.618	53.476	16.924	99.50	98.89	-0.613	12.9
308.897	53.476	16.960	99.60	99.04	-0.562	12.9
308.209	53.476	16.994	99.74	99.19	-0.551	12.9
307.616	53.475	17.023	99.82	99.31	-0.511	12.9
309.416	57.009	17.372	102.83	102.09	-0.720	12.7
308.753	57.009	17.404	103.06	102.24	-0.796	12.7
308.134	57.009	17.434	103.01	102.37	-0.621	12.7
307.513	57.008	17.464	103.21	102.51	-0.678	12.7
309.315	60.531	17.781	106.01	105.17	-0.792	12.6

Data from Roder [8] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
308.655	60.530	17.812	106.23	105.32	-0.857	12.5
308.072	60.531	17.839	106.53	105.45	-1.014	12.5
307.537	60.531	17.864	106.47	105.57	-0.845	12.5
309.320	64.078	18.159	109.19	108.17	-0.934	12.4
308.648	64.078	18.189	109.26	108.33	-0.851	12.4
308.025	64.075	18.218	109.42	108.47	-0.868	12.4
307.462	64.077	18.244	109.48	108.61	-0.795	12.4
313.129	66.672	18.248	110.38	109.46	-0.833	12.4
312.494	66.678	18.277	110.55	109.60	-0.859	12.4
311.828	66.670	18.306	110.76	109.74	-0.921	12.3
311.372	66.685	18.328	110.71	109.86	-0.768	12.4
309.358	67.415	18.490	112.15	110.92	-1.097	12.3
308.758	67.414	18.516	112.44	111.06	-1.227	12.2
308.136	67.414	18.544	112.59	111.21	-1.226	12.2
307.614	67.416	18.568	112.78	111.34	-1.277	12.2

Number of Points (Ref. 8) 895

AAD-%	0.577	BIAS-%	0.069	RMS-%	0.942
AAD	0.387	BIAS	0.032	RMS	0.584 $\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Data from Sokolova and Golubev [80]

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
238.70	0.10	0.051	26.08	26.40	1.227	0.0
238.80	0.20	0.101	26.13	26.50	1.416	0.0
238.80	0.26	0.132	26.16	26.55	1.491	0.0
238.50	0.69	0.357	26.22	26.90	2.593	0.0
238.50	1.06	0.557	26.80	27.24	1.642	0.0
238.80	2.09	1.143	27.71	28.36	2.346	0.0
239.00	2.09	1.142	27.90	28.38	1.720	0.0
238.80	3.04	1.734	29.17	29.55	1.303	0.0
239.00	3.19	1.829	29.12	29.78	2.266	0.0
238.80	4.02	2.400	30.52	31.05	1.737	0.0

Data from Sokolova and Golubev [80] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
238.80	4.02	2.400	30.48	31.05	1.870	0.0
239.00	4.33	2.621	31.19	31.60	1.315	0.0
239.00	4.33	2.621	30.73	31.60	2.831	0.0
238.80	5.04	3.167	32.28	32.98	2.169	0.0
239.20	5.36	3.412	32.99	33.70	2.152	0.0
239.20	6.49	4.387	35.76	36.60	2.349	0.0
238.50	6.86	4.767	37.18	37.77	1.587	0.0
238.30	8.53	6.515	43.50	44.04	1.241	0.0
239.00	8.72	6.661	50.45	44.64	-11.516	0.0
238.50	10.01	8.175	51.61	50.48	-2.189	0.0
238.50	12.41	10.729	62.05	60.14	-3.078	0.0
238.50	12.41	10.729	61.67	60.14	-2.481	0.0
238.50	14.62	12.525	67.78	66.99	-1.166	0.0
238.50	14.81	12.654	69.04	67.51	-2.216	0.0
238.50	19.72	15.113	79.13	78.91	-0.278	0.0
238.50	19.72	15.113	78.42	78.91	0.625	0.0
238.50	29.42	17.698	93.99	95.36	1.458	0.0
238.80	29.53	17.694	93.66	95.36	1.815	0.0
239.00	40.22	19.362	106.60	109.25	2.486	0.0
239.00	50.13	20.481	116.90	120.32	2.926	0.0
239.00	50.23	20.491	117.20	120.42	2.747	0.0
231.80	0.10	0.052	25.25	25.56	1.228	0.0
231.80	0.43	0.227	25.39	25.86	1.851	0.0
231.80	1.08	0.586	26.00	26.48	1.846	0.0
231.60	2.07	1.178	26.69	27.56	3.260	0.0
231.80	2.07	1.176	26.77	27.58	3.026	0.0
231.80	3.04	1.813	28.24	28.90	2.337	0.0
231.80	4.12	2.606	30.45	30.76	1.018	0.0
231.60	5.20	3.515	32.66	33.19	1.623	0.0
231.60	5.20	3.515	32.57	33.19	1.904	0.0
231.80	5.99	4.252	34.96	35.47	1.459	0.0
231.80	5.99	4.252	35.29	35.47	0.510	0.0
231.80	6.58	4.860	37.22	37.51	0.779	0.0
232.10	7.16	5.482	39.82	39.76	-0.151	0.0
231.80	7.16	5.504	39.90	39.83	-0.175	0.0

Data from Sokolova and Golubev [80] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
231.80	7.99	6.505	45.13	43.67	-3.235	0.0
231.80	7.99	6.505	44.84	43.67	-2.609	0.0
231.80	8.34	6.952	49.61	45.44	-8.406	0.0
231.80	8.84	7.608	50.58	48.06	-4.982	0.0
231.80	9.96	9.095	57.32	53.91	-5.949	0.0
231.80	9.96	9.095	57.15	53.91	-5.669	0.0
231.60	10.89	10.294	61.55	58.38	-5.150	0.0
231.60	10.89	10.294	62.13	58.38	-6.036	0.0
231.80	11.88	11.346	64.64	62.20	-3.775	0.0
231.80	11.88	11.346	65.69	62.20	-5.313	0.0
231.80	13.49	12.765	70.46	67.55	-4.130	0.0
231.80	15.30	13.958	74.40	72.62	-2.392	0.0
231.60	19.72	15.921	83.69	82.76	-1.111	0.0
231.60	19.72	15.921	83.44	82.76	-0.815	0.0
231.80	23.79	17.080	90.39	90.16	-0.254	0.0
231.60	29.53	18.309	98.56	99.28	0.731	0.0
224.80	0.10	0.054	24.45	24.72	1.104	0.0
224.80	0.30	0.163	24.62	24.91	1.178	0.0
224.90	0.30	0.163	24.48	24.92	1.797	0.0
224.80	0.61	0.336	24.80	25.20	1.613	0.0
225.00	0.69	0.381	24.77	25.31	2.180	0.0
224.90	1.06	0.596	25.00	25.67	2.680	0.0
224.80	1.08	0.608	25.21	25.68	1.864	0.0
224.10	2.11	1.258	26.26	26.84	2.209	0.0
224.10	2.11	1.258	26.39	26.84	1.705	0.0
224.60	3.04	1.905	27.77	28.28	1.837	0.0
224.80	3.04	1.903	27.83	28.30	1.689	0.0
224.80	4.00	2.661	30.20	30.13	-0.232	0.0
224.90	4.02	2.675	30.17	30.18	0.033	0.0
224.60	4.74	3.327	32.18	31.95	-0.715	0.0
224.80	5.01	3.581	32.70	32.72	0.061	0.0
224.80	5.01	3.581	32.62	32.72	0.307	0.0
224.80	5.01	3.581	32.82	32.72	-0.305	0.0
224.90	6.02	4.658	37.14	36.28	-2.316	0.0
224.90	6.02	4.658	36.68	36.28	-1.091	0.0

Data from Sokolova and Golubev [80] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
224.90	6.86	5.712	42.50	40.25	-5.294	0.0
224.80	6.97	5.872	43.08	40.88	-5.107	0.0
225.40	7.75	6.927	53.67	45.23	-15.726	0.0
225.60	7.85	7.050	54.14	45.74	-15.515	0.0
224.80	8.83	8.734	61.63	52.65	-14.571	0.0
224.10	9.91	10.562	66.57	59.45	-10.696	0.0
224.80	9.91	10.402	65.82	58.86	-10.574	0.0
223.80	11.43	12.479	71.89	66.16	-7.971	0.0
223.80	11.43	12.479	70.51	66.16	-6.169	0.0
223.30	12.36	13.420	73.27	69.77	-4.777	0.0
223.30	12.36	13.420	72.72	69.77	-4.057	0.0
224.10	14.71	14.818	78.84	76.10	-3.475	0.0
223.30	14.81	14.996	79.09	76.93	-2.731	0.0
224.80	16.38	15.515	82.15	79.80	-2.861	0.0
224.10	20.20	16.944	89.72	88.40	-1.471	0.0
224.10	20.20	16.944	89.39	88.40	-1.108	0.0
224.10	25.21	18.157	96.84	97.19	0.361	0.0
224.40	29.53	18.926	102.50	103.56	1.034	0.0
223.40	38.94	20.310	113.80	116.52	2.390	0.0
224.90	39.14	20.226	112.70	115.85	2.795	0.0
223.40	48.36	21.287	123.00	127.23	3.439	0.0
223.40	48.66	21.315	122.90	127.55	3.784	0.0
223.40	48.85	21.332	123.70	127.76	3.282	0.0
216.40	0.10	0.056	23.47	23.71	1.023	0.0
216.30	0.42	0.239	23.61	24.02	1.737	0.0
216.10	1.09	0.643	24.14	24.72	2.403	0.0
216.10	1.97	1.225	25.30	25.85	2.174	0.0
216.10	3.06	2.049	27.52	27.68	0.581	0.0
216.30	4.07	2.948	30.41	30.05	-1.184	0.0
216.30	5.01	3.962	33.97	33.24	-2.149	0.0
216.30	5.50	4.584	37.43	35.49	-5.183	0.0
216.30	5.50	4.584	37.51	35.49	-5.385	0.0
216.10	6.18	5.608	44.00	39.64	-9.909	0.0
216.30	6.58	6.267	51.00	42.53	-16.608	0.0
216.30	6.58	6.267	50.07	42.53	-15.059	0.0

Data from Sokolova and Golubev [80] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
216.60	6.97	6.948	57.40	45.59	-20.575	0.0
216.60	6.97	6.948	57.99	45.59	-21.383	0.0
216.30	7.16	7.385	60.16	47.59	-20.894	0.0
216.30	7.16	7.385	59.41	47.59	-19.896	0.0
216.30	7.46	8.017	63.68	50.40	-20.854	0.0
216.30	7.94	9.067	66.78	54.75	-18.014	0.0
216.30	7.99	9.176	67.28	55.17	-17.999	0.0
216.30	8.93	11.074	71.26	61.70	-13.416	0.0
216.60	11.28	13.907	77.67	71.52	-7.918	0.0
216.60	12.85	15.030	81.27	76.61	-5.734	0.0
216.60	15.79	16.434	88.05	84.38	-4.168	0.0
216.60	19.52	17.620	94.16	92.30	-1.975	0.0
216.60	19.72	17.673	93.70	92.69	-1.078	0.0
216.30	25.41	18.938	102.50	102.71	0.205	0.0
210.00	0.10	0.058	22.71	22.96	1.101	0.0
209.80	1.10	0.673	23.36	24.04	2.911	0.0
208.40	1.41	0.887	23.63	24.30	2.835	0.0
209.30	1.77	1.135	24.13	24.89	3.150	0.0
210.30	2.08	1.355	24.65	25.47	3.327	0.0
209.80	2.41	1.615	25.52	25.98	1.803	0.0
209.80	2.41	1.615	25.27	25.98	2.810	0.0
207.50	2.91	2.071	26.65	26.83	0.675	0.0
210.30	3.07	2.161	27.27	27.34	0.257	0.0
210.30	3.07	2.161	27.14	27.34	0.737	0.0
209.00	3.54	2.634	29.10	28.48	-2.131	0.0
209.00	3.54	2.634	28.48	28.48	0.000	0.0
210.30	3.95	3.019	31.02	29.72	-4.191	0.0
210.30	3.95	3.019	30.86	29.72	-3.694	0.0
207.50	4.30	3.541	32.95	31.21	-5.281	0.0
207.50	4.30	3.541	32.74	31.21	-4.673	0.0
210.10	5.01	4.348	38.64	34.33	-11.154	0.0
210.10	5.01	4.348	38.98	34.33	-11.929	0.0
210.60	5.24	4.653	42.96	35.56	-17.225	0.0
210.60	5.24	4.653	42.62	35.56	-16.565	0.0
210.10	5.48	5.090	49.19	37.43	-23.907	0.0

Data from Sokolova and Golubev [80] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
210.10	5.48	5.090	50.66	37.43	-26.115	0.0
210.10	5.48	5.090	49.07	37.43	-23.721	0.0
209.50	5.72	5.602	55.98	39.79	-28.921	0.0
210.10	5.99	6.061	63.76	41.95	-34.206	0.0
209.60	6.00	6.166	68.16	42.52	-37.617	0.0
210.10	6.10	6.299	69.58	43.12	-38.028	0.0
210.10	6.10	6.299	70.80	43.12	-39.096	0.0
210.10	6.20	6.524	72.35	44.24	-38.853	0.0
210.10	6.20	6.524	75.45	44.24	-41.365	0.0
209.80	6.94	8.586	77.50	54.26	-29.987	0.0
209.80	6.94	8.586	78.21	54.26	-30.623	0.0
206.60	7.32	11.237	72.85	64.12	-11.984	0.0
209.60	7.32	9.815	73.60	59.08	-19.728	0.0
209.60	7.32	9.815	73.10	59.08	-19.179	0.0
209.50	7.35	9.947	72.35	59.55	-17.692	0.0
209.60	7.35	9.903	71.05	59.37	-16.439	0.0
209.60	7.66	10.773	72.39	62.00	-14.353	0.0
210.70	8.24	11.672	74.02	64.24	-13.213	0.0
210.80	8.24	11.634	74.90	64.11	-14.406	0.0
210.80	9.91	14.023	78.92	71.89	-8.908	0.0
210.10	12.46	15.983	83.86	81.19	-3.184	0.0
209.80	14.71	17.007	89.18	87.39	-2.007	0.0
210.30	14.92	17.011	90.02	87.46	-2.844	0.0
209.80	16.78	17.684	93.91	92.05	-1.981	0.0
209.80	16.78	17.684	93.03	92.05	-1.053	0.0
210.00	19.72	18.423	98.14	97.70	-0.448	0.0
210.00	30.50	20.287	112.50	114.61	1.876	0.0
210.00	31.20	20.380	113.50	115.56	1.815	0.0
209.60	39.73	21.385	122.50	126.55	3.306	0.0
209.60	39.73	21.385	122.80	126.55	3.054	0.0
209.60	48.95	22.218	131.10	136.83	4.371	0.0
209.60	48.95	22.218	131.80	136.83	3.816	0.0
209.60	50.52	22.344	133.40	138.48	3.808	0.0
195.90	2.19	1.611	25.53	24.57	-3.760	0.0
195.90	2.19	1.611	25.23	24.57	-2.616	0.0

Data from Sokolova and Golubev [80] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
195.60	2.19	1.616	25.13	24.56	-2.268	0.0
195.90	3.14	2.587	28.35	27.37	-3.457	0.0
195.40	3.14	2.604	28.52	27.40	-3.927	0.0
195.60	3.14	2.597	27.92	27.39	-1.898	0.0
195.60	4.13	4.068	33.23	33.43	0.602	0.0
195.40	4.13	4.087	32.53	33.55	3.136	0.0
195.90	4.15	4.079	34.59	33.45	-3.296	0.0
194.90	4.15	4.175	33.90	34.10	0.590	0.0
195.40	4.18	4.185	34.23	34.07	-0.467	0.0
195.60	4.18	4.166	33.79	33.93	0.414	0.0
195.30	4.51	4.966	41.27	38.71	-6.203	0.0
195.90	4.66	5.284	43.71	40.62	-7.069	0.0
195.90	4.81	5.783	54.09	44.31	-18.081	0.0
194.90	4.81	6.102	54.34	47.84	-11.962	0.0
195.50	4.92	6.387	62.51	49.76	-20.397	0.0
195.90	4.93	6.274	68.54	48.34	-29.472	0.0
194.90	4.93	6.735	67.37	53.93	-19.950	0.0
194.90	4.93	6.735	67.83	53.93	-20.492	0.0
195.90	5.04	6.840	80.30	53.42	-33.474	0.0
195.60	5.04	7.014	84.20	55.54	-34.038	0.0
195.90	5.05	6.899	84.87	53.97	-36.409	0.0
195.90	5.06	6.959	86.25	54.53	-36.777	0.0
195.90	5.07	7.021	91.40	55.12	-39.694	0.0
195.90	5.08	7.085	97.89	55.72	-43.079	0.0
194.90	5.09	8.054	112.80	67.81	-39.885	0.0
195.90	5.10	7.218	114.60	56.98	-50.279	0.0
194.90	5.10	8.168	123.80	68.89	-44.354	0.0
194.90	5.11	8.288	143.00	70.00	-51.049	0.0
194.90	5.11	8.288	147.00	70.00	-52.381	0.0
194.90	5.11	8.288	143.90	70.00	-51.355	0.0
194.90	5.12	8.414	149.80	71.10	-52.537	0.0
194.90	5.12	8.414	148.70	71.10	-52.186	0.0
194.90	5.16	8.969	163.10	75.29	-53.838	0.0
194.90	5.16	8.969	174.00	75.29	-56.730	0.0
194.90	5.16	8.969	168.10	75.29	-55.211	0.0

Data from Sokolova and Golubev [80] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
194.90	5.16	8.969	171.60	75.29	-56.125	0.0
194.90	5.16	8.969	165.30	75.29	-54.453	0.0
194.90	5.17	9.121	171.10	76.18	-55.476	0.0
194.90	5.26	10.535	156.50	78.46	-49.866	0.0
194.90	5.28	10.817	153.30	77.95	-49.152	0.0
194.90	5.28	10.817	151.40	77.95	-48.514	0.0
194.90	5.28	10.817	148.70	77.95	-47.579	0.0
194.90	5.35	11.627	124.30	75.71	-39.091	0.0
194.90	5.35	11.627	125.80	75.71	-39.817	0.0
194.90	5.35	11.627	123.10	75.71	-38.497	0.0
194.90	5.40	12.064	117.30	74.57	-36.428	0.0
194.90	5.47	12.540	95.79	73.67	-23.092	0.0
194.90	5.48	12.599	98.89	73.59	-25.584	0.0
194.90	5.50	12.710	102.30	73.30	-28.348	0.0
194.90	5.50	12.710	99.44	73.30	-26.287	0.0
194.90	5.50	12.710	101.40	73.30	-27.712	0.0
194.90	5.50	12.710	100.20	73.30	-26.846	0.0
194.90	5.50	12.710	100.90	73.30	-27.354	0.0
194.90	5.51	12.764	100.80	73.25	-27.331	0.0
194.90	5.52	12.815	95.79	73.22	-23.562	0.0
194.90	5.52	12.815	95.42	73.22	-23.266	0.0
194.90	5.52	12.815	95.96	73.22	-23.697	0.0
194.90	5.62	13.258	88.97	73.15	-17.781	0.0
194.90	5.62	13.258	89.56	73.15	-18.323	0.0
194.90	5.62	13.258	98.64	73.15	-25.841	0.0
194.90	6.09	14.497	83.53	75.04	-10.164	0.0
194.90	6.09	14.497	83.78	75.04	-10.432	0.0
195.40	7.05	15.601	84.87	78.89	-7.046	0.0
195.40	7.05	15.601	84.20	78.89	-6.306	0.0
195.90	7.06	15.448	86.42	78.18	-9.535	0.0
194.90	7.09	15.798	84.57	79.82	-5.617	0.0
194.90	7.10	15.807	85.79	79.86	-6.912	0.0
194.90	7.10	15.807	85.96	79.86	-7.096	0.0
195.90	8.15	16.375	87.71	82.69	-5.723	0.0
195.40	8.15	16.497	87.00	83.36	-4.184	0.0

Data from Sokolova and Golubev [80] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
195.90	9.13	16.967	90.02	86.11	-4.343	0.0
195.40	9.13	17.070	87.71	86.73	-1.117	0.0
195.40	9.13	17.070	88.47	86.73	-1.967	0.0
195.90	10.01	17.393	91.40	88.83	-2.812	0.0
195.40	10.10	17.524	90.81	89.68	-1.244	0.0
194.90	10.10	17.614	92.57	90.26	-2.495	0.0
195.90	12.41	18.281	96.30	95.17	-1.173	0.0
195.40	12.41	18.355	94.91	95.69	0.822	0.0
195.90	12.46	18.297	95.88	95.28	-0.626	0.0
195.60	12.46	18.341	94.91	95.60	0.727	0.0
195.60	14.81	18.983	102.30	100.78	-1.486	0.0
195.40	14.81	19.009	103.40	100.98	-2.340	0.0
195.40	14.81	19.009	101.40	100.98	-0.414	0.0
195.90	19.37	19.894	111.30	109.02	-2.049	0.0
195.40	19.37	19.947	109.90	109.47	-0.391	0.0
195.40	22.66	20.481	113.50	114.80	1.145	0.0
194.50	22.66	20.568	114.70	115.59	0.776	0.0
195.90	22.66	20.433	116.20	114.36	-1.583	0.0
188.40	2.00	1.542	23.14	23.77	2.723	0.0
188.40	2.00	1.542	22.55	23.77	5.410	0.0
188.60	3.04	2.724	25.87	27.80	7.460	0.0
188.90	3.04	2.712	25.41	27.80	9.406	0.0
188.60	3.74	3.948	36.35	34.12	-6.135	0.0
188.90	3.74	3.916	35.13	33.97	-3.302	0.0
188.90	4.18	5.269	70.88	45.67	-35.567	0.0
188.90	4.20	5.365	76.91	46.81	-39.137	0.0
188.60	4.26	5.859	87.17	53.87	-38.201	0.0
188.60	4.28	6.019	94.87	56.64	-40.297	0.0
188.60	4.28	6.019	95.12	56.64	-40.454	0.0
188.60	4.28	6.019	93.45	56.64	-39.390	0.0
188.60	4.29	6.109	100.70	58.34	-42.066	0.0
188.60	4.32	6.439	106.40	65.72	-38.233	0.0
188.60	4.55	14.843	91.10	77.11	-15.357	0.0
188.60	4.56	14.870	93.70	77.15	-17.663	0.0
188.60	4.57	14.897	98.98	77.20	-22.004	0.0

Data from Sokolova and Golubev [80] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
188.60	5.99	16.736	94.12	84.36	-10.370	0.0
188.40	5.99	16.793	93.24	84.62	-9.245	0.0
188.40	5.99	16.793	94.58	84.62	-10.531	0.0
188.40	5.99	16.793	93.95	84.62	-9.931	0.0
188.40	7.94	17.907	94.79	91.69	-3.270	0.0
188.40	7.94	17.907	94.62	91.69	-3.097	0.0
188.20	10.10	18.737	97.43	97.93	0.513	0.0
188.20	10.10	18.737	97.13	97.93	0.824	0.0
188.20	10.10	18.737	98.14	97.93	-0.214	0.0
187.90	11.08	19.069	100.30	100.63	0.329	0.0
187.90	11.08	19.069	99.06	100.63	1.585	0.0
188.60	14.92	19.874	106.00	107.96	1.849	0.0
188.60	14.92	19.874	104.00	107.96	3.808	0.0
188.60	19.53	20.680	113.60	116.02	2.130	0.0
188.60	19.53	20.680	111.80	116.02	3.775	0.0
188.90	19.62	20.664	112.60	115.89	2.922	0.0
188.90	19.62	20.664	111.30	115.89	4.124	0.0
187.90	20.70	20.924	115.50	118.52	2.615	0.0
187.90	20.89	20.951	114.50	118.82	3.773	0.0
187.90	20.89	20.951	113.80	118.82	4.411	0.0
188.40	29.63	21.964	127.50	130.69	2.502	0.0
188.40	29.73	21.975	126.70	130.82	3.252	0.0
188.40	29.73	21.975	127.50	130.82	2.604	0.0
188.20	39.33	22.871	138.20	142.58	3.169	0.0
188.20	39.54	22.888	138.00	142.82	3.493	0.0
187.90	47.19	23.484	147.40	151.39	2.707	0.0
187.90	47.19	23.484	145.50	151.39	4.048	0.0
187.90	49.14	23.618	149.10	153.42	2.897	0.0
183.20	0.10	0.066	19.68	19.81	0.661	0.0
183.20	0.26	0.174	19.68	20.01	1.677	0.0
183.70	0.26	0.174	19.95	20.07	0.602	0.0
182.90	1.57	1.207	21.77	22.21	2.021	0.0
183.20	1.57	1.204	21.65	22.24	2.725	0.0
183.20	2.58	2.296	25.75	25.56	-0.738	0.0
183.20	2.58	2.296	25.46	25.56	0.393	0.0

Data from Sokolova and Golubev [80] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
183.20	3.07	3.039	28.63	28.65	0.070	0.0
182.90	3.69	16.486	87.47	81.78	-6.505	0.0
182.90	3.69	16.486	88.56	81.78	-7.656	0.0
182.90	7.46	18.748	96.66	97.18	0.538	0.0
183.20	7.46	18.694	98.62	96.78	-1.866	0.0
183.50	10.01	19.425	105.10	103.06	-1.941	0.0
183.50	10.01	19.425	102.30	103.06	0.743	0.0
183.50	14.92	20.472	112.50	113.12	0.551	0.0
183.50	14.92	20.472	111.80	113.12	1.181	0.0
183.70	19.72	21.200	118.90	120.98	1.749	0.0
183.70	19.72	21.200	120.10	120.98	0.733	0.0
183.50	29.53	22.352	131.70	134.90	2.430	0.0
183.50	29.53	22.352	133.30	134.90	1.200	0.0
183.50	39.73	23.234	142.70	147.03	3.034	0.0
183.20	49.14	23.918	152.70	157.33	3.032	0.0
183.20	49.14	23.918	151.50	157.33	3.848	0.0
176.80	0.10	0.069	19.01	19.05	0.210	0.0
177.00	0.30	0.210	19.32	19.33	0.052	0.0
177.00	0.30	0.210	19.22	19.33	0.572	0.0
175.70	0.91	0.685	20.23	20.14	-0.445	0.0
176.80	1.67	1.377	22.58	22.00	-2.569	0.0
176.50	2.61	2.605	28.53	26.33	-7.711	0.0
176.50	2.61	2.605	28.24	26.33	-6.763	0.0
176.40	3.83	18.574	100.40	94.85	-5.528	0.0
176.40	3.83	18.574	99.40	94.85	-4.577	0.0
176.70	5.01	19.010	102.60	98.49	-4.006	0.0
176.70	5.01	19.010	102.00	98.49	-3.441	0.0
177.00	6.24	19.377	105.40	101.72	-3.491	0.0
177.50	7.95	19.782	108.90	105.50	-3.122	0.0
176.70	7.95	19.902	108.00	106.54	-1.352	0.0
177.00	10.06	20.341	112.60	110.89	-1.519	0.0
177.50	11.68	20.596	116.40	113.58	-2.423	0.0
177.50	11.68	20.596	115.30	113.58	-1.492	0.0
176.50	19.72	21.899	127.30	128.17	0.683	0.0
176.50	19.72	21.899	129.00	128.17	-0.643	0.0

Data from Sokolova and Golubev [80] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
176.50	29.53	22.913	140.60	141.39	0.562	0.0
176.70	39.19	23.672	150.10	152.47	1.579	0.0
176.70	39.19	23.672	149.10	152.47	2.260	0.0
177.00	48.80	24.292	158.00	162.35	2.753	0.0
177.00	48.80	24.292	159.00	162.35	2.107	0.0
165.30	0.10	0.074	17.75	17.69	-0.338	0.0
166.00	0.75	0.596	18.48	18.83	1.894	0.0
164.20	1.54	1.427	22.88	20.99	-8.260	0.0
164.20	1.54	1.427	22.65	20.99	-7.329	0.0
165.00	3.59	20.635	124.70	112.25	-9.984	0.0
165.50	3.59	20.555	125.00	111.49	-10.808	0.0
164.20	5.20	21.102	126.10	117.15	-7.098	0.0
165.00	5.40	21.029	126.80	116.46	-8.155	0.0
165.30	7.95	21.454	131.30	121.28	-7.631	0.0
164.70	9.71	21.803	134.20	125.29	-6.639	0.0
166.00	14.81	22.338	141.70	132.13	-6.754	0.0
164.70	20.36	23.055	147.40	141.54	-3.976	0.0
164.70	20.36	23.055	148.50	141.54	-4.687	0.0
166.20	29.33	23.707	157.20	151.28	-3.766	0.0
164.70	29.53	23.839	157.20	153.05	-2.640	0.0
164.20	39.14	24.541	167.30	164.26	-1.817	0.0
164.20	49.14	25.127	175.30	174.45	-0.485	0.0
164.20	49.14	25.127	175.70	174.45	-0.711	0.0
152.60	0.10	0.080	16.39	16.19	-1.220	0.0
151.50	0.36	0.302	16.93	16.50	-2.540	0.0
151.50	0.36	0.302	17.58	16.50	-6.143	0.0
152.70	1.60	22.039	144.70	126.36	-12.674	0.0
152.70	3.07	22.272	148.20	129.26	-12.780	0.0
152.20	7.36	22.903	153.50	137.42	-10.476	0.0
152.20	7.36	22.903	156.70	137.42	-12.304	0.0
152.70	9.91	23.139	156.90	140.75	-10.293	0.0
151.80	10.60	23.304	158.60	142.92	-9.887	0.0
152.90	14.81	23.608	164.10	147.53	-10.098	0.0
153.20	14.81	23.580	164.00	147.17	-10.262	0.0
152.70	19.72	24.048	171.10	154.17	-9.895	0.0

Data from Sokolova and Golubev [80] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
152.90	29.13	24.714	180.60	165.05	-8.610	0.0
152.70	29.33	24.743	178.20	165.49	-7.132	0.0
152.90	39.14	25.321	185.00	175.70	-5.027	0.0
152.90	39.14	25.321	187.90	175.70	-6.493	0.0
152.70	39.24	25.340	184.80	176.01	-4.756	0.0
152.70	49.14	25.855	194.30	185.73	-4.411	0.0
140.30	0.10	0.087	15.07	14.75	-2.123	0.0
140.30	0.30	0.272	16.26	15.15	-6.827	0.0
140.00	0.30	0.273	16.36	15.12	-7.579	0.0
141.00	1.47	23.477	168.10	143.50	-14.634	0.0
141.00	3.36	23.683	170.10	146.50	-13.874	0.0
141.00	3.36	23.683	170.50	146.50	-14.076	0.0
141.00	5.10	23.859	172.90	149.12	-13.754	0.0
140.80	5.99	23.966	173.50	150.69	-13.147	0.0
139.90	7.94	24.233	177.40	154.63	-12.835	0.0
139.30	7.94	24.291	174.00	155.44	-10.667	0.0
139.50	9.32	24.388	177.40	157.02	-11.488	0.0
139.50	12.07	24.609	180.80	160.59	-11.178	0.0
139.50	14.81	24.813	183.20	163.99	-10.486	0.0
140.30	19.62	25.078	188.40	168.69	-10.462	0.0
140.00	19.72	25.109	187.10	169.17	-9.583	0.0
140.00	29.72	25.711	196.70	180.06	-8.460	0.0
140.00	39.73	26.227	201.20	190.05	-5.542	0.0
140.00	49.14	26.656	210.40	198.84	-5.494	0.0
118.80	0.10	0.104	12.71	12.27	-3.462	0.0
117.80	0.46	25.788	196.80	175.69	-10.727	0.0
119.00	6.97	26.087	201.00	181.57	-9.667	0.0
119.70	11.48	26.286	200.30	185.57	-7.354	0.0
119.70	11.48	26.286	205.40	185.57	-9.654	0.0
119.50	14.92	26.488	206.80	189.45	-8.390	0.0
118.00	19.72	26.844	211.80	196.15	-7.389	0.0
117.60	29.53	27.312	217.20	205.89	-5.207	0.0
117.60	39.24	27.700	223.40	214.50	-3.984	0.0
119.90	39.43	27.555	223.40	212.10	-5.058	0.0
119.90	48.75	27.902	229.10	220.06	-3.946	0.0

Data from Sokolova and Golubev [80] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
119.90	48.95	27.909	226.50	220.22	-2.773	0.0
108.90	2.95	26.741	208.80	190.84	-8.602	0.0
108.90	2.95	26.741	209.80	190.84	-9.037	0.0
109.40	4.70	26.790	209.00	192.00	-8.134	0.0
109.40	4.70	26.790	211.20	192.00	-9.091	0.0
109.20	9.81	27.063	213.50	197.45	-7.518	0.0
109.90	14.81	27.241	215.30	201.43	-6.442	0.0
109.90	14.81	27.241	216.80	201.43	-7.089	0.0
109.20	19.72	27.509	220.30	206.87	-6.096	0.0
109.20	19.72	27.509	220.00	206.87	-5.968	0.0
109.40	29.53	27.888	225.60	215.36	-4.539	0.0
109.40	38.94	28.231	230.00	223.28	-2.922	0.0
109.40	39.14	28.238	230.00	223.45	-2.848	0.0
109.40	49.73	28.591	237.80	231.96	-2.456	0.0
109.40	49.93	28.597	235.00	232.11	-1.230	0.0

Number of Points (Ref. 80) 445

AAD-%	9.654	BIAS-%	-8.376	RMS-%	13.781
AAD	10.265	BIAS	-9.301	RMS	17.521 $\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Data from Yorzane et al. [82]

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
323.35	0.10	0.037	37.70	37.74	0.106	0.0
319.95	0.10	0.038	37.50	37.24	-0.693	0.0
316.75	0.10	0.038	37.30	36.77	-1.421	0.0
312.85	0.10	0.038	36.70	36.21	-1.335	0.0
309.35	0.10	0.039	36.30	35.71	-1.625	0.0
308.25	0.10	0.039	35.70	35.55	-0.420	0.0
303.15	0.10	0.040	35.10	34.83	-0.769	0.0
297.75	0.10	0.040	34.40	34.08	-0.930	0.0
297.75	2.55	1.077	36.30	35.84	-1.267	0.0
297.75	5.10	2.252	38.90	38.16	-1.902	0.0

Data from Yorizane et al. [82] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	mPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
297.75	7.50	3.442	42.40	40.92	-3.491	0.0
303.15	0.10	0.040	35.10	34.83	-0.769	0.0
303.15	5.30	2.291	39.90	38.99	-2.281	0.0
303.25	10.01	4.607	46.30	44.77	-3.305	0.0
303.25	14.73	7.017	55.30	52.33	-5.371	0.0
309.85	0.10	0.039	36.60	35.78	-2.240	0.0
312.95	5.07	2.093	41.10	39.95	-2.798	0.0
312.85	9.88	4.314	46.60	45.26	-2.876	0.0
316.75	0.10	0.038	37.20	36.77	-1.156	0.0
316.75	2.58	1.015	39.00	38.41	-1.513	0.0
316.75	7.60	3.182	44.30	42.92	-3.115	0.0
316.85	9.93	4.251	47.10	45.64	-3.100	0.0
316.65	12.31	5.366	50.10	48.79	-2.615	0.0
316.75	17.36	7.658	57.90	56.28	-2.798	0.0
317.75	0.10	0.038	37.20	36.92	-0.753	0.0
317.75	5.15	2.087	41.60	40.62	-2.356	0.0
317.75	10.00	4.264	47.20	45.81	-2.945	0.0
317.75	14.82	6.489	53.80	52.46	-2.491	0.0
317.75	19.71	8.601	61.20	59.77	-2.337	0.0
323.45	0.10	0.037	37.70	37.75	0.133	0.0
323.45	9.96	4.130	47.70	46.26	-3.019	0.0
323.45	14.80	6.285	54.10	52.58	-2.810	0.0

Number of Points (Ref. 82) 32

AAD-%	2.024	BIAS-%	-2.009	RMS-%	1.182
AAD	0.923	BIAS	-0.918	RMS	0.640 $\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Data from Zheng et al. [75]

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	mPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
299.45	0.10	0.040	34.74	34.31	-1.238	0.0
299.45	1.07	0.438	34.92	34.96	0.115	0.0
299.45	2.04	0.849	35.99	35.67	-0.889	0.0
299.45	3.00	1.269	36.56	36.43	-0.356	0.0
299.45	3.97	1.707	37.68	37.27	-1.088	0.0

Data from Zheng et al. [75] (continued)

T	P	ρ	λ, exp	λ, cal	Dev	Wt
K	mPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$		%	
299.45	4.94	2.159	38.43	38.20	-0.598	0.0
299.45	5.91	2.624	39.86	39.21	-1.631	0.0
299.45	6.88	3.101	40.78	40.32	-1.128	0.0
299.45	7.79	3.559	42.32	41.44	-2.079	0.0
299.45	7.84	3.584	42.56	41.51	-2.467	0.0
299.45	8.81	4.082	43.35	42.81	-1.246	0.0
299.45	9.78	4.587	44.89	44.21	-1.515	0.0
299.45	10.75	5.098	46.30	45.69	-1.317	0.0
299.45	11.71	5.606	47.93	47.24	-1.440	0.0
299.45	12.68	6.119	49.95	48.87	-2.162	0.0
299.45	13.65	6.628	51.14	50.54	-1.173	0.0
299.45	14.62	7.132	52.90	52.25	-1.229	0.0
299.45	15.54	7.601	54.51	53.89	-1.137	0.0
299.45	15.59	7.626	54.65	53.98	-1.226	0.0

Number of Points (Ref. 75) 19

AAD-%	-1.265	BIAS-%	-1.253	RMS-%	0.586
AAD	0.565	BIAS	-0.561	RMS	0.275 $\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Number of Points Total with positive weight 920

AAD-%	0.518	BIAS-%	0.003	RMS-%	0.749
AAD	0.364	BIAS	-0.002	RMS	0.500 $\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Number of Points Total excluding Ref.[80] (Sokolova and Golubev) 1447

AAD-%	0.805	BIAS-%	-0.022	RMS-%	1.346
AAD	0.709	BIAS	-0.030	RMS	2.020 $\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

Number of Points Total 1892

AAD-%	2.886	BIAS-%	-1.985	RMS-%	7.656
AAD	2.957	BIAS	-2.208	RMS	9.528 $\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$

APPENDIX B

TABLES FOR THE THERMOPHYSICAL PROPERTIES OF METHANE

B1.	PROPERTIES OF IDEAL GAS AT 0.1 MPA AND DILUTE GAS TRANSPORT PROPERTIES.....	288
B2.	PROPERTIES ALONG SATURATION BOUNDARY.....	298
B3.	PROPERTIES IN THE SINGLE-PHASE REGION ALONG ISOBARS.....	301
B4.	PROPERTIES IN THE SINGLE-PHASE REGION ALONG ISOTHERMS.....	412

The tables in this Appendix give the values of several thermophysical properties at specified values of the independent state variables as evaluated from the correlating equations given in the main text of this report. The uncertainties in the dependent thermophysical properties are discussed in Section 4. Notes included at the head of each table should also be consulted.

TABLE B1

PROPERTIES OF IDEAL GAS AT 0.1 MPa AND
DILUTE GAS TRANSPORT PROPERTIES

Notes for Table B1. The ideal gas values of the Helmholtz energy, enthalpy, entropy and isobaric specific heat capacity are evaluated from eq (5). The conversion from atmospheric pressure to 0.1 MPa affects the values of A^{id} and S^{id} . The dilute gas viscosity is from eq (9) and the dilute gas thermal conductivity is from eq (11).

T	A^{id}	H^{id}	S^{id}	C_p^{id}	η_0	λ_0
K	$\text{kJ}\cdot\text{mol}^{-1}$	$\text{kJ}\cdot\text{mol}^{-1}$	$\text{J}\cdot\text{mol}^{-1}\cdot\text{K}^{-1}$		$\mu\text{Pa}\cdot\text{s}$	$\text{mW}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$
90.6854	-11.023	3.001	146.33	33.276	3.61	8.75
91.	-11.072	3.012	146.45	33.276	3.62	8.78
92.	-11.226	3.045	146.81	33.276	3.66	8.90
93.	-11.382	3.078	147.17	33.276	3.69	9.01
94.	-11.537	3.111	147.52	33.276	3.73	9.13
95.	-11.693	3.145	147.88	33.276	3.77	9.25
96.	-11.850	3.178	148.23	33.277	3.80	9.36
97.	-12.007	3.211	148.57	33.277	3.84	9.48
98.	-12.164	3.245	148.91	33.277	3.88	9.59
99.	-12.321	3.278	149.25	33.277	3.92	9.71
100.	-12.479	3.311	149.58	33.277	3.95	9.83
101.	-12.637	3.344	149.91	33.277	3.99	9.94
102.	-12.795	3.378	150.24	33.277	4.03	10.06
103.	-12.954	3.411	150.57	33.277	4.07	10.18
104.	-13.113	3.444	150.89	33.277	4.10	10.29
105.	-13.272	3.477	151.21	33.277	4.14	10.41
106.	-13.432	3.511	151.52	33.277	4.18	10.53
107.	-13.592	3.544	151.83	33.277	4.22	10.65
108.	-13.752	3.577	152.14	33.277	4.25	10.76
109.	-13.913	3.611	152.45	33.277	4.29	10.88
110.	-14.074	3.644	152.76	33.277	4.33	11.00
111.	-14.235	3.677	153.06	33.278	4.37	11.12
112.	-14.397	3.710	153.35	33.278	4.41	11.23
113.	-14.558	3.744	153.65	33.278	4.44	11.35
114.	-14.720	3.777	153.94	33.278	4.48	11.47
115.	-14.883	3.810	154.23	33.278	4.52	11.59
116.	-15.046	3.843	154.52	33.278	4.56	11.70
117.	-15.209	3.877	154.81	33.279	4.60	11.82
118.	-15.372	3.910	155.09	33.279	4.63	11.94
119.	-15.535	3.943	155.37	33.279	4.67	12.06

Table B1 (continued)

T	A ^{i d}	H ^{i d}	S ^{i d}	C _p ^{i d}	η_0	λ_0
K	$\text{kJ} \cdot \text{mol}^{-1}$	$\text{kJ} \cdot \text{mol}^{-1}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$		$\mu\text{Pa} \cdot \text{s}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$
120.	-15.699	3.977	155.65	33.279	4.71	12.18
121.	-15.863	4.010	155.93	33.280	4.75	12.30
122.	-16.028	4.043	156.20	33.280	4.79	12.41
123.	-16.192	4.076	156.47	33.280	4.82	12.53
124.	-16.357	4.110	156.74	33.281	4.86	12.65
125.	-16.522	4.143	157.01	33.281	4.90	12.77
126.	-16.688	4.176	157.27	33.281	4.94	12.89
127.	-16.854	4.210	157.54	33.282	4.98	13.01
128.	-17.020	4.243	157.80	33.282	5.02	13.12
129.	-17.186	4.276	158.06	33.283	5.05	13.24
130.	-17.352	4.309	158.31	33.283	5.09	13.36
131.	-17.519	4.343	158.57	33.284	5.13	13.48
132.	-17.686	4.376	158.82	33.284	5.17	13.60
133.	-17.853	4.409	159.07	33.285	5.21	13.72
134.	-18.021	4.443	159.32	33.285	5.25	13.84
135.	-18.189	4.476	159.57	33.286	5.28	13.95
136.	-18.357	4.509	159.82	33.287	5.32	14.07
137.	-18.525	4.542	160.06	33.287	5.36	14.19
138.	-18.693	4.576	160.30	33.288	5.40	14.31
139.	-18.862	4.609	160.54	33.289	5.44	14.43
140.	-19.031	4.642	160.78	33.290	5.48	14.55
141.	-19.200	4.676	161.02	33.291	5.51	14.67
142.	-19.370	4.709	161.25	33.292	5.55	14.78
143.	-19.539	4.742	161.49	33.293	5.59	14.90
144.	-19.709	4.775	161.72	33.294	5.63	15.02
145.	-19.880	4.809	161.95	33.295	5.67	15.14
146.	-20.050	4.842	162.18	33.296	5.71	15.26
147.	-20.221	4.875	162.41	33.297	5.74	15.38
148.	-20.391	4.909	162.63	33.299	5.78	15.50
149.	-20.562	4.942	162.86	33.300	5.82	15.61
150.	-20.734	4.975	163.08	33.302	5.86	15.73
151.	-20.905	5.009	163.30	33.303	5.90	15.85
152.	-21.077	5.042	163.52	33.305	5.93	15.97
153.	-21.249	5.075	163.74	33.306	5.97	16.09
154.	-21.421	5.108	163.95	33.308	6.01	16.21
155.	-21.593	5.142	164.17	33.310	6.05	16.32
156.	-21.766	5.175	164.38	33.312	6.09	16.44
157.	-21.939	5.208	164.60	33.314	6.13	16.56
158.	-22.112	5.242	164.81	33.316	6.16	16.68
159.	-22.285	5.275	165.02	33.318	6.20	16.80

Table B1 (continued)

T	A ^{i d}	H ^{i d}	S ^{i d}	C _p ^{i d}	η_0	λ_0
K	$\text{kJ} \cdot \text{mol}^{-1}$	$\text{kJ} \cdot \text{mol}^{-1}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$		$\mu\text{Pa} \cdot \text{s}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$
160.	-22.459	5.308	165.23	33.320	6.24	16.92
161.	-22.632	5.342	165.44	33.322	6.28	17.03
162.	-22.806	5.375	165.64	33.325	6.32	17.15
163.	-22.980	5.408	165.85	33.327	6.35	17.27
164.	-23.154	5.442	166.05	33.330	6.39	17.39
165.	-23.329	5.475	166.25	33.332	6.43	17.51
166.	-23.503	5.508	166.46	33.335	6.47	17.63
167.	-23.678	5.542	166.66	33.338	6.50	17.74
168.	-23.853	5.575	166.85	33.341	6.54	17.86
169.	-24.029	5.608	167.05	33.344	6.58	17.98
170.	-24.204	5.642	167.25	33.348	6.62	18.10
171.	-24.380	5.675	167.44	33.351	6.66	18.22
172.	-24.556	5.708	167.64	33.355	6.69	18.33
173.	-24.732	5.742	167.83	33.358	6.73	18.45
174.	-24.908	5.775	168.02	33.362	6.77	18.57
175.	-25.084	5.808	168.22	33.366	6.81	18.69
176.	-25.261	5.842	168.41	33.370	6.84	18.81
177.	-25.438	5.875	168.60	33.374	6.88	18.92
178.	-25.615	5.909	168.78	33.379	6.92	19.04
179.	-25.792	5.942	168.97	33.383	6.96	19.16
180.	-25.969	5.975	169.16	33.388	6.99	19.28
181.	-26.147	6.009	169.34	33.393	7.03	19.40
182.	-26.325	6.042	169.53	33.397	7.07	19.52
183.	-26.503	6.076	169.71	33.403	7.10	19.63
184.	-26.681	6.109	169.89	33.408	7.14	19.75
185.	-26.859	6.142	170.07	33.413	7.18	19.87
186.	-27.038	6.176	170.25	33.419	7.22	19.99
187.	-27.216	6.209	170.43	33.425	7.25	20.11
188.	-27.395	6.243	170.61	33.431	7.29	20.22
189.	-27.574	6.276	170.79	33.437	7.33	20.34
190.	-27.753	6.309	170.96	33.443	7.36	20.46
190.551	-27.852	6.328	171.06	33.447	7.38	20.52
191.	-27.933	6.343	171.14	33.450	7.40	20.58
192.	-28.112	6.376	171.31	33.457	7.44	20.70
193.	-28.292	6.410	171.49	33.463	7.48	20.81
194.	-28.472	6.443	171.66	33.471	7.51	20.93
195.	-28.652	6.477	171.83	33.478	7.55	21.05
196.	-28.832	6.510	172.00	33.485	7.59	21.17
197.	-29.012	6.544	172.17	33.493	7.62	21.29
198.	-29.193	6.577	172.34	33.501	7.66	21.41

Table B1 (continued)

T	A ^{i d}	H ^{i d}	S ^{i d}	C _p ^{i d}	η_0	λ_0
K	$\text{kJ} \cdot \text{mol}^{-1}$	$\text{kJ} \cdot \text{mol}^{-1}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$		$\mu\text{Pa} \cdot \text{s}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$
199.	-29.374	6.611	172.51	33.509	7.70	21.52
200.	-29.555	6.644	172.68	33.518	7.73	21.64
201.	-29.736	6.678	172.85	33.526	7.77	21.76
202.	-29.917	6.711	173.01	33.535	7.81	21.88
203.	-30.098	6.745	173.18	33.544	7.84	22.00
204.	-30.280	6.778	173.34	33.553	7.88	22.12
205.	-30.462	6.812	173.51	33.563	7.92	22.24
206.	-30.644	6.846	173.67	33.573	7.95	22.36
207.	-30.826	6.879	173.83	33.583	7.99	22.47
208.	-31.008	6.913	174.00	33.593	8.02	22.59
209.	-31.190	6.946	174.16	33.603	8.06	22.71
210.	-31.373	6.980	174.32	33.614	8.10	22.83
211.	-31.556	7.014	174.48	33.625	8.13	22.95
212.	-31.738	7.047	174.64	33.636	8.17	23.07
213.	-31.921	7.081	174.79	33.648	8.21	23.19
214.	-32.105	7.114	174.95	33.659	8.24	23.31
215.	-32.288	7.148	175.11	33.671	8.28	23.43
216.	-32.471	7.182	175.27	33.683	8.31	23.55
217.	-32.655	7.215	175.42	33.696	8.35	23.67
218.	-32.839	7.249	175.58	33.709	8.38	23.79
219.	-33.023	7.283	175.73	33.722	8.42	23.91
220.	-33.207	7.317	175.88	33.735	8.46	24.03
221.	-33.391	7.350	176.04	33.749	8.49	24.15
222.	-33.576	7.384	176.19	33.762	8.53	24.27
223.	-33.760	7.418	176.34	33.777	8.56	24.39
224.	-33.945	7.452	176.49	33.791	8.60	24.51
225.	-34.130	7.485	176.64	33.806	8.63	24.63
226.	-34.315	7.519	176.79	33.821	8.67	24.75
227.	-34.500	7.553	176.94	33.836	8.71	24.87
228.	-34.685	7.587	177.09	33.851	8.74	25.00
229.	-34.871	7.621	177.24	33.867	8.78	25.12
230.	-35.057	7.655	177.39	33.883	8.81	25.24
231.	-35.242	7.689	177.53	33.900	8.85	25.36
232.	-35.428	7.722	177.68	33.916	8.88	25.48
233.	-35.614	7.756	177.83	33.933	8.92	25.60
234.	-35.801	7.790	177.97	33.951	8.95	25.73
235.	-35.987	7.824	178.12	33.968	8.99	25.85
236.	-36.173	7.858	178.26	33.986	9.02	25.97
237.	-36.360	7.892	178.40	34.004	9.06	26.09
238.	-36.547	7.926	178.55	34.023	9.09	26.22

Table B1 (continued)

T	A ^{i d}	H ^{i d}	S ^{i d}	C _p ^{i d}	η_0	λ_0
K	$\text{kJ} \cdot \text{mol}^{-1}$	$\text{kJ} \cdot \text{mol}^{-1}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$		$\mu\text{Pa} \cdot \text{s}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$
239.	-36.734	7.960	178.69	34.041	9.13	26.34
240.	-36.921	7.994	178.83	34.061	9.16	26.46
241.	-37.108	8.028	178.97	34.080	9.20	26.59
242.	-37.295	8.063	179.12	34.100	9.23	26.71
243.	-37.483	8.097	179.26	34.120	9.27	26.84
244.	-37.671	8.131	179.40	34.140	9.30	26.96
245.	-37.858	8.165	179.54	34.161	9.34	27.08
246.	-38.046	8.199	179.67	34.181	9.37	27.21
247.	-38.234	8.233	179.81	34.203	9.41	27.33
248.	-38.423	8.268	179.95	34.224	9.44	27.46
249.	-38.611	8.302	180.09	34.246	9.48	27.58
250.	-38.799	8.336	180.23	34.268	9.51	27.71
251.	-38.988	8.370	180.36	34.291	9.54	27.83
252.	-39.177	8.405	180.50	34.313	9.58	27.96
253.	-39.366	8.439	180.64	34.337	9.61	28.09
254.	-39.555	8.473	180.77	34.360	9.65	28.21
255.	-39.744	8.508	180.91	34.384	9.68	28.34
256.	-39.933	8.542	181.04	34.408	9.72	28.47
257.	-40.122	8.576	181.18	34.432	9.75	28.59
258.	-40.312	8.611	181.31	34.457	9.79	28.72
259.	-40.502	8.645	181.44	34.482	9.82	28.85
260.	-40.692	8.680	181.58	34.507	9.85	28.97
261.	-40.882	8.714	181.71	34.533	9.89	29.10
262.	-41.072	8.749	181.84	34.559	9.92	29.23
263.	-41.262	8.783	181.97	34.585	9.96	29.36
264.	-41.452	8.818	182.10	34.612	9.99	29.49
265.	-41.643	8.853	182.23	34.638	10.02	29.62
266.	-41.833	8.887	182.36	34.666	10.06	29.75
267.	-42.024	8.922	182.49	34.693	10.09	29.88
268.	-42.215	8.957	182.62	34.721	10.12	30.01
269.	-42.406	8.991	182.75	34.749	10.16	30.14
270.	-42.597	9.026	182.88	34.778	10.19	30.27
271.	-42.788	9.061	183.01	34.806	10.23	30.40
272.	-42.980	9.096	183.14	34.835	10.26	30.53
273.	-43.171	9.131	183.27	34.865	10.29	30.66
273.15	-43.200	9.136	183.29	34.869	10.30	30.68
274.	-43.363	9.166	183.40	34.894	10.33	30.79
275.	-43.555	9.201	183.52	34.924	10.36	30.92
276.	-43.747	9.235	183.65	34.955	10.39	31.05
277.	-43.939	9.270	183.78	34.985	10.43	31.19

Table B1 (continued)

T	A ^{i d}	H ^{i d}	S ^{i d}	C _p ^{i d}	η_0	λ_0
K	$\text{kJ} \cdot \text{mol}^{-1}$	$\text{kJ} \cdot \text{mol}^{-1}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$		$\mu\text{Pa} \cdot \text{s}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$
278.	-44.131	9.305	183.90	35.016	10.46	31.32
279.	-44.323	9.340	184.03	35.048	10.49	31.45
280.	-44.515	9.376	184.15	35.079	10.53	31.59
281.	-44.708	9.411	184.28	35.111	10.56	31.72
282.	-44.901	9.446	184.40	35.143	10.59	31.85
283.	-45.093	9.481	184.53	35.176	10.63	31.99
284.	-45.286	9.516	184.65	35.208	10.66	32.12
285.	-45.479	9.551	184.78	35.241	10.69	32.26
286.	-45.672	9.587	184.90	35.275	10.72	32.39
287.	-45.866	9.622	185.02	35.308	10.76	32.53
288.	-46.059	9.657	185.14	35.342	10.79	32.66
289.	-46.253	9.693	185.27	35.377	10.82	32.80
290.	-46.446	9.728	185.39	35.411	10.86	32.94
291.	-46.640	9.763	185.51	35.446	10.89	33.07
292.	-46.834	9.799	185.63	35.481	10.92	33.21
293.	-47.028	9.834	185.75	35.517	10.95	33.35
294.	-47.222	9.870	185.88	35.552	10.99	33.48
295.	-47.416	9.905	186.00	35.588	11.02	33.62
296.	-47.611	9.941	186.12	35.625	11.05	33.76
297.	-47.805	9.977	186.24	35.661	11.08	33.90
298.	-48.000	10.012	186.36	35.698	11.12	34.04
298.15	-48.029	10.018	186.38	35.704	11.12	34.06
299.	-48.195	10.048	186.48	35.735	11.15	34.18
300.	-48.389	10.084	186.60	35.773	11.18	34.32
301.	-48.584	10.120	186.72	35.811	11.21	34.46
302.	-48.779	10.155	186.83	35.848	11.25	34.60
303.	-48.975	10.191	186.95	35.887	11.28	34.74
304.	-49.170	10.227	187.07	35.925	11.31	34.88
305.	-49.365	10.263	187.19	35.964	11.34	35.02
306.	-49.561	10.299	187.31	36.003	11.37	35.16
307.	-49.757	10.335	187.42	36.043	11.41	35.30
308.	-49.952	10.371	187.54	36.082	11.44	35.44
309.	-50.148	10.407	187.66	36.122	11.47	35.59
310.	-50.344	10.443	187.78	36.162	11.50	35.73
311.	-50.541	10.480	187.89	36.203	11.53	35.87
312.	-50.737	10.516	188.01	36.243	11.57	36.02
313.	-50.933	10.552	188.12	36.284	11.60	36.16
314.	-51.130	10.588	188.24	36.326	11.63	36.31
315.	-51.326	10.625	188.36	36.367	11.66	36.45
316.	-51.523	10.661	188.47	36.409	11.69	36.59

Table B1 (continued)

T	A ^{i d}	H ^{i d}	S ^{i d}	C _p ^{i d}	η_0	λ_0
K	$\text{kJ} \cdot \text{mol}^{-1}$	$\text{kJ} \cdot \text{mol}^{-1}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$		$\mu\text{Pa} \cdot \text{s}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$
317.	-51.720	10.698	188.59	36.451	11.73	36.74
318.	-51.917	10.734	188.70	36.493	11.76	36.89
319.	-52.114	10.771	188.82	36.535	11.79	37.03
320.	-52.311	10.807	188.93	36.578	11.82	37.18
321.	-52.508	10.844	189.04	36.621	11.85	37.32
322.	-52.706	10.880	189.16	36.664	11.88	37.47
323.	-52.903	10.917	189.27	36.708	11.92	37.62
324.	-53.101	10.954	189.39	36.751	11.95	37.77
325.	-53.299	10.991	189.50	36.795	11.98	37.91
326.	-53.497	11.027	189.61	36.840	12.01	38.06
327.	-53.695	11.064	189.72	36.884	12.04	38.21
328.	-53.893	11.101	189.84	36.929	12.07	38.36
329.	-54.091	11.138	189.95	36.973	12.10	38.51
330.	-54.289	11.175	190.06	37.018	12.13	38.66
331.	-54.488	11.212	190.17	37.064	12.17	38.81
332.	-54.686	11.249	190.29	37.109	12.20	38.96
333.	-54.885	11.286	190.40	37.155	12.23	39.11
334.	-55.084	11.324	190.51	37.201	12.26	39.26
335.	-55.282	11.361	190.62	37.247	12.29	39.41
336.	-55.481	11.398	190.73	37.294	12.32	39.57
337.	-55.681	11.435	190.84	37.340	12.35	39.72
338.	-55.880	11.473	190.95	37.387	12.38	39.87
339.	-56.079	11.510	191.06	37.434	12.41	40.02
340.	-56.279	11.548	191.17	37.481	12.44	40.18
341.	-56.478	11.585	191.28	37.529	12.48	40.33
342.	-56.678	11.623	191.39	37.576	12.51	40.48
343.	-56.878	11.660	191.50	37.624	12.54	40.64
344.	-57.077	11.698	191.61	37.672	12.57	40.79
345.	-57.277	11.736	191.72	37.720	12.60	40.95
346.	-57.477	11.773	191.83	37.769	12.63	41.10
347.	-57.678	11.811	191.94	37.817	12.66	41.26
348.	-57.878	11.849	192.05	37.866	12.69	41.41
349.	-58.078	11.887	192.16	37.915	12.72	41.57
350.	-58.279	11.925	192.27	37.964	12.75	41.73
351.	-58.480	11.963	192.38	38.014	12.78	41.88
352.	-58.680	12.001	192.48	38.063	12.81	42.04
353.	-58.881	12.039	192.59	38.113	12.84	42.20
354.	-59.082	12.077	192.70	38.163	12.87	42.36
355.	-59.283	12.115	192.81	38.213	12.90	42.51
356.	-59.484	12.154	192.92	38.263	12.93	42.67

Table B1 (continued)

T	A ^{i d}	H ^{i d}	S ^{i d}	C _p ^{i d}	η_0	λ_0
K	$\text{kJ} \cdot \text{mol}^{-1}$	$\text{kJ} \cdot \text{mol}^{-1}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$		$\mu\text{Pa} \cdot \text{s}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$
357.	-59.686	12.192	193.02	38.314	12.96	42.83
358.	-59.887	12.230	193.13	38.364	12.99	42.99
359.	-60.089	12.269	193.24	38.415	13.02	43.15
360.	-60.290	12.307	193.34	38.466	13.05	43.31
361.	-60.492	12.345	193.45	38.517	13.08	43.47
362.	-60.694	12.384	193.56	38.568	13.11	43.63
363.	-60.896	12.423	193.66	38.620	13.14	43.79
364.	-61.098	12.461	193.77	38.671	13.17	43.95
365.	-61.300	12.500	193.88	38.723	13.20	44.11
366.	-61.502	12.539	193.98	38.775	13.23	44.28
367.	-61.704	12.577	194.09	38.827	13.26	44.44
368.	-61.907	12.616	194.19	38.879	13.29	44.60
369.	-62.109	12.655	194.30	38.931	13.32	44.76
370.	-62.312	12.694	194.41	38.984	13.35	44.93
371.	-62.515	12.733	194.51	39.036	13.38	45.09
372.	-62.718	12.772	194.62	39.089	13.41	45.25
373.	-62.921	12.811	194.72	39.142	13.44	45.42
374.	-63.124	12.851	194.83	39.195	13.47	45.58
375.	-63.327	12.890	194.93	39.248	13.50	45.75
376.	-63.530	12.929	195.03	39.301	13.53	45.91
377.	-63.734	12.968	195.14	39.354	13.56	46.08
378.	-63.937	13.008	195.24	39.408	13.59	46.24
379.	-64.141	13.047	195.35	39.462	13.62	46.41
380.	-64.344	13.087	195.45	39.515	13.65	46.57
381.	-64.548	13.126	195.56	39.569	13.68	46.74
382.	-64.752	13.166	195.66	39.623	13.71	46.91
383.	-64.956	13.205	195.76	39.677	13.74	47.07
384.	-65.160	13.245	195.87	39.732	13.76	47.24
385.	-65.365	13.285	195.97	39.786	13.79	47.41
386.	-65.569	13.325	196.07	39.840	13.82	47.58
387.	-65.773	13.365	196.18	39.895	13.85	47.74
388.	-65.978	13.405	196.28	39.950	13.88	47.91
389.	-66.183	13.445	196.38	40.004	13.91	48.08
390.	-66.387	13.485	196.49	40.059	13.94	48.25
391.	-66.592	13.525	196.59	40.114	13.97	48.42
392.	-66.797	13.565	196.69	40.169	14.00	48.59
393.	-67.002	13.605	196.79	40.224	14.03	48.76
394.	-67.207	13.645	196.90	40.280	14.06	48.93
395.	-67.413	13.686	197.00	40.335	14.08	49.10
396.	-67.618	13.726	197.10	40.391	14.11	49.27

Table B1 (continued)

T	A ^{i d}	H ^{i d}	S ^{i d}	C _p ^{i d}	η_0	λ_0
K	$\text{kJ}\cdot\text{mol}^{-1}$	$\text{kJ}\cdot\text{mol}^{-1}$	$\text{J}\cdot\text{mol}^{-1}\cdot\text{K}^{-1}$		$\mu\text{Pa}\cdot\text{s}$	$\text{mW}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$
397.	-67.823	13.766	197.20	40.446	14.14	49.44
398.	-68.029	13.807	197.30	40.502	14.17	49.61
399.	-68.235	13.847	197.40	40.558	14.20	49.79
400.	-68.440	13.888	197.51	40.613	14.23	49.96
405.	-69.471	14.092	198.01	40.894		50.82
410.	-70.504	14.297	198.52	41.176		51.69
415.	-71.539	14.503	199.02	41.460		52.57
420.	-72.577	14.711	199.52	41.745		53.45
425.	-73.617	14.921	200.01	42.031		54.34
430.	-74.660	15.132	200.50	42.319		55.23
435.	-75.706	15.344	201.00	42.608		56.14
440.	-76.753	15.558	201.48	42.897		57.04
445.	-77.804	15.773	201.97	43.187		57.95
450.	-78.856	15.990	202.45	43.477		58.87
455.	-79.911	16.208	202.94	43.767		59.79
460.	-80.969	16.427	203.42	44.057		60.72
465.	-82.029	16.648	203.89	44.348		61.65
470.	-83.091	16.871	204.37	44.638		62.58
475.	-84.155	17.095	204.84	44.928		63.52
480.	-85.222	17.320	205.32	45.217		64.46
485.	-86.292	17.547	205.79	45.506		65.41
490.	-87.363	17.775	206.25	45.794		66.36
495.	-88.437	18.005	206.72	46.082		67.31
500.	-89.514	18.236	207.18	46.368		68.27
505.	-90.592	18.469	207.65	46.654		69.23
510.	-91.673	18.703	208.11	46.938		70.19
515.	-92.757	18.938	208.57	47.222		71.15
520.	-93.842	19.175	209.03	47.504		72.12
525.	-94.930	19.413	209.48	47.785		73.09
530.	-96.020	19.653	209.94	48.065		74.06
535.	-97.112	19.894	210.39	48.343		75.03
540.	-98.207	20.136	210.84	48.620		76.01
545.	-99.304	20.380	211.29	48.895		76.98
550.	-100.403	20.625	211.74	49.169		77.96
555.	-101.505	20.872	212.18	49.441		78.94
560.	-102.608	21.119	212.63	49.712		79.92
565.	-103.714	21.369	213.07	49.981		80.91
570.	-104.822	21.619	213.51	50.248		81.89
575.	-105.932	21.871	213.95	50.514		82.87
580.	-107.045	22.124	214.39	50.778		83.86

Table B1 (continued)

T	A ^{i d}	H ^{i d}	S ^{i d}	C _p ^{i d}	η_0	λ_0
K	$\text{kJ} \cdot \text{mol}^{-1}$	$\text{kJ} \cdot \text{mol}^{-1}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$		$\mu\text{Pa} \cdot \text{s}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$
585.	-108.159	22.379	214.83	51.040		84.85
590.	-109.276	22.635	215.26	51.300		85.83
595.	-110.395	22.892	215.70	51.558		86.82
600.	-111.516	23.150	216.13	51.815		87.81

TABLE B2

PROPERTIES ALONG SATURATION BOUNDARY

Notes for Table B2. Values of the pressure, density of the saturated liquid, density of the saturated vapor, specific heat capacity, sound speed, viscosity, and thermal conductivity along the two phase liquid-vapor coexistence curve. The quantities $P_{\sigma L}$, $\rho_{\sigma L}$, and $\rho_{\sigma V}$ are from the ancillary equations, eqs (3-5). The specific heat capacity along the saturated boundary is from the equation in Table 7; the sound speed is also taken from Table 7 but the density argument is for the saturated liquid and is taken from column 3 of this table. The viscosity and thermal conductivity at saturation are from eqs (8) and (9) [with the terms evaluated from eqs (10-25)]; again the density input is from column 3 of this table.

T	P_{σ}	$\rho_{\sigma L}$	$\rho_{\sigma V}$	$C_{\sigma L}$	$W_{\sigma L}$	$\eta_{\sigma L}$	$\lambda_{\sigma L}$
K	MPa	$\text{mol} \cdot \text{dm}^{-3}$	$\text{mol} \cdot \text{dm}^{-3}$	$\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$
90.6854	0.011694	28.147	0.01564	52.98	1549.3	202.20	211.3
91.	0.012	28.12	0.016	53.08	1545.2	200.42	210.9
92.	0.014	28.04	0.018	53.37	1532.7	194.89	209.7
93.	0.016	27.95	0.020	53.63	1520.7	189.55	208.5
94.	0.018	27.87	0.023	53.85	1509.0	184.39	207.2
95.	0.020	27.78	0.025	54.05	1497.7	179.41	206.0
96.	0.022	27.70	0.028	54.24	1486.6	174.60	204.7
97.	0.025	27.61	0.031	54.40	1475.8	169.95	203.4
98.	0.028	27.52	0.035	54.54	1465.1	165.47	202.1
99.	0.031	27.44	0.038	54.68	1454.6	161.14	200.8
100.	0.034	27.35	0.042	54.80	1444.3	156.97	199.5
101.	0.038	27.27	0.046	54.91	1434.1	152.94	198.2
102.	0.042	27.18	0.051	55.02	1424.0	149.04	196.8
103.	0.047	27.09	0.056	55.12	1413.9	145.29	195.5
104.	0.051	27.00	0.061	55.21	1403.9	141.66	194.2
105.	0.056	26.92	0.066	55.30	1394.0	138.16	192.8
106.	0.062	26.83	0.072	55.39	1384.1	134.79	191.4
107.	0.068	26.74	0.078	55.47	1374.2	131.52	190.1
108.	0.074	26.65	0.085	55.56	1364.4	128.37	188.7
109.	0.081	26.56	0.092	55.64	1354.5	125.33	187.3
110.	0.088	26.47	0.100	55.72	1344.7	122.39	186.0
111.	0.096	26.38	0.108	55.81	1334.8	119.55	184.6
112.	0.104	26.29	0.116	55.89	1325.0	116.80	183.2
113.	0.113	26.20	0.125	55.98	1315.1	114.15	181.8
114.	0.122	26.11	0.135	56.07	1305.2	111.59	180.4

Table B2 (continued)

T	P _σ	ρ _{σL}	ρ _{σV}	C _{σL}	W _{σL}	η _{σL}	λ _{σL}
K	MPa	mol·dm ⁻³	mol·dm ⁻³	J·mol ⁻¹ ·K ⁻¹	m·s ⁻¹	μPa·s	mW·m ⁻¹ ·K ⁻¹
115.	0.132	26.02	0.145	56.16	1295.3	109.11	179.0
116.	0.143	25.92	0.155	56.26	1285.4	106.71	177.6
117.	0.154	25.83	0.167	56.36	1275.4	104.38	176.2
118.	0.166	25.74	0.178	56.46	1265.4	102.14	174.8
119.	0.178	25.64	0.191	56.57	1255.4	99.96	173.4
120.	0.192	25.55	0.204	56.68	1245.3	97.85	172.0
121.	0.206	25.45	0.217	56.79	1235.2	95.81	170.6
122.	0.220	25.36	0.231	56.91	1225.1	93.83	169.2
123.	0.236	25.26	0.246	57.03	1214.9	91.91	167.8
124.	0.252	25.16	0.262	57.16	1204.7	90.05	166.3
125.	0.269	25.06	0.279	57.29	1194.4	88.25	164.9
126.	0.287	24.97	0.296	57.43	1184.0	86.49	163.5
127.	0.306	24.87	0.314	57.58	1173.7	84.79	162.1
128.	0.325	24.77	0.333	57.73	1163.2	83.14	160.7
129.	0.346	24.66	0.352	57.88	1152.7	81.53	159.2
130.	0.368	24.56	0.373	58.05	1142.2	79.97	157.8
131.	0.390	24.46	0.394	58.21	1131.6	78.45	156.4
132.	0.414	24.36	0.417	58.39	1120.9	76.97	155.0
133.	0.438	24.25	0.440	58.57	1110.2	75.53	153.6
134.	0.464	24.15	0.464	58.76	1099.4	74.13	152.1
135.	0.491	24.04	0.490	58.96	1088.6	72.76	150.7
136.	0.519	23.93	0.516	59.16	1077.7	71.43	149.3
137.	0.548	23.83	0.544	59.37	1066.7	70.13	147.9
138.	0.578	23.72	0.572	59.59	1055.6	68.86	146.4
139.	0.609	23.61	0.602	59.82	1044.5	67.62	145.0
140.	0.642	23.50	0.633	60.05	1033.3	66.42	143.6
141.	0.675	23.38	0.665	60.30	1022.1	65.23	142.2
142.	0.711	23.27	0.699	60.55	1010.7	64.08	140.7
143.	0.747	23.15	0.733	60.82	999.3	62.95	139.3
144.	0.785	23.04	0.770	61.09	987.8	61.85	137.9
145.	0.824	22.92	0.807	61.37	976.3	60.76	136.5
146.	0.864	22.80	0.846	61.67	964.6	59.70	135.0
147.	0.906	22.68	0.887	61.98	952.9	58.67	133.6
148.	0.950	22.56	0.929	62.30	941.1	57.65	132.2
149.	0.994	22.44	0.973	62.63	929.2	56.65	130.8
150.	1.041	22.31	1.018	62.98	917.2	55.67	129.3
151.	1.088	22.19	1.066	63.34	905.1	54.70	127.9
152.	1.138	22.06	1.115	63.72	892.9	53.76	126.5
153.	1.189	21.93	1.166	64.11	880.6	52.83	125.1
154.	1.242	21.80	1.219	64.52	868.2	51.91	123.6

Table B2 (continued)

T	P _σ	ρ _{σL}	ρ _{σv}	C _{σL}	W _{σL}	η _{σL}	λ _{σL}
K	MPa	mol·dm ⁻³	mol·dm ⁻³	J·mol ⁻¹ ·K ⁻¹	m·s ⁻¹	μPa·s	mW·m ⁻¹ ·K ⁻¹
155.	1.296	21.66	1.274	64.95	855.7	51.01	122.2
156.	1.352	21.53	1.331	65.40	843.1	50.13	120.8
157.	1.409	21.39	1.391	65.87	830.4	49.25	119.3
158.	1.469	21.25	1.452	66.36	817.6	48.39	117.9
159.	1.530	21.11	1.517	66.88	804.6	47.54	116.5
160.	1.593	20.96	1.584	67.42	791.5	46.70	115.0
161.	1.658	20.81	1.654	68.00	778.3	45.87	113.6
162.	1.724	20.66	1.726	68.60	765.0	45.05	112.1
163.	1.793	20.51	1.802	69.24	751.6	44.24	110.7
164.	1.864	20.36	1.880	69.92	738.0	43.44	109.3
165.	1.936	20.20	1.963	70.64	724.2	42.65	107.8
166.	2.011	20.03	2.048	71.40	710.3	41.86	106.4
167.	2.087	19.87	2.138	72.22	696.3	41.08	104.9
168.	2.166	19.70	2.232	73.10	682.1	40.30	103.4
169.	2.246	19.52	2.330	74.03	667.7	39.53	102.0
170.	2.329	19.35	2.432	75.04	653.2	38.76	100.5
171.	2.414	19.16	2.540	76.14	638.5	37.99	99.0
172.	2.502	18.97	2.653	77.33	623.6	37.23	97.5
173.	2.591	18.78	2.772	78.62	608.5	36.46	96.1
174.	2.683	18.58	2.897	80.05	593.2	35.70	94.6
175.	2.778	18.37	3.030	81.62	577.7	34.93	93.1
176.	2.874	18.16	3.170	83.36	562.0	34.16	91.6
177.	2.974	17.94	3.318	85.32	546.0	33.39	90.1
178.	3.075	17.70	3.477	87.53	529.8	32.61	88.5
179.	3.180	17.46	3.646	90.05	513.2	31.82	87.0
180.	3.287	17.21	3.827	92.96	496.4	31.01	85.5
181.	3.396	16.94	4.023	96.37	479.1	30.20	84.0
182.	3.509	16.65	4.236	100.42	461.3	29.36	82.5
183.	3.624	16.35	4.469	105.34	443.0	28.49	81.1
184.	3.742	16.02	4.726	111.46	423.8	27.60	79.7
185.	3.864	15.66	5.015	119.33	403.7	26.65	78.4
186.	3.988	15.26	5.344	129.94	382.2	25.65	77.3
187.	4.116	14.81	5.729	145.23	358.8	24.56	76.7
188.	4.247	14.27	6.200	169.79	332.7	23.33	76.9
189.	4.382	13.58	6.821	218.36	302.4	21.86	79.8
190.	4.521	12.50	7.827	389.90	264.3	19.75	100.3
190.551	4.5992	10.139	10.139				

TABLE B3

PROPERTIES IN THE SINGLE-PHASE REGION ALONG ISOBARS

Notes for Table B3. Values of the density, compressibility factor, enthalpy, entropy, isochoric and isobaric heat capacities, speed of sound, viscosity, and thermal conductivity in the single-phase region of the methane fluid. The independent variables were chosen to be temperature and pressure. The density was evaluated by inverting the pressure equation in Table 7; the quantities H , S , C_v , C_p , and W were then evaluated directly from the expressions in Table 7. The viscosity and thermal conductivity are from eqs (7) and (8) [with the terms evaluated from eqs (10-23)]; the density input is from column 3 of this table.

METHANE ISOBAR AT $P = 0.012$ MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
90.685	28.145	0.001	-5.745	67.80	33.40	52.57	1548.8	202.08	211.2
90.685	0.0157	0.991	2.969	163.88	28.31	37.53	247.1	3.61	8.8
95.	0.0149	0.993	3.124	165.56	26.11	34.85	254.5	3.77	9.3
100.	0.0141	0.994	3.295	167.32	25.36	33.92	261.7	3.95	9.9
105.	0.0135	0.995	3.464	168.96	25.14	33.64	268.5	4.14	10.4
110.	0.0128	0.996	3.632	170.52	25.07	33.54	274.9	4.33	11.0
115.	0.0123	0.996	3.799	172.01	25.04	33.48	281.2	4.52	11.6
120.	0.0118	0.997	3.967	173.44	25.03	33.45	287.4	4.71	12.2
125.	0.0113	0.997	4.134	174.80	25.02	33.43	293.3	4.90	12.8
130.	0.0108	0.997	4.301	176.11	25.02	33.41	299.2	5.10	13.4
135.	0.0104	0.998	4.468	177.38	25.01	33.40	305.0	5.29	14.0
140.	0.0101	0.998	4.635	178.59	25.01	33.39	310.6	5.48	14.6
145.	0.0097	0.998	4.802	179.76	25.01	33.39	316.1	5.67	15.2
150.	0.0094	0.998	4.969	180.89	25.01	33.38	321.5	5.86	15.8
155.	0.0091	0.998	5.136	181.99	25.02	33.38	326.9	6.05	16.3
160.	0.0088	0.999	5.303	183.05	25.03	33.38	332.1	6.24	16.9
165.	0.0085	0.999	5.470	184.08	25.04	33.39	337.3	6.43	17.5
170.	0.0083	0.999	5.637	185.07	25.05	33.40	342.3	6.62	18.1
175.	0.0080	0.999	5.804	186.04	25.06	33.41	347.3	6.81	18.7
180.	0.0078	0.999	5.971	186.98	25.09	33.43	352.2	7.00	19.3
185.	0.0076	0.999	6.138	187.90	25.11	33.45	357.1	7.18	19.9
190.	0.0074	0.999	6.305	188.79	25.14	33.48	361.8	7.37	20.5
195.	0.0072	0.999	6.473	189.66	25.17	33.51	366.5	7.55	21.1
200.	0.0070	0.999	6.641	190.51	25.21	33.55	371.1	7.73	21.7
205.	0.0069	0.999	6.808	191.34	25.26	33.59	375.7	7.92	22.3

METHANE ISOBAR AT P = 0.012 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
210.	0.0067	0.999	6.977	192.15	25.31	33.64	380.1	8.10	22.9
215.	0.0065	0.999	7.145	192.94	25.36	33.70	384.5	8.28	23.5
220.	0.0064	0.999	7.314	193.72	25.43	33.76	388.9	8.46	24.1
225.	0.0063	0.999	7.482	194.48	25.50	33.83	393.1	8.64	24.7
230.	0.0061	1.000	7.652	195.22	25.57	33.90	397.3	8.81	25.3
235.	0.0060	1.000	7.822	195.95	25.66	33.99	401.5	8.99	25.9
240.	0.0059	1.000	7.992	196.67	25.75	34.08	405.6	9.17	26.5
245.	0.0057	1.000	8.162	197.37	25.85	34.18	409.6	9.34	27.1
250.	0.0056	1.000	8.334	198.06	25.96	34.29	413.5	9.51	27.7
255.	0.0055	1.000	8.505	198.74	26.07	34.40	417.4	9.68	28.4
260.	0.0054	1.000	8.678	199.41	26.20	34.52	421.3	9.86	29.0
265.	0.0053	1.000	8.850	200.07	26.33	34.65	425.0	10.02	29.6
270.	0.0052	1.000	9.024	200.72	26.47	34.79	428.8	10.19	30.3
275.	0.0051	1.000	9.198	201.36	26.61	34.94	432.4	10.36	30.9
280.	0.0050	1.000	9.373	201.99	26.77	35.09	436.1	10.53	31.6
285.	0.0049	1.000	9.549	202.61	26.93	35.25	439.6	10.69	32.3
290.	0.0049	1.000	9.726	203.23	27.10	35.42	443.1	10.86	32.9
295.	0.0048	1.000	9.904	203.83	27.28	35.60	446.6	11.02	33.6
300.	0.0047	1.000	10.082	204.43	27.46	35.78	450.0	11.18	34.3
310.	0.0045	1.000	10.442	205.61	27.85	36.17	456.7	11.50	35.7
320.	0.0044	1.000	10.806	206.77	28.27	36.59	463.3	11.82	37.2
330.	0.0043	1.000	11.174	207.90	28.71	37.03	469.6	12.14	38.7
340.	0.0041	1.000	11.546	209.01	29.17	37.49	475.8	12.45	40.2
350.	0.0040	1.000	11.923	210.11	29.65	37.97	481.9	12.75	41.7
360.	0.0039	1.000	12.306	211.18	30.15	38.47	487.9	13.05	43.3
370.	0.0038	1.000	12.693	212.24	30.67	38.99	493.7	13.35	44.9
380.	0.0037	1.000	13.085	213.29	31.20	39.52	499.4	13.65	46.6
390.	0.0036	1.000	13.483	214.33	31.75	40.06	505.0	13.94	48.3
400.	0.0035	1.000	13.887	215.35	32.30	40.62	510.6	14.23	50.0
410.	0.0034	1.000	14.296	216.36	32.86	41.18	516.0		51.7
420.	0.0033	1.000	14.710	217.36	33.43	41.75	521.4		53.5
430.	0.0033	1.000	15.131	218.34	34.01	42.32	526.6		55.2
440.	0.0032	1.000	15.557	219.32	34.58	42.90	531.9		57.0
450.	0.0031	1.000	15.989	220.29	35.16	43.48	537.0		58.9
460.	0.0031	1.000	16.427	221.26	35.74	44.06	542.1		60.7
470.	0.0030	1.000	16.870	222.21	36.32	44.64	547.1		62.6
480.	0.0029	1.000	17.319	223.16	36.90	45.22	552.1		64.5
490.	0.0029	1.000	17.774	224.09	37.48	45.80	557.0		66.4
500.	0.0028	1.000	18.235	225.03	38.05	46.37	561.9		68.3
520.	0.0027	1.000	19.174	226.87	39.19	47.51	571.6		72.1

METHANE ISOBAR AT P = 0.012 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
540.	0.0026	1.000	20.135	228.68	40.31	48.62	581.0		76.0
560.	0.0025	1.000	21.119	230.47	41.40	49.71	590.4		79.9
580.	0.0024	1.000	22.124	232.23	42.46	50.78	599.6		83.9
600.	0.0023	1.000	23.150	233.97	43.50	51.82	608.6		87.8

METHANE ISOBAR AT P = 0.025 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.786	0.001	-5.515	70.28	33.99	53.76	1498.6	179.63	206.1
97.034	27.607	0.001	-5.403	71.44	34.07	54.18	1475.4	169.80	203.4
97.034	0.0314	0.986	3.166	159.75	28.02	37.36	254.9	3.85	9.6
100.	0.0305	0.987	3.273	160.84	26.53	35.53	259.9	3.96	9.9
105.	0.0289	0.989	3.448	162.54	25.56	34.32	267.3	4.15	10.5
110.	0.0276	0.991	3.618	164.12	25.26	33.91	274.1	4.33	11.1
115.	0.0264	0.992	3.787	165.63	25.16	33.75	280.5	4.53	11.6
120.	0.0252	0.993	3.956	167.06	25.11	33.67	286.7	4.72	12.2
125.	0.0242	0.994	4.124	168.43	25.09	33.61	292.7	4.91	12.8
130.	0.0233	0.994	4.292	169.75	25.07	33.57	298.7	5.10	13.4
135.	0.0224	0.995	4.459	171.02	25.06	33.53	304.5	5.29	14.0
140.	0.0216	0.996	4.627	172.24	25.05	33.51	310.1	5.48	14.6
145.	0.0208	0.996	4.795	173.41	25.04	33.49	315.7	5.67	15.2
150.	0.0201	0.996	4.962	174.55	25.04	33.47	321.2	5.86	15.8
155.	0.0195	0.997	5.129	175.64	25.04	33.46	326.5	6.05	16.4
160.	0.0188	0.997	5.297	176.71	25.05	33.46	331.8	6.24	17.0
165.	0.0183	0.997	5.464	177.74	25.05	33.46	337.0	6.43	17.6
170.	0.0177	0.997	5.631	178.73	25.07	33.46	342.1	6.62	18.1
175.	0.0172	0.998	5.799	179.70	25.08	33.47	347.1	6.81	18.7
180.	0.0167	0.998	5.966	180.65	25.10	33.48	352.0	7.00	19.3
185.	0.0163	0.998	6.133	181.57	25.12	33.50	356.9	7.18	19.9
190.	0.0159	0.998	6.301	182.46	25.15	33.52	361.6	7.37	20.5
195.	0.0154	0.998	6.469	183.33	25.18	33.55	366.3	7.55	21.1
200.	0.0151	0.998	6.636	184.18	25.22	33.59	370.9	7.74	21.7
205.	0.0147	0.999	6.804	185.01	25.26	33.63	375.5	7.92	22.3
210.	0.0143	0.999	6.973	185.82	25.31	33.67	380.0	8.10	22.9
215.	0.0140	0.999	7.141	186.61	25.37	33.73	384.4	8.28	23.5
220.	0.0137	0.999	7.310	187.39	25.43	33.79	388.7	8.46	24.1
225.	0.0134	0.999	7.479	188.15	25.50	33.85	393.0	8.64	24.7
230.	0.0131	0.999	7.649	188.89	25.58	33.93	397.2	8.82	25.3

METHANE ISOBAR AT P = 0.025 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
235.	0.0128	0.999	7.818	189.63	25.66	34.01	401.4	8.99	25.9
240.	0.0125	0.999	7.989	190.34	25.75	34.10	405.5	9.17	26.5
245.	0.0123	0.999	8.159	191.05	25.85	34.20	409.5	9.34	27.1
250.	0.0120	0.999	8.331	191.74	25.96	34.30	413.4	9.51	27.7
255.	0.0118	0.999	8.502	192.42	26.08	34.42	417.3	9.69	28.4
260.	0.0116	0.999	8.675	193.09	26.20	34.54	421.2	9.86	29.0
265.	0.0114	0.999	8.848	193.75	26.33	34.67	425.0	10.03	29.6
270.	0.0111	0.999	9.022	194.40	26.47	34.81	428.7	10.20	30.3
275.	0.0109	0.999	9.196	195.04	26.62	34.95	432.4	10.36	30.9
280.	0.0107	0.999	9.371	195.67	26.77	35.11	436.0	10.53	31.6
285.	0.0106	0.999	9.547	196.29	26.93	35.27	439.6	10.70	32.3
290.	0.0104	1.000	9.724	196.91	27.10	35.44	443.1	10.86	33.0
295.	0.0102	1.000	9.901	197.51	27.28	35.61	446.6	11.02	33.6
300.	0.0100	1.000	10.080	198.11	27.46	35.80	450.0	11.19	34.3
310.	0.0097	1.000	10.440	199.29	27.85	36.18	456.7	11.51	35.8
320.	0.0094	1.000	10.804	200.45	28.27	36.60	463.2	11.82	37.2
330.	0.0091	1.000	11.172	201.58	28.71	37.04	469.6	12.14	38.7
340.	0.0088	1.000	11.544	202.69	29.17	37.50	475.8	12.45	40.2
350.	0.0086	1.000	11.922	203.79	29.65	37.98	481.9	12.75	41.7
360.	0.0084	1.000	12.304	204.86	30.15	38.48	487.9	13.06	43.3
370.	0.0081	1.000	12.692	205.93	30.67	39.00	493.7	13.36	44.9
380.	0.0079	1.000	13.084	206.97	31.20	39.53	499.4	13.65	46.6
390.	0.0077	1.000	13.482	208.01	31.75	40.07	505.0	13.94	48.3
400.	0.0075	1.000	13.886	209.03	32.30	40.62	510.6	14.23	50.0
410.	0.0073	1.000	14.295	210.04	32.86	41.19	516.0		51.7
420.	0.0072	1.000	14.709	211.04	33.43	41.76	521.4		53.5
430.	0.0070	1.000	15.130	212.03	34.01	42.33	526.6		55.2
440.	0.0068	1.000	15.556	213.01	34.58	42.91	531.9		57.1
450.	0.0067	1.000	15.988	213.98	35.16	43.49	537.0		58.9
460.	0.0065	1.000	16.426	214.94	35.74	44.07	542.1		60.7
470.	0.0064	1.000	16.869	215.89	36.32	44.65	547.1		62.6
480.	0.0063	1.000	17.319	216.84	36.90	45.22	552.1		64.5
490.	0.0061	1.000	17.774	217.78	37.48	45.80	557.1		66.4
500.	0.0060	1.000	18.235	218.71	38.05	46.37	561.9		68.3
520.	0.0058	1.000	19.173	220.55	39.19	47.51	571.6		72.1
540.	0.0056	1.000	20.135	222.36	40.31	48.63	581.1		76.0
560.	0.0054	1.000	21.118	224.15	41.40	49.72	590.4		79.9
580.	0.0052	1.000	22.123	225.92	42.46	50.78	599.6		83.9
600.	0.0050	1.000	23.149	227.65	43.50	51.82	608.6		87.8

METHANE ISOBAR AT P = 0.050 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.787	0.002	-5.514	70.27	33.99	53.75	1498.8	179.68	206.1
100.	27.363	0.002	-5.243	73.05	34.08	54.64	1446.4	157.39	199.7
103.729	27.027	0.002	-5.035	75.10	33.92	55.17	1406.6	142.63	194.5
103.729	0.0593	0.977	3.367	156.09	27.52	37.02	262.5	4.10	10.4
105.	0.0586	0.978	3.413	156.54	26.94	36.29	264.7	4.15	10.6
110.	0.0557	0.981	3.590	158.19	25.80	34.84	272.2	4.34	11.1
115.	0.0532	0.984	3.763	159.72	25.43	34.33	279.0	4.53	11.7
120.	0.0508	0.986	3.934	161.18	25.29	34.09	285.4	4.72	12.3
125.	0.0487	0.987	4.104	162.57	25.22	33.96	291.6	4.91	12.9
130.	0.0468	0.989	4.274	163.90	25.18	33.86	297.6	5.10	13.5
135.	0.0450	0.990	4.443	165.17	25.15	33.79	303.5	5.30	14.0
140.	0.0433	0.991	4.612	166.40	25.13	33.73	309.3	5.49	14.6
145.	0.0418	0.992	4.780	167.58	25.11	33.69	314.9	5.68	15.2
150.	0.0404	0.993	4.949	168.72	25.10	33.65	320.5	5.87	15.8
155.	0.0391	0.993	5.117	169.83	25.09	33.62	325.9	6.06	16.4
160.	0.0378	0.994	5.285	170.89	25.09	33.60	331.2	6.25	17.0
165.	0.0367	0.994	5.453	171.93	25.09	33.59	336.4	6.44	17.6
170.	0.0356	0.995	5.621	172.93	25.10	33.58	341.6	6.63	18.2
175.	0.0345	0.995	5.789	173.90	25.11	33.57	346.6	6.82	18.8
180.	0.0336	0.996	5.956	174.85	25.12	33.58	351.6	7.00	19.4
185.	0.0326	0.996	6.124	175.77	25.14	33.59	356.4	7.19	20.0
190.	0.0318	0.996	6.292	176.67	25.17	33.60	361.2	7.37	20.6
195.	0.0309	0.997	6.460	177.54	25.20	33.63	366.0	7.56	21.1
200.	0.0302	0.997	6.629	178.39	25.24	33.66	370.6	7.74	21.7
205.	0.0294	0.997	6.797	179.22	25.28	33.69	375.2	7.92	22.3
210.	0.0287	0.997	6.965	180.03	25.33	33.73	379.7	8.11	22.9
215.	0.0280	0.997	7.134	180.83	25.38	33.78	384.1	8.29	23.5
220.	0.0274	0.998	7.303	181.61	25.44	33.84	388.5	8.47	24.1
225.	0.0268	0.998	7.473	182.37	25.51	33.90	392.8	8.64	24.7
230.	0.0262	0.998	7.642	183.11	25.59	33.98	397.0	8.82	25.3
235.	0.0256	0.998	7.812	183.85	25.67	34.05	401.2	9.00	25.9
240.	0.0251	0.998	7.983	184.56	25.76	34.14	405.3	9.17	26.5
245.	0.0246	0.998	8.154	185.27	25.86	34.24	409.3	9.35	27.1
250.	0.0241	0.998	8.325	185.96	25.97	34.34	413.3	9.52	27.8
255.	0.0236	0.999	8.497	186.64	26.08	34.45	417.2	9.69	28.4
260.	0.0232	0.999	8.670	187.31	26.20	34.57	421.0	9.86	29.0
265.	0.0227	0.999	8.843	187.97	26.34	34.70	424.8	10.03	29.7
270.	0.0223	0.999	9.017	188.62	26.47	34.84	428.6	10.20	30.3
275.	0.0219	0.999	9.191	189.26	26.62	34.98	432.3	10.37	31.0
280.	0.0215	0.999	9.367	189.89	26.77	35.13	435.9	10.53	31.6

METHANE ISOBAR AT P = 0.050 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
285.	0.0211	0.999	9.543	190.52	26.94	35.29	439.5	10.70	32.3
290.	0.0208	0.999	9.720	191.13	27.11	35.46	443.0	10.86	33.0
295.	0.0204	0.999	9.897	191.74	27.28	35.64	446.5	11.03	33.7
300.	0.0201	0.999	10.076	192.34	27.47	35.82	449.9	11.19	34.4
310.	0.0194	0.999	10.436	193.52	27.85	36.20	456.6	11.51	35.8
320.	0.0188	0.999	10.800	194.68	28.27	36.62	463.2	11.83	37.2
330.	0.0182	0.999	11.169	195.81	28.71	37.05	469.6	12.14	38.7
340.	0.0177	0.999	11.541	196.92	29.17	37.51	475.8	12.45	40.2
350.	0.0172	1.000	11.919	198.02	29.66	38.00	481.9	12.76	41.8
360.	0.0167	1.000	12.301	199.10	30.16	38.50	487.8	13.06	43.3
370.	0.0163	1.000	12.689	200.16	30.67	39.01	493.7	13.36	45.0
380.	0.0158	1.000	13.082	201.20	31.20	39.54	499.4	13.65	46.6
390.	0.0154	1.000	13.480	202.24	31.75	40.08	505.0	13.95	48.3
400.	0.0150	1.000	13.883	203.26	32.30	40.64	510.6	14.23	50.0
410.	0.0147	1.000	14.292	204.27	32.86	41.20	516.0		51.7
420.	0.0143	1.000	14.707	205.27	33.43	41.77	521.4		53.5
430.	0.0140	1.000	15.128	206.26	34.01	42.34	526.7		55.3
440.	0.0137	1.000	15.554	207.24	34.59	42.91	531.9		57.1
450.	0.0134	1.000	15.986	208.21	35.16	43.49	537.0		58.9
460.	0.0131	1.000	16.424	209.17	35.75	44.07	542.1		60.7
470.	0.0128	1.000	16.868	210.13	36.33	44.65	547.2		62.6
480.	0.0125	1.000	17.317	211.07	36.91	45.23	552.2		64.5
490.	0.0123	1.000	17.772	212.01	37.48	45.81	557.1		66.4
500.	0.0120	1.000	18.233	212.94	38.06	46.38	562.0		68.3
520.	0.0116	1.000	19.172	214.78	39.19	47.52	571.6		72.1
540.	0.0111	1.000	20.134	216.60	40.31	48.63	581.1		76.0
560.	0.0107	1.000	21.117	218.39	41.40	49.72	590.4		79.9
580.	0.0104	1.000	22.122	220.15	42.46	50.79	599.6		83.9
600.	0.0100	1.000	23.149	221.89	43.50	51.82	608.7		87.8

METHANE ISOBAR AT P = 0.075 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.788	0.003	-5.513	70.27	33.99	53.75	1499.0	179.73	206.1
100.	27.364	0.003	-5.242	73.05	34.08	54.64	1446.6	157.43	199.7
105.	26.930	0.003	-4.967	75.73	33.86	55.28	1396.6	138.62	193.1
108.127	26.639	0.003	-4.790	77.39	33.63	55.68	1363.1	127.98	188.5
108.127	0.0860	0.970	3.493	154.00	27.19	36.85	267.1	4.28	11.0

METHANE ISOBAR AT P = 0.075 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
110.	0.0844	0.971	3.561	154.63	26.56	36.04	270.1	4.35	11.2
115.	0.0804	0.975	3.739	156.20	25.76	34.98	277.4	4.54	11.8
120.	0.0768	0.978	3.912	157.68	25.48	34.55	284.1	4.73	12.3
125.	0.0736	0.981	4.084	159.09	25.36	34.32	290.4	4.92	12.9
130.	0.0706	0.983	4.256	160.43	25.29	34.17	296.6	5.11	13.5
135.	0.0678	0.985	4.426	161.72	25.24	34.06	302.6	5.30	14.1
140.	0.0653	0.986	4.596	162.96	25.20	33.97	308.4	5.49	14.7
145.	0.0630	0.988	4.766	164.15	25.18	33.89	314.1	5.68	15.3
150.	0.0608	0.989	4.935	165.29	25.16	33.83	319.7	5.88	15.8
155.	0.0588	0.990	5.104	166.40	25.14	33.78	325.2	6.07	16.4
160.	0.0569	0.991	5.273	167.47	25.13	33.74	330.6	6.26	17.0
165.	0.0551	0.992	5.442	168.51	25.13	33.71	335.9	6.45	17.6
170.	0.0535	0.992	5.610	169.52	25.13	33.69	341.0	6.63	18.2
175.	0.0519	0.993	5.778	170.50	25.14	33.68	346.1	6.82	18.8
180.	0.0504	0.993	5.947	171.44	25.15	33.68	351.1	7.01	19.4
185.	0.0491	0.994	6.115	172.37	25.17	33.68	356.0	7.19	20.0
190.	0.0477	0.994	6.284	173.26	25.19	33.69	360.9	7.38	20.6
195.	0.0465	0.995	6.452	174.14	25.22	33.70	365.6	7.56	21.2
200.	0.0453	0.995	6.621	174.99	25.25	33.72	370.3	7.75	21.8
205.	0.0442	0.996	6.789	175.83	25.29	33.76	374.9	7.93	22.3
210.	0.0431	0.996	6.958	176.64	25.34	33.79	379.4	8.11	22.9
215.	0.0421	0.996	7.127	177.44	25.39	33.84	383.9	8.29	23.5
220.	0.0411	0.996	7.297	178.21	25.45	33.89	388.2	8.47	24.1
225.	0.0402	0.997	7.466	178.98	25.52	33.95	392.6	8.65	24.7
230.	0.0393	0.997	7.636	179.72	25.60	34.02	396.8	8.83	25.3
235.	0.0385	0.997	7.806	180.46	25.68	34.10	401.0	9.00	25.9
240.	0.0377	0.997	7.977	181.18	25.77	34.18	405.1	9.18	26.5
245.	0.0369	0.997	8.148	181.88	25.87	34.28	409.1	9.35	27.2
250.	0.0362	0.998	8.320	182.57	25.97	34.38	413.1	9.52	27.8
255.	0.0355	0.998	8.492	183.26	26.09	34.49	417.0	9.70	28.4
260.	0.0348	0.998	8.665	183.93	26.21	34.61	420.9	9.87	29.0
265.	0.0341	0.998	8.838	184.59	26.34	34.73	424.7	10.04	29.7
270.	0.0335	0.998	9.012	185.24	26.48	34.87	428.5	10.20	30.3
275.	0.0329	0.998	9.187	185.88	26.63	35.01	432.2	10.37	31.0
280.	0.0323	0.998	9.362	186.51	26.78	35.16	435.8	10.54	31.6
285.	0.0317	0.998	9.539	187.14	26.94	35.32	439.4	10.70	32.3
290.	0.0311	0.999	9.716	187.75	27.11	35.49	442.9	10.87	33.0
295.	0.0306	0.999	9.893	188.36	27.29	35.66	446.4	11.03	33.7
300.	0.0301	0.999	10.072	188.96	27.47	35.84	449.8	11.19	34.4
310.	0.0291	0.999	10.432	190.14	27.86	36.23	456.6	11.51	35.8

METHANE ISOBAR AT P = 0.075 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
320.	0.0282	0.999	10.797	191.30	28.27	36.64	463.1	11.83	37.2
330.	0.0274	0.999	11.165	192.43	28.71	37.07	469.5	12.15	38.7
340.	0.0266	0.999	11.538	193.55	29.17	37.53	475.7	12.45	40.2
350.	0.0258	0.999	11.916	194.64	29.66	38.01	481.8	12.76	41.8
360.	0.0251	0.999	12.299	195.72	30.16	38.51	487.8	13.06	43.4
370.	0.0244	0.999	12.686	196.78	30.68	39.02	493.6	13.36	45.0
380.	0.0237	1.000	13.079	197.83	31.21	39.55	499.4	13.66	46.6
390.	0.0231	1.000	13.477	198.86	31.75	40.10	505.0	13.95	48.3
400.	0.0226	1.000	13.881	199.88	32.30	40.65	510.6	14.24	50.0
410.	0.0220	1.000	14.290	200.89	32.87	41.21	516.0		51.7
420.	0.0215	1.000	14.705	201.89	33.44	41.78	521.4		53.5
430.	0.0210	1.000	15.126	202.88	34.01	42.35	526.7		55.3
440.	0.0205	1.000	15.552	203.86	34.59	42.92	531.9		57.1
450.	0.0200	1.000	15.984	204.84	35.17	43.50	537.0		58.9
460.	0.0196	1.000	16.422	205.80	35.75	44.08	542.1		60.7
470.	0.0192	1.000	16.866	206.75	36.33	44.66	547.2		62.6
480.	0.0188	1.000	17.315	207.70	36.91	45.24	552.2		64.5
490.	0.0184	1.000	17.771	208.64	37.48	45.82	557.1		66.4
500.	0.0180	1.000	18.232	209.57	38.06	46.39	562.0		68.3
520.	0.0173	1.000	19.171	211.41	39.19	47.52	571.7		72.1
540.	0.0167	1.000	20.133	213.22	40.31	48.64	581.1		76.0
560.	0.0161	1.000	21.116	215.01	41.40	49.73	590.5		79.9
580.	0.0156	1.000	22.121	216.78	42.47	50.79	599.7		83.9
600.	0.0150	1.000	23.148	218.52	43.50	51.83	608.7		87.8

METHANE ISOBAR AT P = 0.100 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.789	0.005	-5.513	70.27	33.99	53.75	1499.2	179.78	206.1
100.	27.366	0.004	-5.242	73.05	34.08	54.64	1446.8	157.48	199.8
105.	26.932	0.004	-4.967	75.73	33.86	55.28	1396.9	138.67	193.1
110.	26.486	0.004	-4.689	78.32	33.49	55.84	1347.4	122.80	186.3
111.498	26.336	0.004	-4.601	79.10	33.36	56.06	1329.9	118.17	183.9
111.498	0.1120	0.963	3.587	152.54	26.97	36.80	270.3	4.41	11.5
115.	0.1082	0.967	3.713	153.66	26.15	35.72	275.7	4.54	11.8
120.	0.1032	0.971	3.890	155.17	25.68	35.03	282.7	4.73	12.4
125.	0.0987	0.974	4.064	156.59	25.49	34.69	289.2	4.92	13.0
130.	0.0947	0.977	4.237	157.95	25.39	34.48	295.5	5.12	13.5

METHANE ISOBAR AT P = 0.100 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
135.	0.0909	0.980	4.409	159.24	25.33	34.33	301.6	5.31	14.1
140.	0.0875	0.982	4.580	160.49	25.28	34.20	307.5	5.50	14.7
145.	0.0843	0.984	4.751	161.69	25.24	34.10	313.3	5.69	15.3
150.	0.0814	0.985	4.921	162.84	25.21	34.01	319.0	5.88	15.9
155.	0.0787	0.987	5.091	163.96	25.19	33.95	324.5	6.07	16.5
160.	0.0761	0.988	5.261	165.03	25.18	33.89	330.0	6.26	17.1
165.	0.0737	0.989	5.430	166.08	25.17	33.85	335.3	6.45	17.7
170.	0.0715	0.990	5.599	167.09	25.16	33.81	340.5	6.64	18.2
175.	0.0694	0.991	5.768	168.07	25.17	33.79	345.6	6.83	18.8
180.	0.0674	0.991	5.937	169.02	25.18	33.77	350.7	7.01	19.4
185.	0.0655	0.992	6.106	169.94	25.19	33.77	355.6	7.20	20.0
190.	0.0638	0.993	6.275	170.84	25.21	33.77	360.5	7.39	20.6
195.	0.0621	0.993	6.444	171.72	25.24	33.78	365.3	7.57	21.2
200.	0.0605	0.994	6.613	172.58	25.27	33.80	370.0	7.75	21.8
205.	0.0590	0.994	6.782	173.41	25.31	33.82	374.6	7.93	22.4
210.	0.0576	0.995	6.951	174.23	25.35	33.85	379.1	8.12	23.0
215.	0.0562	0.995	7.120	175.02	25.41	33.90	383.6	8.30	23.5
220.	0.0549	0.995	7.290	175.80	25.47	33.94	388.0	8.48	24.1
225.	0.0537	0.996	7.460	176.57	25.53	34.00	392.3	8.65	24.7
230.	0.0525	0.996	7.630	177.31	25.61	34.07	396.6	8.83	25.3
235.	0.0514	0.996	7.801	178.05	25.69	34.14	400.8	9.01	26.0
240.	0.0503	0.996	7.971	178.77	25.78	34.22	404.9	9.18	26.6
245.	0.0493	0.997	8.143	179.47	25.88	34.32	409.0	9.36	27.2
250.	0.0483	0.997	8.315	180.17	25.98	34.42	413.0	9.53	27.8
255.	0.0473	0.997	8.487	180.85	26.10	34.52	416.9	9.70	28.4
260.	0.0464	0.997	8.660	181.52	26.22	34.64	420.8	9.87	29.1
265.	0.0455	0.997	8.833	182.18	26.35	34.76	424.6	10.04	29.7
270.	0.0447	0.998	9.008	182.83	26.48	34.90	428.3	10.21	30.3
275.	0.0438	0.998	9.182	183.48	26.63	35.04	432.0	10.38	31.0
280.	0.0430	0.998	9.358	184.11	26.78	35.19	435.7	10.54	31.7
285.	0.0423	0.998	9.534	184.73	26.95	35.35	439.3	10.71	32.3
290.	0.0416	0.998	9.711	185.35	27.11	35.51	442.8	10.87	33.0
295.	0.0408	0.998	9.889	185.96	27.29	35.68	446.3	11.03	33.7
300.	0.0402	0.998	10.068	186.56	27.47	35.86	449.7	11.20	34.4
310.	0.0389	0.998	10.429	187.74	27.86	36.25	456.5	11.52	35.8
320.	0.0376	0.999	10.793	188.90	28.28	36.66	463.1	11.84	37.2
330.	0.0365	0.999	11.162	190.03	28.72	37.09	469.5	12.15	38.7
340.	0.0354	0.999	11.535	191.15	29.18	37.55	475.7	12.46	40.2
350.	0.0344	0.999	11.913	192.24	29.66	38.03	481.8	12.76	41.8
360.	0.0334	0.999	12.296	193.32	30.16	38.52	487.8	13.07	43.4

METHANE ISOBAR AT P = 0.100 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
370.	0.0325	0.999	12.684	194.38	30.68	39.04	493.6	13.37	45.0
380.	0.0317	0.999	13.077	195.43	31.21	39.57	499.4	13.66	46.6
390.	0.0309	0.999	13.475	196.46	31.75	40.11	505.0	13.95	48.3
400.	0.0301	1.000	13.879	197.49	32.31	40.66	510.5	14.24	50.0
410.	0.0293	1.000	14.288	198.50	32.87	41.22	516.0		51.7
420.	0.0286	1.000	14.703	199.50	33.44	41.79	521.4		53.5
430.	0.0280	1.000	15.124	200.49	34.01	42.36	526.7		55.3
440.	0.0273	1.000	15.550	201.47	34.59	42.93	531.9		57.1
450.	0.0267	1.000	15.983	202.44	35.17	43.51	537.1		58.9
460.	0.0262	1.000	16.421	203.40	35.75	44.09	542.2		60.8
470.	0.0256	1.000	16.864	204.36	36.33	44.67	547.2		62.6
480.	0.0251	1.000	17.314	205.30	36.91	45.25	552.2		64.5
490.	0.0245	1.000	17.769	206.24	37.48	45.82	557.1		66.4
500.	0.0241	1.000	18.230	207.17	38.06	46.39	562.0		68.3
520.	0.0231	1.000	19.170	209.02	39.19	47.53	571.7		72.2
540.	0.0223	1.000	20.131	210.83	40.31	48.64	581.2		76.0
560.	0.0215	1.000	21.115	212.62	41.40	49.73	590.5		80.0
580.	0.0207	1.000	22.120	214.38	42.47	50.80	599.7		83.9
600.	0.0200	1.000	23.147	216.12	43.50	51.83	608.8		87.8

METHANE ISOBAR AT P = 0.150 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.792	0.007	-5.511	70.26	33.99	53.74	1499.6	179.88	206.2
100.	27.368	0.007	-5.240	73.04	34.08	54.63	1447.2	157.57	199.8
105.	26.934	0.006	-4.966	75.72	33.86	55.27	1397.3	138.75	193.2
110.	26.489	0.006	-4.688	78.31	33.49	55.83	1347.9	122.87	186.3
115.	26.031	0.006	-4.407	80.80	33.07	56.40	1298.0	109.44	179.3
116.645	25.863	0.006	-4.311	81.64	32.92	56.66	1279.0	105.20	176.7
116.645	0.1625	0.952	3.723	150.51	26.74	36.94	274.7	4.62	12.2
120.	0.1573	0.956	3.845	151.54	26.14	36.08	279.8	4.75	12.6
125.	0.1502	0.961	4.023	153.00	25.77	35.46	286.8	4.94	13.1
130.	0.1437	0.966	4.200	154.38	25.61	35.12	293.3	5.13	13.7
135.	0.1379	0.969	4.375	155.70	25.51	34.88	299.7	5.32	14.2
140.	0.1325	0.972	4.549	156.97	25.44	34.68	305.8	5.51	14.8
145.	0.1276	0.975	4.722	158.18	25.38	34.52	311.7	5.70	15.4
150.	0.1230	0.978	4.894	159.35	25.33	34.39	317.5	5.89	16.0
155.	0.1188	0.980	5.066	160.48	25.29	34.28	323.2	6.08	16.5

METHANE ISOBAR AT P = 0.150 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
160.	0.1149	0.981	5.237	161.56	25.26	34.19	328.7	6.27	17.1
165.	0.1112	0.983	5.408	162.61	25.24	34.11	334.2	6.46	17.7
170.	0.1078	0.985	5.578	163.63	25.23	34.05	339.5	6.65	18.3
175.	0.1046	0.986	5.748	164.62	25.23	34.01	344.7	6.84	18.9
180.	0.1016	0.987	5.918	165.58	25.23	33.97	349.8	7.02	19.5
185.	0.0987	0.988	6.088	166.51	25.24	33.95	354.8	7.21	20.1
190.	0.0960	0.989	6.258	167.41	25.25	33.94	359.7	7.40	20.7
195.	0.0935	0.990	6.427	168.29	25.27	33.93	364.5	7.58	21.3
200.	0.0911	0.990	6.597	169.15	25.30	33.94	369.3	7.76	21.8
205.	0.0888	0.991	6.767	169.99	25.34	33.95	374.0	7.95	22.4
210.	0.0866	0.992	6.936	170.81	25.38	33.98	378.5	8.13	23.0
215.	0.0846	0.992	7.106	171.61	25.43	34.01	383.1	8.31	23.6
220.	0.0826	0.993	7.277	172.39	25.49	34.05	387.5	8.49	24.2
225.	0.0807	0.993	7.447	173.16	25.55	34.10	391.9	8.66	24.8
230.	0.0789	0.994	7.618	173.91	25.63	34.16	396.1	8.84	25.4
235.	0.0772	0.994	7.789	174.64	25.71	34.23	400.4	9.02	26.0
240.	0.0756	0.995	7.960	175.36	25.79	34.31	404.5	9.19	26.6
245.	0.0740	0.995	8.132	176.07	25.89	34.39	408.6	9.36	27.2
250.	0.0725	0.995	8.304	176.77	26.00	34.49	412.6	9.54	27.8
255.	0.0711	0.996	8.477	177.45	26.11	34.59	416.6	9.71	28.5
260.	0.0697	0.996	8.650	178.12	26.23	34.71	420.5	9.88	29.1
265.	0.0683	0.996	8.824	178.79	26.36	34.83	424.3	10.05	29.7
270.	0.0671	0.996	8.998	179.44	26.50	34.96	428.1	10.22	30.4
275.	0.0658	0.997	9.173	180.08	26.64	35.10	431.8	10.38	31.0
280.	0.0646	0.997	9.349	180.71	26.79	35.24	435.5	10.55	31.7
285.	0.0635	0.997	9.526	181.34	26.95	35.40	439.1	10.72	32.4
290.	0.0624	0.997	9.703	181.96	27.12	35.56	442.6	10.88	33.0
295.	0.0613	0.997	9.881	182.57	27.30	35.73	446.1	11.04	33.7
300.	0.0603	0.997	10.060	183.17	27.48	35.91	449.6	11.20	34.4
310.	0.0583	0.998	10.421	184.35	27.87	36.29	456.4	11.53	35.8
320.	0.0565	0.998	10.786	185.51	28.28	36.70	462.9	11.84	37.3
330.	0.0548	0.998	11.155	186.65	28.72	37.13	469.4	12.16	38.8
340.	0.0531	0.998	11.529	187.76	29.18	37.58	475.6	12.47	40.3
350.	0.0516	0.999	11.907	188.86	29.67	38.06	481.7	12.77	41.8
360.	0.0502	0.999	12.290	189.94	30.17	38.55	487.7	13.07	43.4
370.	0.0488	0.999	12.678	191.00	30.68	39.07	493.6	13.37	45.0
380.	0.0475	0.999	13.072	192.05	31.21	39.59	499.3	13.67	46.7
390.	0.0463	0.999	13.470	193.08	31.76	40.13	505.0	13.96	48.3
400.	0.0451	0.999	13.874	194.11	32.31	40.68	510.5	14.25	50.0
410.	0.0440	0.999	14.284	195.12	32.87	41.24	516.0		51.8

METHANE ISOBAR AT P = 0.150 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
420.	0.0430	0.999	14.699	196.12	33.44	41.81	521.4		53.5
430.	0.0420	1.000	15.120	197.11	34.01	42.38	526.7		55.3
440.	0.0410	1.000	15.547	198.09	34.59	42.95	531.9		57.1
450.	0.0401	1.000	15.979	199.06	35.17	43.53	537.1		58.9
460.	0.0392	1.000	16.417	200.02	35.75	44.11	542.2		60.8
470.	0.0384	1.000	16.861	200.98	36.33	44.68	547.3		62.6
480.	0.0376	1.000	17.311	201.93	36.91	45.26	552.2		64.5
490.	0.0368	1.000	17.766	202.87	37.49	45.84	557.2		66.4
500.	0.0361	1.000	18.228	203.80	38.06	46.41	562.1		68.3
520.	0.0347	1.000	19.167	205.64	39.20	47.54	571.8		72.2
540.	0.0334	1.000	20.129	207.45	40.31	48.65	581.2		76.1
560.	0.0322	1.000	21.113	209.24	41.40	49.74	590.6		80.0
580.	0.0311	1.000	22.119	211.01	42.47	50.81	599.8		83.9
600.	0.0301	1.000	23.145	212.75	43.50	51.84	608.9		87.9

METHANE ISOBAR AT P = 0.200 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.794	0.009	-5.510	70.26	33.99	53.74	1500.0	179.97	206.2
100.	27.370	0.009	-5.239	73.04	34.09	54.63	1447.7	157.66	199.9
105.	26.937	0.009	-4.964	75.72	33.86	55.27	1397.8	138.83	193.2
110.	26.492	0.008	-4.687	78.30	33.49	55.82	1348.4	122.95	186.4
115.	26.034	0.008	-4.406	80.80	33.07	56.39	1298.5	109.51	179.4
120.	25.561	0.008	-4.123	83.21	32.64	57.04	1247.6	98.10	172.2
120.611	25.489	0.008	-4.085	83.53	32.59	57.18	1239.2	96.60	171.1
120.611	0.2118	0.942	3.821	149.07	26.65	37.23	277.7	4.78	12.8
125.	0.2031	0.948	3.982	150.38	26.08	36.30	284.2	4.95	13.2
130.	0.1940	0.954	4.162	151.79	25.82	35.78	291.1	5.14	13.8
135.	0.1859	0.959	4.340	153.14	25.68	35.45	297.7	5.33	14.3
140.	0.1784	0.963	4.516	154.42	25.59	35.18	304.0	5.52	14.9
145.	0.1716	0.967	4.692	155.65	25.51	34.97	310.1	5.71	15.5
150.	0.1653	0.970	4.866	156.83	25.45	34.78	316.0	5.91	16.0
155.	0.1595	0.973	5.040	157.97	25.40	34.63	321.8	6.10	16.6
160.	0.1542	0.975	5.212	159.07	25.35	34.50	327.5	6.28	17.2
165.	0.1492	0.977	5.385	160.13	25.32	34.39	333.0	6.47	17.8
170.	0.1445	0.979	5.556	161.15	25.30	34.30	338.4	6.66	18.4
175.	0.1401	0.981	5.728	162.15	25.29	34.23	343.7	6.85	19.0
180.	0.1360	0.983	5.899	163.11	25.28	34.18	348.9	7.04	19.6

METHANE ISOBAR AT P = 0.200 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
185.	0.1322	0.984	6.069	164.05	25.28	34.14	354.0	7.22	20.2
190.	0.1285	0.985	6.240	164.96	25.29	34.11	358.9	7.41	20.8
195.	0.1251	0.986	6.411	165.84	25.31	34.09	363.8	7.59	21.3
200.	0.1218	0.987	6.581	166.71	25.34	34.08	368.6	7.77	21.9
205.	0.1187	0.988	6.751	167.55	25.37	34.09	373.3	7.96	22.5
210.	0.1158	0.989	6.922	168.37	25.41	34.10	378.0	8.14	23.1
215.	0.1130	0.990	7.092	169.17	25.46	34.12	382.5	8.32	23.6
220.	0.1104	0.990	7.263	169.96	25.51	34.16	387.0	8.50	24.2
225.	0.1079	0.991	7.434	170.72	25.57	34.20	391.4	8.67	24.8
230.	0.1055	0.992	7.605	171.48	25.64	34.26	395.7	8.85	25.4
235.	0.1032	0.992	7.777	172.21	25.72	34.32	400.0	9.03	26.0
240.	0.1010	0.993	7.948	172.94	25.81	34.39	404.1	9.20	26.6
245.	0.0989	0.993	8.121	173.65	25.91	34.47	408.3	9.37	27.3
250.	0.0968	0.994	8.293	174.35	26.01	34.56	412.3	9.55	27.9
255.	0.0949	0.994	8.466	175.03	26.12	34.66	416.3	9.72	28.5
260.	0.0930	0.994	8.640	175.70	26.24	34.77	420.2	9.89	29.1
265.	0.0913	0.995	8.814	176.37	26.37	34.89	424.1	10.06	29.8
270.	0.0895	0.995	8.989	177.02	26.51	35.02	427.8	10.23	30.4
275.	0.0879	0.995	9.164	177.67	26.65	35.15	431.6	10.39	31.1
280.	0.0863	0.996	9.340	178.30	26.80	35.30	435.3	10.56	31.7
285.	0.0847	0.996	9.517	178.93	26.96	35.45	438.9	10.72	32.4
290.	0.0833	0.996	9.695	179.54	27.13	35.61	442.4	10.89	33.1
295.	0.0818	0.996	9.873	180.15	27.31	35.78	446.0	11.05	33.8
300.	0.0805	0.997	10.053	180.76	27.49	35.96	449.4	11.21	34.5
310.	0.0778	0.997	10.414	181.94	27.88	36.33	456.2	11.53	35.9
320.	0.0754	0.997	10.779	183.10	28.29	36.73	462.8	11.85	37.3
330.	0.0731	0.998	11.149	184.24	28.73	37.16	469.3	12.16	38.8
340.	0.0709	0.998	11.523	185.35	29.19	37.62	475.5	12.47	40.3
350.	0.0689	0.998	11.901	186.45	29.67	38.09	481.7	12.78	41.8
360.	0.0669	0.998	12.285	187.53	30.17	38.58	487.7	13.08	43.4
370.	0.0651	0.999	12.673	188.60	30.69	39.09	493.6	13.38	45.0
380.	0.0634	0.999	13.066	189.65	31.22	39.62	499.3	13.67	46.7
390.	0.0617	0.999	13.465	190.68	31.76	40.16	505.0	13.97	48.4
400.	0.0602	0.999	13.870	191.71	32.31	40.70	510.5	14.25	50.1
410.	0.0587	0.999	14.279	192.72	32.88	41.26	516.0		51.8
420.	0.0573	0.999	14.695	193.72	33.44	41.83	521.4		53.5
430.	0.0560	0.999	15.116	194.71	34.02	42.40	526.7		55.3
440.	0.0547	1.000	15.543	195.69	34.59	42.97	532.0		57.1
450.	0.0535	1.000	15.975	196.66	35.17	43.55	537.1		59.0
460.	0.0523	1.000	16.414	197.63	35.75	44.12	542.2		60.8

METHANE ISOBAR AT P = 0.200 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
470.	0.0512	1.000	16.858	198.58	36.33	44.70	547.3		62.7
480.	0.0501	1.000	17.308	199.53	36.91	45.28	552.3		64.5
490.	0.0491	1.000	17.763	200.47	37.49	45.85	557.3		66.4
500.	0.0481	1.000	18.225	201.40	38.06	46.42	562.2		68.3
520.	0.0463	1.000	19.164	203.24	39.20	47.55	571.8		72.2
540.	0.0445	1.000	20.127	205.06	40.31	48.66	581.3		76.1
560.	0.0429	1.000	21.111	206.85	41.40	49.75	590.7		80.0
580.	0.0415	1.000	22.117	208.61	42.47	50.82	599.9		83.9
600.	0.0401	1.000	23.143	210.35	43.51	51.85	609.0		87.9

METHANE ISOBAR AT P = 0.250 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.796	0.011	-5.509	70.25	33.99	53.73	1500.4	180.07	206.3
100.	27.373	0.011	-5.238	73.03	34.09	54.62	1448.1	157.75	199.9
105.	26.940	0.011	-4.963	75.71	33.86	55.26	1398.3	138.91	193.3
110.	26.495	0.010	-4.685	78.30	33.50	55.81	1348.9	123.02	186.4
115.	26.037	0.010	-4.405	80.79	33.07	56.38	1299.0	109.58	179.4
120.	25.564	0.010	-4.121	83.20	32.65	57.03	1248.1	98.16	172.3
123.886	25.173	0.010	-3.896	85.05	32.32	57.66	1205.8	90.26	166.5
123.886	0.2603	0.932	3.897	147.96	26.65	37.63	279.8	4.92	13.3
125.	0.2576	0.934	3.939	148.29	26.47	37.32	281.5	4.96	13.4
130.	0.2457	0.941	4.123	149.74	26.04	36.50	288.8	5.15	13.9
135.	0.2350	0.948	4.304	151.10	25.85	36.04	295.6	5.35	14.5
140.	0.2253	0.953	4.483	152.41	25.74	35.70	302.1	5.54	15.0
145.	0.2164	0.958	4.661	153.66	25.64	35.42	308.4	5.73	15.6
150.	0.2083	0.962	4.838	154.85	25.56	35.19	314.5	5.92	16.1
155.	0.2009	0.966	5.013	156.00	25.50	34.99	320.4	6.11	16.7
160.	0.1940	0.969	5.188	157.11	25.44	34.82	326.2	6.30	17.3
165.	0.1876	0.972	5.361	158.18	25.40	34.68	331.8	6.49	17.9
170.	0.1816	0.974	5.534	159.21	25.37	34.56	337.3	6.67	18.4
175.	0.1760	0.976	5.707	160.21	25.35	34.46	342.7	6.86	19.0
180.	0.1708	0.978	5.879	161.18	25.33	34.39	348.0	7.05	19.6
185.	0.1659	0.980	6.051	162.13	25.33	34.33	353.1	7.23	20.2
190.	0.1613	0.981	6.222	163.04	25.33	34.28	358.2	7.42	20.8
195.	0.1569	0.983	6.394	163.93	25.35	34.25	363.1	7.60	21.4
200.	0.1528	0.984	6.565	164.80	25.37	34.23	368.0	7.78	22.0
205.	0.1489	0.985	6.736	165.64	25.40	34.22	372.7	7.97	22.5

METHANE ISOBAR AT P = 0.250 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
210.	0.1452	0.986	6.907	166.47	25.43	34.23	377.4	8.15	23.1
215.	0.1417	0.987	7.078	167.27	25.48	34.24	382.0	8.33	23.7
220.	0.1383	0.988	7.250	168.06	25.53	34.27	386.5	8.51	24.3
225.	0.1351	0.989	7.421	168.83	25.59	34.31	390.9	8.68	24.9
230.	0.1321	0.990	7.593	169.58	25.66	34.35	395.3	8.86	25.5
235.	0.1292	0.990	7.765	170.32	25.74	34.41	399.6	9.03	26.1
240.	0.1264	0.991	7.937	171.05	25.83	34.48	403.8	9.21	26.7
245.	0.1238	0.991	8.109	171.76	25.92	34.55	407.9	9.38	27.3
250.	0.1212	0.992	8.282	172.46	26.02	34.64	412.0	9.56	27.9
255.	0.1188	0.993	8.456	173.15	26.13	34.74	416.0	9.73	28.5
260.	0.1165	0.993	8.630	173.82	26.25	34.84	419.9	9.90	29.2
265.	0.1142	0.993	8.804	174.49	26.38	34.96	423.8	10.07	29.8
270.	0.1121	0.994	8.979	175.14	26.52	35.08	427.6	10.23	30.5
275.	0.1100	0.994	9.155	175.79	26.66	35.21	431.4	10.40	31.1
280.	0.1080	0.995	9.331	176.42	26.81	35.35	435.0	10.57	31.8
285.	0.1060	0.995	9.509	177.05	26.97	35.50	438.7	10.73	32.4
290.	0.1042	0.995	9.686	177.67	27.14	35.66	442.3	10.90	33.1
295.	0.1024	0.995	9.865	178.28	27.31	35.83	445.8	11.06	33.8
300.	0.1007	0.996	10.045	178.88	27.50	36.00	449.3	11.22	34.5
310.	0.0974	0.996	10.407	180.07	27.88	36.37	456.1	11.54	35.9
320.	0.0943	0.997	10.772	181.23	28.30	36.77	462.7	11.86	37.3
330.	0.0914	0.997	11.142	182.37	28.73	37.20	469.2	12.17	38.8
340.	0.0887	0.997	11.516	183.49	29.19	37.65	475.5	12.48	40.3
350.	0.0861	0.998	11.895	184.58	29.68	38.12	481.6	12.79	41.9
360.	0.0837	0.998	12.279	185.66	30.18	38.61	487.6	13.09	43.4
370.	0.0814	0.998	12.668	186.73	30.69	39.12	493.5	13.39	45.1
380.	0.0792	0.998	13.061	187.78	31.22	39.64	499.3	13.68	46.7
390.	0.0772	0.999	13.461	188.82	31.76	40.18	505.0	13.97	48.4
400.	0.0753	0.999	13.865	189.84	32.32	40.73	510.5	14.26	50.1
410.	0.0734	0.999	14.275	190.85	32.88	41.28	516.0		51.8
420.	0.0717	0.999	14.691	191.85	33.45	41.85	521.4		53.6
430.	0.0700	0.999	15.112	192.85	34.02	42.41	526.7		55.3
440.	0.0684	0.999	15.539	193.83	34.60	42.99	532.0		57.2
450.	0.0668	1.000	15.972	194.80	35.18	43.56	537.2		59.0
460.	0.0654	1.000	16.410	195.76	35.76	44.14	542.3		60.8
470.	0.0640	1.000	16.855	196.72	36.34	44.72	547.3		62.7
480.	0.0627	1.000	17.305	197.67	36.91	45.29	552.4		64.6
490.	0.0614	1.000	17.760	198.61	37.49	45.86	557.3		66.5
500.	0.0601	1.000	18.222	199.54	38.06	46.43	562.2		68.4
520.	0.0578	1.000	19.162	201.38	39.20	47.56	571.9		72.2

METHANE ISOBAR AT P = 0.250 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
540.	0.0557	1.000	20.124	203.20	40.31	48.68	581.4		76.1
560.	0.0537	1.000	21.109	204.99	41.41	49.76	590.8		80.0
580.	0.0518	1.000	22.115	206.75	42.47	50.82	600.0		83.9
600.	0.0501	1.000	23.142	208.49	43.51	51.86	609.0		87.9

METHANE ISOBAR AT P = 0.300 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.798	0.014	-5.508	70.25	34.00	53.73	1500.8	180.17	206.3
100.	27.375	0.013	-5.237	73.03	34.09	54.61	1448.5	157.83	200.0
105.	26.942	0.013	-4.962	75.71	33.87	55.25	1398.7	138.99	193.3
110.	26.498	0.012	-4.684	78.29	33.50	55.80	1349.4	123.10	186.5
115.	26.040	0.012	-4.404	80.78	33.08	56.37	1299.6	109.65	179.5
120.	25.568	0.012	-4.120	83.19	32.65	57.01	1248.7	98.23	172.3
125.	25.077	0.012	-3.833	85.54	32.24	57.78	1196.4	88.44	165.1
126.702	24.896	0.011	-3.732	86.34	32.10	58.12	1176.8	85.29	162.5
126.702	0.3084	0.923	3.960	147.05	26.70	38.07	281.4	5.04	13.8
130.	0.2988	0.929	4.083	148.01	26.30	37.31	286.4	5.17	14.1
135.	0.2853	0.937	4.268	149.41	26.03	36.67	293.5	5.36	14.6
140.	0.2732	0.943	4.450	150.73	25.88	36.24	300.3	5.55	15.1
145.	0.2621	0.949	4.630	152.00	25.77	35.90	306.7	5.74	15.7
150.	0.2521	0.954	4.809	153.21	25.68	35.61	313.0	5.93	16.2
155.	0.2428	0.959	4.986	154.37	25.60	35.36	319.0	6.12	16.8
160.	0.2343	0.962	5.163	155.49	25.53	35.15	324.9	6.31	17.4
165.	0.2264	0.966	5.338	156.57	25.48	34.97	330.7	6.50	17.9
170.	0.2191	0.969	5.512	157.61	25.44	34.82	336.3	6.69	18.5
175.	0.2123	0.971	5.686	158.62	25.41	34.70	341.7	6.87	19.1
180.	0.2059	0.974	5.859	159.60	25.39	34.60	347.1	7.06	19.7
185.	0.1999	0.976	6.032	160.54	25.38	34.52	352.3	7.24	20.3
190.	0.1943	0.978	6.205	161.46	25.38	34.46	357.4	7.43	20.9
195.	0.1890	0.979	6.377	162.36	25.39	34.41	362.4	7.61	21.4
200.	0.1839	0.981	6.549	163.23	25.40	34.38	367.3	7.79	22.0
205.	0.1792	0.982	6.721	164.08	25.43	34.36	372.1	7.98	22.6
210.	0.1747	0.983	6.892	164.90	25.46	34.35	376.8	8.16	23.2
215.	0.1704	0.985	7.064	165.71	25.51	34.36	381.5	8.34	23.8
220.	0.1664	0.986	7.236	166.50	25.56	34.38	386.0	8.52	24.3
225.	0.1625	0.987	7.408	167.28	25.62	34.41	390.5	8.69	24.9
230.	0.1589	0.988	7.580	168.03	25.68	34.45	394.8	8.87	25.5

METHANE ISOBAR AT P = 0.300 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
235.	0.1554	0.988	7.753	168.77	25.76	34.50	399.2	9.04	26.1
240.	0.1520	0.989	7.925	169.50	25.84	34.56	403.4	9.22	26.7
245.	0.1488	0.990	8.098	170.21	25.94	34.63	407.6	9.39	27.3
250.	0.1457	0.990	8.272	170.91	26.04	34.72	411.6	9.56	28.0
255.	0.1428	0.991	8.445	171.60	26.15	34.81	415.7	9.74	28.6
260.	0.1400	0.992	8.620	172.28	26.27	34.91	419.6	9.91	29.2
265.	0.1372	0.992	8.794	172.95	26.39	35.02	423.5	10.07	29.9
270.	0.1346	0.993	8.970	173.60	26.53	35.14	427.4	10.24	30.5
275.	0.1321	0.993	9.146	174.25	26.67	35.27	431.1	10.41	31.1
280.	0.1297	0.993	9.323	174.88	26.82	35.41	434.8	10.58	31.8
285.	0.1274	0.994	9.500	175.51	26.98	35.56	438.5	10.74	32.5
290.	0.1251	0.994	9.678	176.13	27.15	35.71	442.1	10.90	33.1
295.	0.1230	0.995	9.857	176.74	27.32	35.88	445.6	11.07	33.8
300.	0.1209	0.995	10.037	177.35	27.51	36.05	449.1	11.23	34.5
310.	0.1169	0.995	10.399	178.54	27.89	36.42	456.0	11.55	35.9
320.	0.1132	0.996	10.765	179.70	28.30	36.81	462.6	11.87	37.4
330.	0.1097	0.996	11.136	180.84	28.74	37.24	469.1	12.18	38.8
340.	0.1065	0.997	11.510	181.96	29.20	37.68	475.4	12.49	40.4
350.	0.1034	0.997	11.889	183.05	29.68	38.15	481.6	12.79	41.9
360.	0.1005	0.998	12.273	184.14	30.18	38.64	487.6	13.09	43.5
370.	0.0977	0.998	12.662	185.20	30.70	39.15	493.5	13.39	45.1
380.	0.0951	0.998	13.056	186.25	31.23	39.67	499.3	13.69	46.7
390.	0.0927	0.998	13.456	187.29	31.77	40.20	505.0	13.98	48.4
400.	0.0903	0.999	13.860	188.31	32.32	40.75	510.5	14.27	50.1
410.	0.0881	0.999	14.271	189.33	32.88	41.30	516.0		51.8
420.	0.0860	0.999	14.687	190.33	33.45	41.87	521.4		53.6
430.	0.0840	0.999	15.108	191.32	34.02	42.43	526.8		55.4
440.	0.0821	0.999	15.535	192.30	34.60	43.01	532.0		57.2
450.	0.0802	0.999	15.968	193.28	35.18	43.58	537.2		59.0
460.	0.0785	1.000	16.407	194.24	35.76	44.16	542.3		60.8
470.	0.0768	1.000	16.851	195.20	36.34	44.73	547.4		62.7
480.	0.0752	1.000	17.301	196.14	36.92	45.31	552.4		64.6
490.	0.0736	1.000	17.757	197.08	37.49	45.88	557.4		66.5
500.	0.0722	1.000	18.219	198.02	38.07	46.45	562.3		68.4
520.	0.0694	1.000	19.159	199.86	39.20	47.58	572.0		72.2
540.	0.0668	1.000	20.122	201.68	40.32	48.69	581.5		76.1
560.	0.0644	1.000	21.107	203.47	41.41	49.77	590.8		80.0
580.	0.0622	1.000	22.113	205.23	42.47	50.83	600.1		84.0
600.	0.0601	1.000	23.140	206.97	43.51	51.87	609.1		87.9

METHANE ISOBAR AT P = 0.350 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.800	0.016	-5.506	70.24	34.00	53.72	1501.2	180.27	206.4
100.	27.377	0.015	-5.235	73.02	34.09	54.61	1449.0	157.92	200.0
105.	26.945	0.015	-4.961	75.70	33.87	55.24	1399.2	139.07	193.4
110.	26.501	0.014	-4.683	78.28	33.50	55.80	1349.9	123.17	186.5
115.	26.044	0.014	-4.403	80.78	33.08	56.36	1300.1	109.72	179.5
120.	25.571	0.014	-4.119	83.19	32.65	57.00	1249.3	98.29	172.4
125.	25.081	0.013	-3.832	85.53	32.24	57.77	1197.1	88.51	165.2
129.188	24.646	0.013	-3.587	87.46	31.92	58.57	1150.7	81.23	159.0
129.188	0.3562	0.915	4.011	146.28	26.78	38.56	282.7	5.15	14.2
130.	0.3535	0.916	4.042	146.51	26.65	38.32	283.9	5.18	14.3
135.	0.3369	0.925	4.231	147.94	26.22	37.35	291.4	5.37	14.7
140.	0.3221	0.933	4.416	149.28	26.03	36.80	298.3	5.56	15.2
145.	0.3087	0.940	4.599	150.57	25.90	36.39	305.0	5.75	15.8
150.	0.2966	0.946	4.780	151.80	25.80	36.04	311.4	5.94	16.3
155.	0.2855	0.951	4.959	152.97	25.71	35.74	317.6	6.13	16.9
160.	0.2752	0.956	5.137	154.10	25.63	35.49	323.6	6.32	17.4
165.	0.2658	0.960	5.314	155.19	25.56	35.27	329.5	6.51	18.0
170.	0.2571	0.963	5.490	156.24	25.51	35.09	335.2	6.70	18.6
175.	0.2489	0.966	5.665	157.26	25.47	34.94	340.7	6.88	19.2
180.	0.2413	0.969	5.840	158.24	25.44	34.82	346.1	7.07	19.8
185.	0.2342	0.972	6.013	159.19	25.43	34.72	351.4	7.26	20.3
190.	0.2275	0.974	6.187	160.12	25.42	34.64	356.6	7.44	21.0
195.	0.2212	0.976	6.360	161.02	25.42	34.58	361.7	7.62	21.5
200.	0.2153	0.978	6.533	161.89	25.44	34.53	366.6	7.81	22.1
205.	0.2097	0.979	6.705	162.74	25.46	34.50	371.5	7.99	22.6
210.	0.2044	0.981	6.878	163.57	25.49	34.48	376.2	8.17	23.2
215.	0.1994	0.982	7.050	164.39	25.53	34.48	380.9	8.35	23.8
220.	0.1946	0.983	7.222	165.18	25.58	34.49	385.5	8.53	24.4
225.	0.1901	0.984	7.395	165.95	25.64	34.51	390.0	8.70	25.0
230.	0.1857	0.985	7.568	166.71	25.70	34.55	394.4	8.88	25.6
235.	0.1816	0.986	7.740	167.46	25.78	34.59	398.8	9.05	26.2
240.	0.1777	0.987	7.914	168.19	25.86	34.65	403.0	9.23	26.8
245.	0.1739	0.988	8.087	168.90	25.95	34.71	407.2	9.40	27.4
250.	0.1703	0.989	8.261	169.60	26.05	34.79	411.3	9.57	28.0
255.	0.1668	0.990	8.435	170.29	26.16	34.88	415.4	9.74	28.6
260.	0.1635	0.990	8.610	170.97	26.28	34.98	419.3	9.91	29.3
265.	0.1603	0.991	8.785	171.64	26.40	35.09	423.3	10.08	29.9
270.	0.1573	0.991	8.960	172.29	26.54	35.20	427.1	10.25	30.5
275.	0.1543	0.992	9.137	172.94	26.68	35.33	430.9	10.42	31.2
280.	0.1515	0.992	9.314	173.58	26.83	35.47	434.6	10.58	31.8

METHANE ISOBAR AT P = 0.350 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
285.	0.1488	0.993	9.491	174.21	26.99	35.61	438.3	10.75	32.5
290.	0.1461	0.993	9.670	174.83	27.16	35.76	441.9	10.91	33.2
295.	0.1436	0.994	9.849	175.44	27.33	35.93	445.5	11.07	33.9
300.	0.1412	0.994	10.029	176.05	27.51	36.10	449.0	11.24	34.6
310.	0.1365	0.995	10.392	177.24	27.90	36.46	455.8	11.56	36.0
320.	0.1322	0.995	10.758	178.40	28.31	36.85	462.5	11.87	37.4
330.	0.1281	0.996	11.129	179.54	28.75	37.27	469.0	12.19	38.9
340.	0.1243	0.996	11.504	180.66	29.21	37.72	475.3	12.49	40.4
350.	0.1207	0.997	11.883	181.76	29.69	38.18	481.5	12.80	41.9
360.	0.1173	0.997	12.268	182.84	30.18	38.67	487.5	13.10	43.5
370.	0.1141	0.998	12.657	183.91	30.70	39.18	493.5	13.40	45.1
380.	0.1110	0.998	13.051	184.96	31.23	39.70	499.3	13.69	46.8
390.	0.1081	0.998	13.451	186.00	31.77	40.23	504.9	13.98	48.4
400.	0.1054	0.998	13.856	187.02	32.32	40.77	510.5	14.27	50.1
410.	0.1028	0.999	14.266	188.04	32.89	41.33	516.0		51.9
420.	0.1003	0.999	14.682	189.04	33.45	41.89	521.4		53.6
430.	0.0980	0.999	15.104	190.03	34.03	42.45	526.8		55.4
440.	0.0957	0.999	15.532	191.01	34.60	43.02	532.0		57.2
450.	0.0936	0.999	15.965	191.99	35.18	43.60	537.2		59.0
460.	0.0916	0.999	16.403	192.95	35.76	44.17	542.4		60.9
470.	0.0896	1.000	16.848	193.91	36.34	44.75	547.4		62.7
480.	0.0877	1.000	17.298	194.86	36.92	45.32	552.5		64.6
490.	0.0859	1.000	17.754	195.80	37.50	45.89	557.4		66.5
500.	0.0842	1.000	18.216	196.73	38.07	46.46	562.3		68.4
520.	0.0809	1.000	19.157	198.57	39.20	47.59	572.0		72.2
540.	0.0779	1.000	20.120	200.39	40.32	48.70	581.5		76.1
560.	0.0751	1.000	21.105	202.18	41.41	49.78	590.9		80.0
580.	0.0725	1.000	22.111	203.95	42.47	50.84	600.1		84.0
600.	0.0701	1.001	23.138	205.69	43.51	51.88	609.2		87.9

METHANE ISOBAR AT P = 0.400 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.803	0.018	-5.505	70.24	34.00	53.72	1501.6	180.36	206.4
100.	27.380	0.018	-5.234	73.01	34.09	54.60	1449.4	158.01	200.1
105.	26.947	0.017	-4.959	75.69	33.87	55.24	1399.6	139.15	193.4
110.	26.504	0.017	-4.682	78.28	33.50	55.79	1350.4	123.25	186.6
115.	26.047	0.016	-4.402	80.77	33.08	56.35	1300.6	109.79	179.6

METHANE ISOBAR AT P = 0.400 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
120.	25.575	0.016	-4.118	83.18	32.65	56.99	1249.9	98.36	172.5
125.	25.085	0.015	-3.831	85.52	32.24	57.75	1197.7	88.57	165.3
130.	24.574	0.015	-3.540	87.80	31.86	58.68	1143.9	80.11	158.0
131.423	24.417	0.015	-3.455	88.46	31.76	59.02	1127.1	77.82	155.8
131.423	0.4037	0.907	4.055	145.60	26.88	39.07	283.6	5.25	14.6
135.	0.3900	0.914	4.192	146.63	26.45	38.14	289.1	5.39	14.9
140.	0.3722	0.923	4.381	148.01	26.18	37.41	296.4	5.58	15.4
145.	0.3563	0.931	4.567	149.31	26.03	36.90	303.2	5.77	15.9
150.	0.3419	0.938	4.750	150.55	25.91	36.49	309.8	5.96	16.4
155.	0.3288	0.944	4.932	151.74	25.81	36.14	316.2	6.15	17.0
160.	0.3167	0.949	5.112	152.89	25.72	35.84	322.3	6.33	17.5
165.	0.3057	0.954	5.290	153.98	25.64	35.59	328.3	6.52	18.1
170.	0.2954	0.958	5.468	155.04	25.58	35.37	334.1	6.71	18.7
175.	0.2859	0.961	5.644	156.07	25.53	35.19	339.7	6.90	19.2
180.	0.2771	0.965	5.820	157.06	25.50	35.04	345.2	7.08	19.8
185.	0.2688	0.967	5.995	158.01	25.48	34.92	350.6	7.27	20.4
190.	0.2611	0.970	6.169	158.94	25.46	34.82	355.8	7.45	21.0
195.	0.2538	0.972	6.343	159.85	25.46	34.74	360.9	7.63	21.6
200.	0.2469	0.974	6.516	160.73	25.47	34.68	365.9	7.82	22.1
205.	0.2404	0.976	6.690	161.58	25.49	34.64	370.8	8.00	22.7
210.	0.2343	0.978	6.863	162.42	25.52	34.61	375.7	8.18	23.3
215.	0.2285	0.979	7.036	163.23	25.56	34.60	380.4	8.36	23.9
220.	0.2230	0.981	7.209	164.03	25.60	34.60	385.0	8.54	24.4
225.	0.2177	0.982	7.382	164.80	25.66	34.62	389.5	8.71	25.0
230.	0.2127	0.983	7.555	165.57	25.72	34.65	394.0	8.89	25.6
235.	0.2080	0.984	7.728	166.31	25.79	34.68	398.4	9.06	26.2
240.	0.2034	0.985	7.902	167.04	25.88	34.73	402.6	9.24	26.8
245.	0.1991	0.986	8.076	167.76	25.97	34.80	406.9	9.41	27.4
250.	0.1949	0.987	8.250	168.46	26.07	34.87	411.0	9.58	28.0
255.	0.1909	0.988	8.424	169.15	26.17	34.95	415.1	9.75	28.7
260.	0.1871	0.989	8.599	169.83	26.29	35.05	419.1	9.92	29.3
265.	0.1835	0.989	8.775	170.50	26.42	35.15	423.0	10.09	29.9
270.	0.1800	0.990	8.951	171.16	26.55	35.27	426.9	10.26	30.6
275.	0.1766	0.991	9.128	171.81	26.69	35.39	430.7	10.43	31.2
280.	0.1733	0.991	9.305	172.45	26.84	35.52	434.4	10.59	31.9
285.	0.1702	0.992	9.483	173.08	27.00	35.66	438.1	10.76	32.5
290.	0.1672	0.992	9.662	173.70	27.17	35.82	441.7	10.92	33.2
295.	0.1643	0.993	9.841	174.31	27.34	35.98	445.3	11.08	33.9
300.	0.1615	0.993	10.021	174.92	27.52	36.14	448.8	11.24	34.6
310.	0.1561	0.994	10.384	176.11	27.90	36.50	455.7	11.56	36.0

METHANE ISOBAR AT P = 0.400 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
320.	0.1511	0.995	10.751	177.27	28.32	36.89	462.4	11.88	37.4
330.	0.1465	0.995	11.122	178.42	28.75	37.31	468.9	12.19	38.9
340.	0.1421	0.996	11.498	179.54	29.21	37.75	475.2	12.50	40.4
350.	0.1380	0.996	11.878	180.64	29.69	38.22	481.4	12.81	42.0
360.	0.1341	0.997	12.262	181.72	30.19	38.70	487.5	13.11	43.5
370.	0.1304	0.997	12.652	182.79	30.70	39.20	493.4	13.41	45.1
380.	0.1269	0.998	13.046	183.84	31.23	39.72	499.2	13.70	46.8
390.	0.1236	0.998	13.446	184.88	31.78	40.25	504.9	13.99	48.5
400.	0.1205	0.998	13.851	185.90	32.33	40.80	510.5	14.28	50.2
410.	0.1175	0.998	14.262	186.92	32.89	41.35	516.0		51.9
420.	0.1147	0.999	14.678	187.92	33.46	41.91	521.5		53.6
430.	0.1120	0.999	15.100	188.91	34.03	42.47	526.8		55.4
440.	0.1094	0.999	15.528	189.90	34.61	43.04	532.1		57.2
450.	0.1070	0.999	15.961	190.87	35.18	43.61	537.3		59.0
460.	0.1046	0.999	16.400	191.84	35.76	44.19	542.4		60.9
470.	0.1024	1.000	16.845	192.79	36.34	44.76	547.5		62.7
480.	0.1003	1.000	17.295	193.74	36.92	45.33	552.5		64.6
490.	0.0982	1.000	17.751	194.68	37.50	45.91	557.5		66.5
500.	0.0962	1.000	18.213	195.61	38.07	46.47	562.4		68.4
520.	0.0925	1.000	19.154	197.46	39.21	47.60	572.1		72.3
540.	0.0891	1.000	20.117	199.28	40.32	48.71	581.6		76.1
560.	0.0859	1.000	21.102	201.07	41.41	49.79	591.0		80.1
580.	0.0829	1.001	22.109	202.83	42.48	50.85	600.2		84.0
600.	0.0801	1.001	23.136	204.57	43.51	51.88	609.3		87.9

METHANE ISOBAR AT P = 0.450 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.805	0.020	-5.504	70.23	34.00	53.71	1502.0	180.46	206.5
100.	27.382	0.020	-5.233	73.01	34.09	54.59	1449.8	158.10	200.1
105.	26.950	0.019	-4.958	75.69	33.87	55.23	1400.1	139.24	193.5
110.	26.506	0.019	-4.681	78.27	33.50	55.78	1350.9	123.32	186.6
115.	26.050	0.018	-4.400	80.76	33.08	56.34	1301.2	109.86	179.6
120.	25.578	0.018	-4.117	83.17	32.65	56.98	1250.5	98.42	172.5
125.	25.088	0.017	-3.830	85.51	32.24	57.73	1198.4	88.63	165.3
130.	24.578	0.017	-3.540	87.80	31.86	58.66	1144.6	80.17	158.1
133.461	24.205	0.017	-3.334	89.36	31.62	59.46	1105.2	74.88	152.9
133.461	0.4511	0.899	4.093	145.01	26.99	39.60	284.4	5.35	14.9

METHANE ISOBAR AT P = 0.450 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
135.	0.4445	0.902	4.153	145.45	26.75	39.10	286.8	5.40	15.1
140.	0.4235	0.913	4.345	146.85	26.35	38.07	294.4	5.59	15.5
145.	0.4048	0.922	4.534	148.18	26.17	37.45	301.5	5.78	16.0
150.	0.3880	0.930	4.720	149.44	26.03	36.96	308.2	5.97	16.5
155.	0.3728	0.937	4.904	150.64	25.91	36.55	314.7	6.16	17.1
160.	0.3589	0.943	5.086	151.80	25.81	36.20	321.0	6.35	17.6
165.	0.3461	0.948	5.266	152.91	25.73	35.91	327.1	6.54	18.2
170.	0.3343	0.952	5.445	153.97	25.65	35.66	333.0	6.72	18.7
175.	0.3234	0.956	5.623	155.00	25.60	35.45	338.7	6.91	19.3
180.	0.3132	0.960	5.799	156.00	25.55	35.27	344.3	7.09	19.9
185.	0.3037	0.963	5.975	156.97	25.52	35.13	349.7	7.28	20.5
190.	0.2949	0.966	6.151	157.90	25.51	35.01	355.0	7.46	21.1
195.	0.2865	0.969	6.326	158.81	25.50	34.92	360.2	7.65	21.6
200.	0.2787	0.971	6.500	159.69	25.51	34.84	365.3	7.83	22.2
205.	0.2713	0.973	6.674	160.55	25.52	34.79	370.2	8.01	22.8
210.	0.2643	0.975	6.848	161.39	25.55	34.75	375.1	8.19	23.3
215.	0.2577	0.977	7.022	162.21	25.58	34.73	379.8	8.37	23.9
220.	0.2514	0.978	7.195	163.00	25.63	34.72	384.5	8.55	24.5
225.	0.2455	0.980	7.369	163.78	25.68	34.72	389.1	8.72	25.1
230.	0.2398	0.981	7.542	164.55	25.74	34.74	393.6	8.90	25.7
235.	0.2344	0.982	7.716	165.30	25.81	34.78	398.0	9.07	26.3
240.	0.2293	0.984	7.890	166.03	25.89	34.82	402.3	9.25	26.9
245.	0.2243	0.985	8.064	166.75	25.98	34.88	406.5	9.42	27.5
250.	0.2196	0.986	8.239	167.45	26.08	34.95	410.7	9.59	28.1
255.	0.2151	0.987	8.414	168.15	26.19	35.03	414.8	9.76	28.7
260.	0.2108	0.987	8.589	168.83	26.30	35.12	418.8	9.93	29.3
265.	0.2067	0.988	8.765	169.50	26.43	35.22	422.7	10.10	30.0
270.	0.2027	0.989	8.941	170.16	26.56	35.33	426.6	10.27	30.6
275.	0.1989	0.990	9.118	170.80	26.70	35.45	430.4	10.44	31.3
280.	0.1952	0.990	9.296	171.44	26.85	35.58	434.2	10.60	31.9
285.	0.1917	0.991	9.474	172.08	27.01	35.72	437.9	10.77	32.6
290.	0.1883	0.991	9.653	172.70	27.17	35.87	441.5	10.93	33.3
295.	0.1850	0.992	9.833	173.31	27.35	36.02	445.1	11.09	33.9
300.	0.1818	0.992	10.013	173.92	27.53	36.19	448.7	11.25	34.6
310.	0.1758	0.993	10.377	175.11	27.91	36.55	455.6	11.57	36.0
320.	0.1701	0.994	10.744	176.28	28.32	36.93	462.3	11.89	37.5
330.	0.1649	0.995	11.116	177.42	28.76	37.35	468.8	12.20	38.9
340.	0.1599	0.995	11.491	178.54	29.22	37.79	475.2	12.51	40.4
350.	0.1553	0.996	11.872	179.64	29.70	38.25	481.4	12.81	42.0
360.	0.1509	0.996	12.257	180.73	30.19	38.73	487.5	13.11	43.6

METHANE ISOBAR AT P = 0.450 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
370.	0.1467	0.997	12.646	181.80	30.71	39.23	493.4	13.41	45.2
380.	0.1428	0.997	13.041	182.85	31.24	39.75	499.2	13.71	46.8
390.	0.1391	0.998	13.441	183.89	31.78	40.28	504.9	14.00	48.5
400.	0.1356	0.998	13.847	184.92	32.33	40.82	510.5	14.28	50.2
410.	0.1322	0.998	14.258	185.93	32.89	41.37	516.0		51.9
420.	0.1291	0.998	14.674	186.93	33.46	41.93	521.5		53.7
430.	0.1260	0.999	15.096	187.93	34.03	42.49	526.8		55.4
440.	0.1231	0.999	15.524	188.91	34.61	43.06	532.1		57.2
450.	0.1204	0.999	15.957	189.88	35.19	43.63	537.3		59.1
460.	0.1177	0.999	16.397	190.85	35.77	44.20	542.4		60.9
470.	0.1152	0.999	16.842	191.81	36.35	44.78	547.5		62.8
480.	0.1128	1.000	17.292	192.75	36.92	45.35	552.6		64.6
490.	0.1105	1.000	17.749	193.70	37.50	45.92	557.5		66.5
500.	0.1083	1.000	18.211	194.63	38.07	46.49	562.5		68.4
520.	0.1041	1.000	19.152	196.47	39.21	47.61	572.2		72.3
540.	0.1002	1.000	20.115	198.29	40.32	48.72	581.7		76.2
560.	0.0966	1.000	21.100	200.08	41.41	49.80	591.1		80.1
580.	0.0933	1.001	22.107	201.85	42.48	50.86	600.3		84.0
600.	0.0901	1.001	23.135	203.59	43.51	51.89	609.4		87.9

METHANE ISOBAR AT P = 0.500 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.807	0.023	-5.502	70.22	34.00	53.71	1502.4	180.56	206.5
100.	27.385	0.022	-5.232	73.00	34.10	54.59	1450.3	158.19	200.2
105.	26.953	0.021	-4.957	75.68	33.87	55.22	1400.6	139.32	193.5
110.	26.509	0.021	-4.679	78.26	33.50	55.77	1351.4	123.40	186.7
115.	26.053	0.020	-4.399	80.76	33.08	56.33	1301.7	109.93	179.7
120.	25.581	0.020	-4.116	83.17	32.66	56.96	1251.0	98.49	172.6
125.	25.092	0.019	-3.829	85.51	32.25	57.72	1199.0	88.69	165.4
130.	24.582	0.019	-3.539	87.79	31.87	58.64	1145.3	80.22	158.1
135.	24.047	0.019	-3.243	90.02	31.52	59.79	1089.5	72.83	150.8
135.338	24.005	0.019	-3.221	90.18	31.50	59.90	1084.9	72.31	150.2
135.338	0.4985	0.891	4.126	144.47	27.11	40.15	284.9	5.43	15.3
140.	0.4761	0.902	4.309	145.80	26.55	38.82	292.3	5.61	15.7
145.	0.4545	0.913	4.501	147.14	26.31	38.03	299.6	5.80	16.1
150.	0.4351	0.922	4.689	148.42	26.15	37.45	306.6	5.99	16.6
155.	0.4175	0.929	4.875	149.64	26.02	36.98	313.2	6.17	17.2

METHANE ISOBAR AT P = 0.500 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
160.	0.4016	0.936	5.059	150.81	25.91	36.58	319.6	6.36	17.7
165.	0.3870	0.942	5.241	151.93	25.81	36.24	325.8	6.55	18.3
170.	0.3736	0.947	5.422	153.01	25.73	35.95	331.8	6.74	18.8
175.	0.3612	0.951	5.601	154.05	25.66	35.71	337.7	6.92	19.4
180.	0.3497	0.955	5.779	155.05	25.61	35.51	343.3	7.11	20.0
185.	0.3390	0.959	5.956	156.02	25.58	35.34	348.8	7.29	20.5
190.	0.3289	0.962	6.133	156.96	25.55	35.20	354.2	7.47	21.2
195.	0.3195	0.965	6.308	157.87	25.54	35.09	359.5	7.66	21.7
200.	0.3107	0.968	6.483	158.76	25.54	35.00	364.6	7.84	22.2
205.	0.3024	0.970	6.658	159.62	25.55	34.93	369.6	8.02	22.8
210.	0.2945	0.972	6.833	160.46	25.58	34.88	374.5	8.20	23.4
215.	0.2871	0.974	7.007	161.29	25.61	34.85	379.3	8.38	24.0
220.	0.2801	0.976	7.181	162.09	25.65	34.83	384.0	8.56	24.5
225.	0.2734	0.978	7.356	162.87	25.70	34.83	388.6	8.73	25.1
230.	0.2670	0.979	7.530	163.63	25.76	34.85	393.1	8.91	25.7
235.	0.2610	0.980	7.704	164.38	25.83	34.87	397.5	9.08	26.3
240.	0.2552	0.982	7.878	165.12	25.91	34.91	401.9	9.26	26.9
245.	0.2497	0.983	8.053	165.84	26.00	34.96	406.2	9.43	27.5
250.	0.2444	0.984	8.228	166.55	26.09	35.03	410.4	9.60	28.1
255.	0.2394	0.985	8.403	167.24	26.20	35.10	414.5	9.77	28.7
260.	0.2346	0.986	8.579	167.92	26.32	35.19	418.5	9.94	29.4
265.	0.2300	0.987	8.755	168.59	26.44	35.28	422.5	10.11	30.0
270.	0.2255	0.988	8.932	169.25	26.57	35.39	426.4	10.28	30.6
275.	0.2212	0.988	9.109	169.91	26.71	35.51	430.2	10.44	31.3
280.	0.2171	0.989	9.287	170.55	26.86	35.64	434.0	10.61	32.0
285.	0.2132	0.990	9.466	171.18	27.02	35.77	437.7	10.77	32.6
290.	0.2094	0.990	9.645	171.80	27.18	35.92	441.4	10.94	33.3
295.	0.2057	0.991	9.825	172.42	27.36	36.07	445.0	11.10	34.0
300.	0.2022	0.992	10.006	173.02	27.54	36.24	448.5	11.26	34.7
310.	0.1955	0.993	10.370	174.22	27.92	36.59	455.4	11.58	36.1
320.	0.1892	0.993	10.737	175.39	28.33	36.97	462.2	11.90	37.5
330.	0.1833	0.994	11.109	176.53	28.76	37.38	468.7	12.21	39.0
340.	0.1778	0.995	11.485	177.65	29.22	37.82	475.1	12.52	40.5
350.	0.1726	0.995	11.866	178.76	29.70	38.28	481.3	12.82	42.0
360.	0.1677	0.996	12.251	179.84	30.20	38.76	487.4	13.12	43.6
370.	0.1631	0.996	12.641	180.91	30.71	39.26	493.4	13.42	45.2
380.	0.1587	0.997	13.036	181.96	31.24	39.77	499.2	13.71	46.8
390.	0.1546	0.997	13.437	183.00	31.78	40.30	504.9	14.00	48.5
400.	0.1507	0.998	13.842	184.03	32.34	40.84	510.5	14.29	50.2
410.	0.1470	0.998	14.253	185.04	32.90	41.39	516.1		51.9

METHANE ISOBAR AT P = 0.500 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
420.	0.1434	0.998	14.670	186.05	33.46	41.95	521.5		53.7
430.	0.1400	0.999	15.092	187.04	34.04	42.51	526.8		55.5
440.	0.1368	0.999	15.520	188.03	34.61	43.08	532.1		57.3
450.	0.1338	0.999	15.954	189.00	35.19	43.65	537.3		59.1
460.	0.1308	0.999	16.393	189.97	35.77	44.22	542.5		60.9
470.	0.1280	0.999	16.838	190.92	36.35	44.79	547.6		62.8
480.	0.1253	1.000	17.289	191.87	36.93	45.36	552.6		64.7
490.	0.1228	1.000	17.746	192.81	37.50	45.93	557.6		66.6
500.	0.1203	1.000	18.208	193.75	38.08	46.50	562.5		68.5
520.	0.1156	1.000	19.149	195.59	39.21	47.63	572.2		72.3
540.	0.1113	1.000	20.113	197.41	40.32	48.73	581.8		76.2
560.	0.1073	1.001	21.098	199.20	41.41	49.81	591.2		80.1
580.	0.1036	1.001	22.105	200.97	42.48	50.87	600.4		84.0
600.	0.1001	1.001	23.133	202.71	43.52	51.90	609.5		88.0

METHANE ISOBAR AT P = 0.550 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.809	0.025	-5.501	70.22	34.00	53.70	1502.8	180.66	206.5
100.	27.387	0.024	-5.230	73.00	34.10	54.58	1450.7	158.28	200.2
105.	26.955	0.023	-4.956	75.68	33.87	55.21	1401.0	139.40	193.6
110.	26.512	0.023	-4.678	78.26	33.51	55.76	1351.9	123.47	186.8
115.	26.056	0.022	-4.398	80.75	33.08	56.32	1302.2	110.00	179.8
120.	25.585	0.022	-4.115	83.16	32.66	56.95	1251.6	98.55	172.7
125.	25.096	0.021	-3.828	85.50	32.25	57.70	1199.6	88.75	165.5
130.	24.587	0.021	-3.538	87.78	31.87	58.62	1145.9	80.28	158.2
135.	24.052	0.020	-3.242	90.01	31.52	59.76	1090.3	72.88	150.9
137.082	23.817	0.020	-3.116	90.94	31.39	60.34	1065.8	70.02	147.7
137.082	0.5459	0.884	4.155	143.98	27.23	40.71	285.4	5.52	15.6
140.	0.5302	0.891	4.271	144.82	26.80	39.69	290.1	5.62	15.9
145.	0.5052	0.903	4.467	146.19	26.46	38.66	297.7	5.81	16.3
150.	0.4830	0.913	4.658	147.49	26.27	37.97	304.9	6.00	16.8
155.	0.4631	0.922	4.847	148.72	26.13	37.43	311.7	6.19	17.3
160.	0.4450	0.929	5.033	149.90	26.00	36.97	318.3	6.38	17.8
165.	0.4285	0.936	5.217	151.03	25.89	36.59	324.6	6.56	18.3
170.	0.4134	0.941	5.399	152.12	25.80	36.26	330.7	6.75	18.9
175.	0.3995	0.946	5.579	153.17	25.73	35.98	336.6	6.93	19.5
180.	0.3865	0.951	5.759	154.18	25.67	35.75	342.4	7.12	20.0

METHANE ISOBAR AT P = 0.550 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
185.	0.3745	0.955	5.937	155.16	25.63	35.56	348.0	7.30	20.6
190.	0.3633	0.958	6.114	156.10	25.60	35.40	353.4	7.49	21.2
195.	0.3528	0.962	6.291	157.02	25.58	35.27	358.7	7.67	21.8
200.	0.3430	0.964	6.467	157.91	25.58	35.16	363.9	7.85	22.3
205.	0.3337	0.967	6.643	158.78	25.59	35.08	369.0	8.03	22.9
210.	0.3249	0.969	6.818	159.62	25.60	35.02	373.9	8.21	23.4
215.	0.3167	0.972	6.993	160.45	25.63	34.98	378.8	8.39	24.0
220.	0.3089	0.974	7.168	161.25	25.67	34.95	383.5	8.57	24.6
225.	0.3014	0.975	7.342	162.04	25.72	34.94	388.1	8.74	25.2
230.	0.2944	0.977	7.517	162.80	25.78	34.95	392.7	8.92	25.8
235.	0.2877	0.979	7.692	163.56	25.85	34.97	397.1	9.09	26.4
240.	0.2813	0.980	7.867	164.29	25.93	35.00	401.5	9.27	27.0
245.	0.2752	0.981	8.042	165.01	26.01	35.05	405.8	9.44	27.6
250.	0.2693	0.982	8.217	165.72	26.11	35.10	410.0	9.61	28.2
255.	0.2638	0.984	8.393	166.42	26.21	35.18	414.2	9.78	28.8
260.	0.2584	0.985	8.569	167.10	26.33	35.26	418.2	9.95	29.4
265.	0.2533	0.986	8.745	167.78	26.45	35.35	422.2	10.12	30.0
270.	0.2484	0.986	8.922	168.44	26.58	35.45	426.1	10.29	30.7
275.	0.2436	0.987	9.100	169.09	26.72	35.57	430.0	10.45	31.3
280.	0.2391	0.988	9.278	169.73	26.87	35.69	433.8	10.62	32.0
285.	0.2347	0.989	9.457	170.36	27.03	35.83	437.5	10.78	32.6
290.	0.2305	0.989	9.636	170.99	27.19	35.97	441.2	10.95	33.3
295.	0.2265	0.990	9.817	171.60	27.36	36.12	444.8	11.11	34.0
300.	0.2226	0.991	9.998	172.21	27.54	36.29	448.4	11.27	34.7
310.	0.2152	0.992	10.362	173.41	27.93	36.63	455.3	11.59	36.1
320.	0.2082	0.993	10.731	174.58	28.34	37.01	462.1	11.90	37.5
330.	0.2018	0.994	11.103	175.72	28.77	37.42	468.6	12.22	39.0
340.	0.1957	0.994	11.479	176.85	29.23	37.85	475.0	12.52	40.5
350.	0.1899	0.995	11.860	177.95	29.71	38.31	481.3	12.83	42.0
360.	0.1846	0.996	12.245	179.04	30.20	38.79	487.4	13.13	43.6
370.	0.1795	0.996	12.636	180.11	30.72	39.29	493.3	13.43	45.2
380.	0.1747	0.997	13.031	181.16	31.25	39.80	499.2	13.72	46.9
390.	0.1701	0.997	13.432	182.20	31.79	40.33	504.9	14.01	48.5
400.	0.1658	0.997	13.838	183.23	32.34	40.86	510.5	14.30	50.2
410.	0.1617	0.998	14.249	184.24	32.90	41.41	516.1		51.9
420.	0.1578	0.998	14.666	185.25	33.47	41.97	521.5		53.7
430.	0.1541	0.998	15.088	186.24	34.04	42.53	526.9		55.5
440.	0.1505	0.999	15.517	187.23	34.61	43.10	532.2		57.3
450.	0.1472	0.999	15.950	188.20	35.19	43.67	537.4		59.1
460.	0.1439	0.999	16.390	189.17	35.77	44.24	542.5		60.9

METHANE ISOBAR AT P = 0.550 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
470.	0.1408	0.999	16.835	190.12	36.35	44.81	547.6		62.8
480.	0.1379	1.000	17.286	191.07	36.93	45.38	552.7		64.7
490.	0.1350	1.000	17.743	192.02	37.51	45.95	557.6		66.6
500.	0.1323	1.000	18.205	192.95	38.08	46.51	562.6		68.5
520.	0.1272	1.000	19.147	194.80	39.21	47.64	572.3		72.3
540.	0.1224	1.000	20.110	196.61	40.33	48.74	581.8		76.2
560.	0.1181	1.001	21.096	198.41	41.42	49.82	591.2		80.1
580.	0.1140	1.001	22.103	200.17	42.48	50.88	600.5		84.0
600.	0.1102	1.001	23.131	201.92	43.52	51.91	609.6		88.0

METHANE ISOBAR AT P = 0.600 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.811	0.027	-5.500	70.21	34.01	53.70	1503.3	180.75	206.6
100.	27.389	0.026	-5.229	72.99	34.10	54.58	1451.1	158.37	200.3
105.	26.958	0.025	-4.955	75.67	33.87	55.21	1401.5	139.48	193.6
110.	26.515	0.025	-4.677	78.25	33.51	55.75	1352.4	123.55	186.8
115.	26.059	0.024	-4.397	80.74	33.09	56.31	1302.8	110.07	179.8
120.	25.588	0.024	-4.114	83.15	32.66	56.94	1252.2	98.62	172.7
125.	25.100	0.023	-3.827	85.49	32.25	57.69	1200.3	88.81	165.5
130.	24.591	0.023	-3.537	87.77	31.87	58.60	1146.6	80.34	158.3
135.	24.057	0.022	-3.241	90.00	31.52	59.73	1091.0	72.94	150.9
138.715	23.638	0.022	-3.016	91.64	31.29	60.78	1047.7	67.97	145.4
138.715	0.5933	0.877	4.181	143.53	27.36	41.28	285.7	5.59	15.9
140.	0.5858	0.880	4.232	143.90	27.12	40.73	287.9	5.64	16.0
145.	0.5572	0.893	4.432	145.30	26.63	39.35	295.8	5.83	16.4
150.	0.5320	0.904	4.626	146.62	26.40	38.52	303.2	6.02	16.9
155.	0.5094	0.914	4.817	147.87	26.23	37.90	310.2	6.20	17.4
160.	0.4891	0.922	5.006	149.06	26.10	37.38	316.9	6.39	17.9
165.	0.4706	0.929	5.191	150.21	25.98	36.94	323.4	6.58	18.4
170.	0.4537	0.936	5.375	151.30	25.88	36.57	329.6	6.76	19.0
175.	0.4381	0.941	5.557	152.36	25.79	36.26	335.6	6.95	19.5
180.	0.4238	0.946	5.738	153.38	25.73	36.00	341.4	7.13	20.1
185.	0.4104	0.950	5.917	154.36	25.68	35.78	347.1	7.32	20.7
190.	0.3980	0.954	6.096	155.31	25.64	35.60	352.6	7.50	21.3
195.	0.3863	0.958	6.273	156.24	25.62	35.45	358.0	7.68	21.8
200.	0.3754	0.961	6.450	157.13	25.61	35.33	363.2	7.86	22.4
205.	0.3652	0.964	6.627	158.00	25.62	35.23	368.3	8.04	22.9

METHANE ISOBAR AT P = 0.600 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
210.	0.3555	0.967	6.803	158.85	25.63	35.16	373.3	8.22	23.5
215.	0.3464	0.969	6.978	159.68	25.66	35.11	378.2	8.40	24.1
220.	0.3378	0.971	7.154	160.48	25.70	35.07	383.0	8.58	24.6
225.	0.3296	0.973	7.329	161.27	25.74	35.05	387.7	8.75	25.2
230.	0.3218	0.975	7.504	162.04	25.80	35.05	392.3	8.93	25.8
235.	0.3145	0.977	7.680	162.80	25.87	35.06	396.7	9.10	26.4
240.	0.3074	0.978	7.855	163.54	25.94	35.09	401.1	9.28	27.0
245.	0.3007	0.980	8.030	164.26	26.03	35.13	405.5	9.45	27.6
250.	0.2943	0.981	8.206	164.97	26.12	35.18	409.7	9.62	28.2
255.	0.2882	0.982	8.382	165.67	26.23	35.25	413.9	9.79	28.8
260.	0.2823	0.983	8.559	166.35	26.34	35.33	417.9	9.96	29.5
265.	0.2767	0.984	8.736	167.03	26.46	35.42	422.0	10.13	30.1
270.	0.2713	0.985	8.913	167.69	26.59	35.52	425.9	10.30	30.7
275.	0.2661	0.986	9.091	168.34	26.73	35.63	429.8	10.46	31.4
280.	0.2611	0.987	9.269	168.98	26.88	35.75	433.6	10.63	32.0
285.	0.2563	0.988	9.448	169.62	27.04	35.88	437.3	10.79	32.7
290.	0.2517	0.988	9.628	170.24	27.20	36.02	441.0	10.95	33.4
295.	0.2473	0.989	9.809	170.86	27.37	36.17	444.6	11.12	34.0
300.	0.2430	0.990	9.990	171.47	27.55	36.33	448.2	11.28	34.7
310.	0.2349	0.991	10.355	172.67	27.93	36.68	455.2	11.60	36.1
320.	0.2273	0.992	10.724	173.84	28.34	37.05	462.0	11.91	37.6
330.	0.2202	0.993	11.096	174.98	28.78	37.46	468.5	12.22	39.0
340.	0.2136	0.994	11.473	176.11	29.23	37.89	475.0	12.53	40.5
350.	0.2073	0.995	11.854	177.21	29.71	38.34	481.2	12.84	42.1
360.	0.2014	0.995	12.240	178.30	30.21	38.82	487.3	13.14	43.6
370.	0.1959	0.996	12.630	179.37	30.72	39.31	493.3	13.43	45.2
380.	0.1906	0.996	13.026	180.43	31.25	39.83	499.2	13.73	46.9
390.	0.1856	0.997	13.427	181.47	31.79	40.35	504.9	14.02	48.5
400.	0.1809	0.997	13.833	182.49	32.34	40.89	510.5	14.30	50.2
410.	0.1764	0.998	14.245	183.51	32.90	41.43	516.1		52.0
420.	0.1722	0.998	14.662	184.52	33.47	41.99	521.5		53.7
430.	0.1681	0.998	15.084	185.51	34.04	42.55	526.9		55.5
440.	0.1642	0.999	15.513	186.50	34.62	43.11	532.2		57.3
450.	0.1605	0.999	15.947	187.47	35.20	43.68	537.4		59.1
460.	0.1570	0.999	16.386	188.44	35.77	44.25	542.6		61.0
470.	0.1536	0.999	16.832	189.39	36.35	44.82	547.7		62.8
480.	0.1504	1.000	17.283	190.34	36.93	45.39	552.7		64.7
490.	0.1473	1.000	17.740	191.29	37.51	45.96	557.7		66.6
500.	0.1443	1.000	18.202	192.22	38.08	46.53	562.6		68.5
520.	0.1387	1.000	19.144	194.07	39.21	47.65	572.4		72.3

METHANE ISOBAR AT P = 0.600 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
540.	0.1336	1.000	20.108	195.89	40.33	48.75	581.9		76.2
560.	0.1288	1.001	21.094	197.68	41.42	49.83	591.3		80.1
580.	0.1243	1.001	22.101	199.45	42.48	50.89	600.6		84.1
600.	0.1202	1.001	23.129	201.19	43.52	51.92	609.7		88.0

METHANE ISOBAR AT P = 0.650 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.814	0.030	-5.499	70.21	34.01	53.69	1503.7	180.85	206.6
100.	27.392	0.029	-5.228	72.99	34.10	54.57	1451.6	158.46	200.3
105.	26.960	0.028	-4.953	75.66	33.88	55.20	1401.9	139.56	193.7
110.	26.518	0.027	-4.676	78.24	33.51	55.74	1352.8	123.62	186.9
115.	26.062	0.026	-4.396	80.73	33.09	56.30	1303.3	110.14	179.9
120.	25.592	0.025	-4.113	83.14	32.66	56.92	1252.8	98.68	172.8
125.	25.104	0.025	-3.826	85.48	32.25	57.67	1200.9	88.87	165.6
130.	24.595	0.024	-3.536	87.76	31.87	58.58	1147.3	80.40	158.3
135.	24.062	0.024	-3.240	89.99	31.53	59.71	1091.8	73.00	151.0
140.	23.499	0.024	-2.938	92.19	31.22	61.13	1033.9	66.45	143.6
140.251	23.468	0.024	-2.922	92.30	31.21	61.23	1030.5	66.12	143.2
140.251	0.6408	0.870	4.203	143.11	27.49	41.86	286.0	5.67	16.3
145.	0.6105	0.883	4.396	144.46	26.82	40.13	293.8	5.85	16.6
150.	0.5820	0.895	4.594	145.80	26.53	39.11	301.4	6.03	17.0
155.	0.5567	0.906	4.788	147.07	26.34	38.39	308.6	6.22	17.5
160.	0.5339	0.915	4.978	148.28	26.19	37.80	315.5	6.41	18.0
165.	0.5133	0.923	5.166	149.44	26.06	37.31	322.1	6.59	18.5
170.	0.4945	0.930	5.351	150.54	25.95	36.90	328.4	6.78	19.1
175.	0.4773	0.936	5.535	151.61	25.86	36.55	334.5	6.96	19.6
180.	0.4614	0.941	5.717	152.63	25.79	36.26	340.5	7.15	20.2
185.	0.4466	0.946	5.898	153.62	25.73	36.01	346.2	7.33	20.8
190.	0.4329	0.950	6.077	154.58	25.69	35.81	351.8	7.51	21.4
195.	0.4201	0.954	6.256	155.51	25.66	35.64	357.2	7.69	21.9
200.	0.4081	0.958	6.434	156.41	25.65	35.50	362.5	7.87	22.4
205.	0.3969	0.961	6.611	157.28	25.65	35.39	367.7	8.05	23.0
210.	0.3863	0.964	6.787	158.14	25.66	35.30	372.7	8.23	23.5
215.	0.3763	0.966	6.964	158.97	25.69	35.24	377.7	8.41	24.1
220.	0.3669	0.969	7.140	159.78	25.72	35.19	382.5	8.59	24.7
225.	0.3579	0.971	7.316	160.57	25.76	35.16	387.2	8.76	25.3
230.	0.3494	0.973	7.491	161.34	25.82	35.15	391.8	8.94	25.9

METHANE ISOBAR AT P = 0.650 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
235.	0.3413	0.975	7.667	162.10	25.88	35.16	396.3	9.11	26.4
240.	0.3337	0.976	7.843	162.84	25.96	35.18	400.8	9.29	27.0
245.	0.3263	0.978	8.019	163.56	26.04	35.22	405.1	9.46	27.6
250.	0.3193	0.979	8.195	164.27	26.14	35.26	409.4	9.63	28.3
255.	0.3127	0.981	8.372	164.97	26.24	35.33	413.6	9.80	28.9
260.	0.3063	0.982	8.549	165.66	26.35	35.40	417.7	9.97	29.5
265.	0.3001	0.983	8.726	166.33	26.47	35.49	421.7	10.14	30.1
270.	0.2943	0.984	8.903	167.00	26.60	35.58	425.7	10.30	30.8
275.	0.2886	0.985	9.082	167.65	26.74	35.69	429.6	10.47	31.4
280.	0.2832	0.986	9.260	168.30	26.89	35.81	433.4	10.64	32.1
285.	0.2780	0.987	9.440	168.93	27.05	35.94	437.1	10.80	32.7
290.	0.2730	0.988	9.620	169.56	27.21	36.08	440.8	10.96	33.4
295.	0.2681	0.988	9.801	170.18	27.38	36.22	444.5	11.12	34.1
300.	0.2635	0.989	9.982	170.79	27.56	36.38	448.1	11.29	34.8
310.	0.2547	0.990	10.348	171.98	27.94	36.72	455.1	11.60	36.1
320.	0.2464	0.991	10.717	173.16	28.35	37.09	461.8	11.92	37.6
330.	0.2387	0.992	11.089	174.30	28.78	37.49	468.5	12.23	39.0
340.	0.2315	0.993	11.467	175.43	29.24	37.92	474.9	12.54	40.6
350.	0.2247	0.994	11.848	176.53	29.72	38.38	481.2	12.84	42.1
360.	0.2183	0.995	12.234	177.62	30.21	38.85	487.3	13.14	43.7
370.	0.2123	0.995	12.625	178.69	30.73	39.34	493.3	13.44	45.3
380.	0.2065	0.996	13.021	179.75	31.25	39.85	499.1	13.73	46.9
390.	0.2011	0.997	13.422	180.79	31.80	40.37	504.9	14.02	48.6
400.	0.1960	0.997	13.829	181.82	32.35	40.91	510.5	14.31	50.3
410.	0.1912	0.997	14.240	182.84	32.91	41.46	516.1		52.0
420.	0.1865	0.998	14.658	183.84	33.47	42.01	521.5		53.7
430.	0.1821	0.998	15.081	184.84	34.04	42.57	526.9		55.5
440.	0.1779	0.998	15.509	185.82	34.62	43.13	532.2		57.3
450.	0.1739	0.999	15.943	186.80	35.20	43.70	537.5		59.1
460.	0.1701	0.999	16.383	187.76	35.78	44.27	542.6		61.0
470.	0.1665	0.999	16.829	188.72	36.36	44.84	547.7		62.8
480.	0.1629	0.999	17.280	189.67	36.93	45.41	552.8		64.7
490.	0.1596	1.000	17.737	190.62	37.51	45.98	557.8		66.6
500.	0.1564	1.000	18.199	191.55	38.08	46.54	562.7		68.5
520.	0.1503	1.000	19.141	193.40	39.22	47.66	572.4		72.4
540.	0.1447	1.000	20.106	195.22	40.33	48.76	582.0		76.2
560.	0.1395	1.001	21.092	197.01	41.42	49.84	591.4		80.1
580.	0.1347	1.001	22.099	198.78	42.48	50.90	600.7		84.1
600.	0.1302	1.001	23.128	200.52	43.52	51.93	609.8		88.0

METHANE ISOBAR AT P = 0.700 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.816	0.032	-5.497	70.20	34.01	53.69	1504.1	180.95	206.7
100.	27.394	0.031	-5.227	72.98	34.10	54.56	1452.0	158.55	200.4
105.	26.963	0.030	-4.952	75.66	33.88	55.19	1402.4	139.65	193.7
110.	26.521	0.029	-4.675	78.24	33.51	55.73	1353.3	123.70	186.9
115.	26.065	0.028	-4.395	80.73	33.09	56.29	1303.8	110.21	179.9
120.	25.595	0.027	-4.112	83.14	32.66	56.91	1253.3	98.75	172.8
125.	25.108	0.027	-3.825	85.47	32.25	57.65	1201.5	88.93	165.7
130.	24.600	0.026	-3.535	87.75	31.87	58.56	1148.0	80.46	158.4
135.	24.067	0.026	-3.239	89.98	31.53	59.68	1092.6	73.06	151.1
140.	23.505	0.026	-2.938	92.18	31.22	61.10	1034.8	66.51	143.7
141.703	23.303	0.025	-2.833	92.92	31.13	61.68	1014.1	64.42	141.2
141.703	0.6885	0.863	4.223	142.71	27.62	42.46	286.2	5.74	16.6
145.	0.6653	0.873	4.359	143.66	27.06	41.02	291.8	5.86	16.8
150.	0.6331	0.886	4.561	145.03	26.67	39.75	299.7	6.05	17.2
155.	0.6048	0.898	4.757	146.32	26.46	38.91	307.1	6.23	17.6
160.	0.5795	0.908	4.950	147.55	26.29	38.24	314.1	6.42	18.1
165.	0.5566	0.917	5.140	148.71	26.15	37.69	320.8	6.61	18.6
170.	0.5359	0.924	5.327	149.83	26.03	37.23	327.3	6.79	19.2
175.	0.5169	0.931	5.512	150.91	25.93	36.84	333.5	6.98	19.7
180.	0.4994	0.937	5.696	151.94	25.84	36.52	339.5	7.16	20.3
185.	0.4832	0.942	5.878	152.94	25.78	36.24	345.3	7.34	20.8
190.	0.4682	0.946	6.058	153.90	25.73	36.02	351.0	7.52	21.4
195.	0.4542	0.951	6.238	154.83	25.70	35.83	356.5	7.71	21.9
200.	0.4411	0.954	6.417	155.74	25.69	35.67	361.8	7.89	22.5
205.	0.4288	0.958	6.595	156.62	25.68	35.54	367.1	8.07	23.0
210.	0.4172	0.961	6.772	157.47	25.69	35.44	372.1	8.24	23.6
215.	0.4064	0.964	6.949	158.30	25.71	35.37	377.1	8.42	24.2
220.	0.3961	0.966	7.126	159.12	25.74	35.31	382.0	8.60	24.7
225.	0.3864	0.968	7.302	159.91	25.79	35.28	386.7	8.78	25.3
230.	0.3771	0.971	7.479	160.68	25.84	35.26	391.4	8.95	25.9
235.	0.3684	0.973	7.655	161.44	25.90	35.26	395.9	9.12	26.5
240.	0.3600	0.974	7.831	162.19	25.98	35.27	400.4	9.30	27.1
245.	0.3521	0.976	8.008	162.91	26.06	35.30	404.8	9.47	27.7
250.	0.3445	0.978	8.184	163.63	26.15	35.35	409.1	9.64	28.3
255.	0.3372	0.979	8.361	164.33	26.25	35.40	413.3	9.81	28.9
260.	0.3303	0.980	8.538	165.02	26.37	35.47	417.4	9.98	29.5
265.	0.3237	0.982	8.716	165.69	26.49	35.55	421.4	10.15	30.2
270.	0.3173	0.983	8.894	166.36	26.62	35.65	425.4	10.31	30.8
275.	0.3112	0.984	9.072	167.01	26.75	35.75	429.3	10.48	31.4
280.	0.3053	0.985	9.251	167.66	26.90	35.87	433.2	10.64	32.1

METHANE ISOBAR AT P = 0.700 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
285.	0.2997	0.986	9.431	168.29	27.05	35.99	436.9	10.81	32.8
290.	0.2943	0.987	9.611	168.92	27.22	36.13	440.7	10.97	33.4
295.	0.2890	0.987	9.792	169.54	27.39	36.27	444.3	11.13	34.1
300.	0.2840	0.988	9.974	170.15	27.57	36.43	447.9	11.29	34.8
310.	0.2745	0.990	10.340	171.35	27.95	36.76	454.9	11.61	36.2
320.	0.2656	0.991	10.710	172.52	28.35	37.13	461.7	11.93	37.6
330.	0.2572	0.992	11.083	173.67	28.79	37.53	468.4	12.24	39.1
340.	0.2494	0.993	11.460	174.80	29.24	37.96	474.8	12.55	40.6
350.	0.2421	0.994	11.842	175.91	29.72	38.41	481.1	12.85	42.1
360.	0.2352	0.994	12.229	176.99	30.22	38.88	487.2	13.15	43.7
370.	0.2287	0.995	12.620	178.07	30.73	39.37	493.2	13.45	45.3
380.	0.2225	0.996	13.016	179.12	31.26	39.88	499.1	13.74	46.9
390.	0.2167	0.996	13.417	180.16	31.80	40.40	504.9	14.03	48.6
400.	0.2112	0.997	13.824	181.19	32.35	40.93	510.5	14.32	50.3
410.	0.2059	0.997	14.236	182.21	32.91	41.48	516.1		52.0
420.	0.2009	0.998	14.654	183.22	33.48	42.03	521.6		53.8
430.	0.1962	0.998	15.077	184.21	34.05	42.59	526.9		55.5
440.	0.1917	0.998	15.505	185.20	34.62	43.15	532.3		57.3
450.	0.1873	0.999	15.940	186.17	35.20	43.72	537.5		59.2
460.	0.1832	0.999	16.380	187.14	35.78	44.29	542.7		61.0
470.	0.1793	0.999	16.825	188.10	36.36	44.85	547.8		62.9
480.	0.1755	0.999	17.277	189.05	36.94	45.42	552.8		64.7
490.	0.1719	1.000	17.734	189.99	37.51	45.99	557.8		66.6
500.	0.1684	1.000	18.197	190.93	38.08	46.55	562.8		68.5
520.	0.1619	1.000	19.139	192.78	39.22	47.67	572.5		72.4
540.	0.1558	1.001	20.103	194.60	40.33	48.78	582.1		76.3
560.	0.1502	1.001	21.090	196.39	41.42	49.85	591.5		80.2
580.	0.1450	1.001	22.097	198.16	42.49	50.91	600.7		84.1
600.	0.1402	1.001	23.126	199.90	43.52	51.94	609.9		88.0

METHANE ISOBAR AT P = 0.750 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.818	0.034	-5.496	70.20	34.01	53.68	1504.5	181.05	206.7
100.	27.396	0.033	-5.225	72.97	34.10	54.56	1452.4	158.64	200.4
105.	26.965	0.032	-4.951	75.65	33.88	55.18	1402.9	139.73	193.8
110.	26.523	0.031	-4.674	78.23	33.51	55.73	1353.8	123.77	187.0
115.	26.069	0.030	-4.394	80.72	33.09	56.28	1304.4	110.28	180.0

METHANE ISOBAR AT P = 0.750 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
120.	25.599	0.029	-4.111	83.13	32.66	56.90	1253.9	98.81	172.9
125.	25.112	0.029	-3.824	85.47	32.25	57.64	1202.1	88.99	165.7
130.	24.604	0.028	-3.534	87.74	31.87	58.54	1148.7	80.52	158.5
135.	24.072	0.028	-3.239	89.97	31.53	59.66	1093.4	73.11	151.2
140.	23.511	0.027	-2.937	92.17	31.23	61.06	1035.6	66.56	143.8
143.082	23.145	0.027	-2.747	93.51	31.06	62.13	998.4	62.86	139.2
143.082	0.7363	0.856	4.241	142.35	27.75	43.06	286.3	5.81	16.9
145.	0.7216	0.862	4.321	142.90	27.36	42.07	289.6	5.88	17.0
150.	0.6855	0.877	4.527	144.30	26.84	40.46	297.8	6.07	17.3
155.	0.6539	0.890	4.727	145.61	26.58	39.46	305.4	6.25	17.8
160.	0.6258	0.901	4.922	146.85	26.39	38.71	312.6	6.44	18.2
165.	0.6006	0.910	5.114	148.03	26.24	38.09	319.5	6.62	18.7
170.	0.5778	0.918	5.303	149.16	26.11	37.58	326.1	6.81	19.2
175.	0.5569	0.926	5.490	150.24	26.00	37.15	332.4	6.99	19.8
180.	0.5378	0.932	5.675	151.28	25.90	36.79	338.5	7.17	20.3
185.	0.5201	0.937	5.858	152.29	25.83	36.48	344.4	7.36	20.9
190.	0.5037	0.942	6.039	153.26	25.78	36.23	350.2	7.54	21.5
195.	0.4885	0.947	6.220	154.20	25.74	36.02	355.7	7.72	22.0
200.	0.4743	0.951	6.400	155.11	25.72	35.85	361.1	7.90	22.5
205.	0.4609	0.955	6.579	155.99	25.71	35.70	366.4	8.08	23.1
210.	0.4484	0.958	6.757	156.85	25.72	35.59	371.6	8.26	23.7
215.	0.4366	0.961	6.935	157.68	25.74	35.50	376.6	8.43	24.2
220.	0.4255	0.964	7.112	158.50	25.77	35.44	381.5	8.61	24.8
225.	0.4149	0.966	7.289	159.30	25.81	35.39	386.3	8.79	25.4
230.	0.4049	0.968	7.466	160.07	25.86	35.37	391.0	8.96	25.9
235.	0.3955	0.971	7.643	160.83	25.92	35.36	395.5	9.14	26.5
240.	0.3865	0.973	7.819	161.58	25.99	35.37	400.0	9.31	27.1
245.	0.3779	0.974	7.996	162.31	26.07	35.39	404.4	9.48	27.7
250.	0.3697	0.976	8.173	163.02	26.17	35.43	408.7	9.65	28.3
255.	0.3619	0.978	8.351	163.72	26.27	35.48	413.0	9.82	29.0
260.	0.3544	0.979	8.528	164.41	26.38	35.54	417.1	9.99	29.6
265.	0.3472	0.980	8.706	165.09	26.50	35.62	421.2	10.16	30.2
270.	0.3404	0.981	8.884	165.76	26.63	35.71	425.2	10.32	30.8
275.	0.3338	0.983	9.063	166.41	26.76	35.81	429.1	10.49	31.5
280.	0.3275	0.984	9.243	167.06	26.91	35.92	433.0	10.65	32.1
285.	0.3214	0.985	9.422	167.70	27.06	36.05	436.8	10.82	32.8
290.	0.3156	0.986	9.603	168.33	27.23	36.18	440.5	10.98	33.5
295.	0.3100	0.986	9.784	168.95	27.40	36.32	444.2	11.14	34.1
300.	0.3045	0.987	9.966	169.56	27.58	36.48	447.8	11.30	34.8
310.	0.2943	0.989	10.333	170.76	27.95	36.81	454.8	11.62	36.2

METHANE ISOBAR AT P = 0.750 MPa (continued)

T	ρ	Z	H	S	C _v	C _p	W	η	λ
K	mol·dm ⁻³		kJ/mol	J/(mol·K)	J/(mol·K)	J/(mol·K)	m·s ⁻¹	μPa·s	mW/(m·K)
320.	0.2847	0.990	10.703	171.93	28.36	37.17	461.6	11.94	37.6
330.	0.2758	0.991	11.076	173.08	28.79	37.57	468.3	12.25	39.1
340.	0.2674	0.992	11.454	174.21	29.25	37.99	474.7	12.55	40.6
350.	0.2595	0.993	11.836	175.32	29.73	38.44	481.0	12.86	42.1
360.	0.2521	0.994	12.223	176.41	30.22	38.91	487.2	13.16	43.7
370.	0.2451	0.995	12.614	177.48	30.74	39.40	493.2	13.45	45.3
380.	0.2385	0.995	13.011	178.54	31.26	39.90	499.1	13.75	47.0
390.	0.2322	0.996	13.413	179.58	31.80	40.42	504.9	14.04	48.6
400.	0.2263	0.997	13.819	180.61	32.35	40.96	510.5	14.32	50.3
410.	0.2207	0.997	14.232	181.63	32.91	41.50	516.1		52.0
420.	0.2153	0.997	14.649	182.64	33.48	42.05	521.6		53.8
430.	0.2102	0.998	15.073	183.63	34.05	42.61	527.0		55.6
440.	0.2054	0.998	15.502	184.62	34.63	43.17	532.3		57.4
450.	0.2007	0.999	15.936	185.59	35.20	43.73	537.5		59.2
460.	0.1963	0.999	16.376	186.56	35.78	44.30	542.7		61.0
470.	0.1921	0.999	16.822	187.52	36.36	44.87	547.8		62.9
480.	0.1880	0.999	17.274	188.47	36.94	45.44	552.9		64.8
490.	0.1842	1.000	17.731	189.41	37.51	46.00	557.9		66.6
500.	0.1804	1.000	18.194	190.35	38.09	46.57	562.8		68.5
520.	0.1734	1.000	19.136	192.20	39.22	47.69	572.6		72.4
540.	0.1670	1.001	20.101	194.02	40.33	48.79	582.2		76.3
560.	0.1609	1.001	21.088	195.81	41.42	49.86	591.6		80.2
580.	0.1554	1.001	22.095	197.58	42.49	50.92	600.8		84.1
600.	0.1502	1.001	23.124	199.32	43.52	51.94	610.0		88.0

METHANE ISOBAR AT P = 0.800 MPa

T	ρ	Z	H	S	C _v	C _p	W	η	λ
K	mol·dm ⁻³		kJ/mol	J/(mol·K)	J/(mol·K)	J/(mol·K)	m·s ⁻¹	μPa·s	mW/(m·K)
95.	27.820	0.036	-5.495	70.19	34.01	53.68	1504.9	181.15	206.8
100.	27.399	0.035	-5.224	72.97	34.11	54.55	1452.8	158.73	200.5
105.	26.968	0.034	-4.950	75.65	33.88	55.18	1403.3	139.81	193.9
110.	26.526	0.033	-4.672	78.23	33.51	55.72	1354.3	123.85	187.0
115.	26.072	0.032	-4.392	80.71	33.09	56.26	1304.9	110.35	180.1
120.	25.602	0.031	-4.110	83.12	32.67	56.88	1254.5	98.87	173.0
125.	25.116	0.031	-3.823	85.46	32.26	57.62	1202.8	89.06	165.8
130.	24.609	0.030	-3.533	87.74	31.88	58.52	1149.4	80.58	158.5
135.	24.077	0.030	-3.238	89.96	31.53	59.63	1094.1	73.17	151.2
140.	23.516	0.029	-2.936	92.16	31.23	61.03	1036.5	66.62	143.9

METHANE ISOBAR AT P = 0.800 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
144.396	22.992	0.029	-2.664	94.07	31.00	62.59	983.3	61.41	137.3
144.396	0.7843	0.850	4.256	142.00	27.88	43.68	286.3	5.88	17.1
145.	0.7796	0.851	4.281	142.17	27.74	43.31	287.4	5.90	17.2
150.	0.7391	0.868	4.492	143.60	27.02	41.23	296.0	6.08	17.5
155.	0.7040	0.882	4.695	144.93	26.70	40.05	303.8	6.27	17.9
160.	0.6730	0.894	4.893	146.19	26.50	39.19	311.2	6.45	18.3
165.	0.6453	0.904	5.087	147.38	26.33	38.51	318.2	6.64	18.8
170.	0.6203	0.912	5.278	148.52	26.18	37.94	324.9	6.82	19.3
175.	0.5975	0.920	5.467	149.62	26.06	37.46	331.3	7.00	19.9
180.	0.5766	0.927	5.653	150.67	25.97	37.06	337.5	7.19	20.4
185.	0.5574	0.933	5.838	151.68	25.89	36.73	343.5	7.37	21.0
190.	0.5396	0.938	6.020	152.65	25.83	36.45	349.3	7.55	21.6
195.	0.5231	0.943	6.202	153.60	25.79	36.22	355.0	7.73	22.1
200.	0.5077	0.948	6.383	154.51	25.76	36.02	360.5	7.91	22.6
205.	0.4933	0.952	6.562	155.40	25.75	35.87	365.8	8.09	23.2
210.	0.4797	0.955	6.741	156.26	25.75	35.74	371.0	8.27	23.7
215.	0.4670	0.958	6.920	157.10	25.76	35.64	376.0	8.45	24.3
220.	0.4550	0.961	7.098	157.92	25.79	35.56	381.0	8.62	24.8
225.	0.4436	0.964	7.275	158.72	25.83	35.51	385.8	8.80	25.4
230.	0.4329	0.966	7.453	159.50	25.88	35.47	390.5	8.97	26.0
235.	0.4227	0.969	7.630	160.26	25.94	35.46	395.1	9.15	26.6
240.	0.4130	0.971	7.808	161.01	26.01	35.46	399.7	9.32	27.2
245.	0.4038	0.973	7.985	161.74	26.09	35.48	404.1	9.49	27.8
250.	0.3950	0.974	8.162	162.45	26.18	35.51	408.4	9.66	28.4
255.	0.3866	0.976	8.340	163.16	26.28	35.56	412.7	9.83	29.0
260.	0.3786	0.978	8.518	163.85	26.39	35.62	416.8	10.00	29.6
265.	0.3709	0.979	8.696	164.53	26.51	35.69	420.9	10.17	30.2
270.	0.3635	0.980	8.875	165.20	26.64	35.78	424.9	10.33	30.9
275.	0.3565	0.981	9.054	165.85	26.77	35.87	428.9	10.50	31.5
280.	0.3497	0.983	9.234	166.50	26.92	35.98	432.8	10.66	32.2
285.	0.3432	0.984	9.414	167.14	27.07	36.10	436.6	10.83	32.8
290.	0.3370	0.985	9.595	167.77	27.24	36.23	440.3	10.99	33.5
295.	0.3309	0.986	9.776	168.39	27.41	36.38	444.0	11.15	34.2
300.	0.3251	0.986	9.958	169.00	27.58	36.53	447.6	11.31	34.9
310.	0.3141	0.988	10.325	170.20	27.96	36.85	454.7	11.63	36.2
320.	0.3039	0.989	10.696	171.38	28.37	37.21	461.5	11.94	37.7
330.	0.2943	0.991	11.070	172.53	28.80	37.61	468.2	12.25	39.1
340.	0.2853	0.992	11.448	173.66	29.25	38.03	474.7	12.56	40.6
350.	0.2769	0.993	11.830	174.77	29.73	38.47	481.0	12.86	42.2
360.	0.2690	0.994	12.217	175.86	30.23	38.94	487.2	13.16	43.7

METHANE ISOBAR AT P = 0.800 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
370.	0.2615	0.994	12.609	176.93	30.74	39.43	493.2	13.46	45.3
380.	0.2544	0.995	13.006	177.99	31.27	39.93	499.1	13.75	47.0
390.	0.2478	0.996	13.408	179.03	31.81	40.45	504.9	14.04	48.6
400.	0.2414	0.996	13.815	180.06	32.36	40.98	510.5	14.33	50.3
410.	0.2354	0.997	14.227	181.08	32.92	41.52	516.1		52.1
420.	0.2297	0.997	14.645	182.09	33.48	42.07	521.6		53.8
430.	0.2243	0.998	15.069	183.09	34.05	42.63	527.0		55.6
440.	0.2191	0.998	15.498	184.07	34.63	43.19	532.3		57.4
450.	0.2141	0.999	15.933	185.05	35.21	43.75	537.6		59.2
460.	0.2094	0.999	16.373	186.02	35.79	44.32	542.7		61.0
470.	0.2049	0.999	16.819	186.98	36.36	44.89	547.9		62.9
480.	0.2006	0.999	17.271	187.93	36.94	45.45	552.9		64.8
490.	0.1964	1.000	17.728	188.87	37.52	46.02	557.9		66.7
500.	0.1925	1.000	18.191	189.81	38.09	46.58	562.9		68.6
520.	0.1850	1.000	19.134	191.66	39.22	47.70	572.6		72.4
540.	0.1781	1.001	20.099	193.48	40.33	48.80	582.2		76.3
560.	0.1717	1.001	21.086	195.27	41.42	49.87	591.7		80.2
580.	0.1657	1.001	22.094	197.04	42.49	50.93	600.9		84.1
600.	0.1602	1.001	23.122	198.78	43.52	51.95	610.1		88.1

METHANE ISOBAR AT P = 0.850 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.822	0.039	-5.493	70.19	34.01	53.67	1505.3	181.24	206.8
100.	27.401	0.037	-5.223	72.96	34.11	54.55	1453.3	158.82	200.5
105.	26.971	0.036	-4.948	75.64	33.88	55.17	1403.8	139.89	193.9
110.	26.529	0.035	-4.671	78.22	33.52	55.71	1354.8	123.92	187.1
115.	26.075	0.034	-4.391	80.71	33.10	56.25	1305.4	110.42	180.1
120.	25.606	0.033	-4.109	83.11	32.67	56.87	1255.1	98.94	173.0
125.	25.119	0.033	-3.822	85.45	32.26	57.61	1203.4	89.12	165.9
130.	24.613	0.032	-3.532	87.73	31.88	58.50	1150.1	80.63	158.6
135.	24.082	0.031	-3.237	89.95	31.53	59.61	1094.9	73.23	151.3
140.	23.522	0.031	-2.936	92.15	31.23	61.00	1037.4	66.68	144.0
145.	22.926	0.031	-2.626	94.32	30.97	62.78	977.0	60.80	136.5
145.651	22.844	0.031	-2.585	94.60	30.94	63.06	968.7	60.07	135.5
145.651	0.8324	0.843	4.270	141.67	28.01	44.30	286.3	5.94	17.4
150.	0.7941	0.858	4.456	142.93	27.23	42.10	294.0	6.10	17.7
155.	0.7552	0.873	4.663	144.28	26.84	40.68	302.1	6.29	18.0

METHANE ISOBAR AT P = 0.850 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
160.	0.7211	0.886	4.864	145.56	26.60	39.70	309.7	6.47	18.5
165.	0.6907	0.897	5.060	146.77	26.42	38.94	316.8	6.65	18.9
170.	0.6633	0.907	5.253	147.92	26.26	38.31	323.7	6.84	19.4
175.	0.6385	0.915	5.444	149.02	26.13	37.78	330.2	7.02	20.0
180.	0.6159	0.922	5.631	150.08	26.03	37.35	336.5	7.20	20.5
185.	0.5950	0.929	5.817	151.10	25.94	36.98	342.6	7.38	21.1
190.	0.5758	0.934	6.001	152.08	25.88	36.67	348.5	7.56	21.7
195.	0.5580	0.940	6.184	153.03	25.83	36.42	354.2	7.74	22.2
200.	0.5413	0.944	6.366	153.95	25.80	36.21	359.8	7.92	22.7
205.	0.5258	0.948	6.546	154.84	25.78	36.03	365.1	8.10	23.2
210.	0.5113	0.952	6.726	155.71	25.78	35.89	370.4	8.28	23.8
215.	0.4976	0.956	6.905	156.55	25.79	35.78	375.5	8.46	24.3
220.	0.4847	0.959	7.084	157.37	25.82	35.69	380.5	8.63	24.9
225.	0.4725	0.962	7.262	158.17	25.85	35.62	385.3	8.81	25.5
230.	0.4610	0.964	7.440	158.95	25.90	35.58	390.1	8.98	26.0
235.	0.4500	0.967	7.618	159.72	25.96	35.56	394.7	9.16	26.6
240.	0.4397	0.969	7.796	160.47	26.03	35.55	399.3	9.33	27.2
245.	0.4298	0.971	7.973	161.20	26.11	35.56	403.7	9.50	27.8
250.	0.4204	0.973	8.151	161.92	26.20	35.59	408.1	9.67	28.4
255.	0.4114	0.974	8.329	162.63	26.29	35.63	412.4	9.84	29.0
260.	0.4028	0.976	8.508	163.32	26.40	35.69	416.6	10.01	29.7
265.	0.3946	0.978	8.686	164.00	26.52	35.76	420.7	10.18	30.3
270.	0.3868	0.979	8.865	164.67	26.65	35.84	424.7	10.34	30.9
275.	0.3792	0.980	9.045	165.33	26.78	35.94	428.7	10.51	31.6
280.	0.3720	0.982	9.225	165.97	26.93	36.04	432.6	10.67	32.2
285.	0.3650	0.983	9.405	166.61	27.08	36.16	436.4	10.84	32.9
290.	0.3584	0.984	9.586	167.24	27.24	36.29	440.1	11.00	33.5
295.	0.3519	0.985	9.768	167.86	27.41	36.43	443.8	11.16	34.2
300.	0.3457	0.986	9.951	168.48	27.59	36.57	447.5	11.32	34.9
310.	0.3340	0.987	10.318	169.68	27.97	36.90	454.6	11.64	36.3
320.	0.3231	0.989	10.689	170.86	28.37	37.26	461.4	11.95	37.7
330.	0.3129	0.990	11.063	172.01	28.81	37.64	468.1	12.26	39.2
340.	0.3033	0.991	11.442	173.14	29.26	38.06	474.6	12.57	40.7
350.	0.2944	0.992	11.824	174.25	29.74	38.50	480.9	12.87	42.2
360.	0.2859	0.993	12.212	175.34	30.23	38.97	487.1	13.17	43.8
370.	0.2779	0.994	12.604	176.42	30.74	39.45	493.2	13.47	45.4
380.	0.2704	0.995	13.001	177.48	31.27	39.96	499.1	13.76	47.0
390.	0.2633	0.996	13.403	178.52	31.81	40.47	504.9	14.05	48.7
400.	0.2566	0.996	13.810	179.55	32.36	41.00	510.5	14.34	50.4
410.	0.2502	0.997	14.223	180.57	32.92	41.54	516.1		52.1

METHANE ISOBAR AT P = 0.850 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
420.	0.2441	0.997	14.641	181.58	33.49	42.09	521.6		53.8
430.	0.2383	0.998	15.065	182.58	34.06	42.64	527.0		55.6
440.	0.2328	0.998	15.494	183.56	34.63	43.20	532.3		57.4
450.	0.2275	0.998	15.929	184.54	35.21	43.77	537.6		59.2
460.	0.2225	0.999	16.369	185.51	35.79	44.33	542.8		61.1
470.	0.2177	0.999	16.816	186.47	36.37	44.90	547.9		62.9
480.	0.2131	0.999	17.268	187.42	36.94	45.47	553.0		64.8
490.	0.2087	1.000	17.725	188.36	37.52	46.03	558.0		66.7
500.	0.2045	1.000	18.188	189.30	38.09	46.59	563.0		68.6
520.	0.1965	1.000	19.131	191.15	39.22	47.71	572.7		72.4
540.	0.1892	1.001	20.096	192.97	40.34	48.81	582.3		76.3
560.	0.1824	1.001	21.083	194.76	41.43	49.88	591.7		80.2
580.	0.1761	1.001	22.092	196.53	42.49	50.94	601.0		84.1
600.	0.1701	1.001	23.121	198.28	43.53	51.96	610.1		88.1

METHANE ISOBAR AT P = 0.900 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.824	0.041	-5.492	70.18	34.02	53.67	1505.7	181.34	206.9
100.	27.403	0.040	-5.222	72.96	34.11	54.54	1453.7	158.91	200.6
105.	26.973	0.038	-4.947	75.63	33.88	55.16	1404.2	139.97	194.0
110.	26.532	0.037	-4.670	78.21	33.52	55.70	1355.3	124.00	187.1
115.	26.078	0.036	-4.390	80.70	33.10	56.24	1305.9	110.49	180.2
120.	25.609	0.035	-4.107	83.11	32.67	56.86	1255.6	99.00	173.1
125.	25.123	0.034	-3.821	85.44	32.26	57.59	1204.0	89.18	165.9
130.	24.617	0.034	-3.531	87.72	31.88	58.48	1150.8	80.69	158.7
135.	24.087	0.033	-3.236	89.95	31.53	59.58	1095.7	73.28	151.4
140.	23.528	0.033	-2.935	92.14	31.23	60.97	1038.2	66.73	144.0
145.	22.932	0.033	-2.626	94.30	30.97	62.74	978.0	60.86	136.6
146.855	22.699	0.032	-2.509	95.11	30.89	63.53	954.6	58.81	133.8
146.855	0.8808	0.837	4.282	141.35	28.15	44.94	286.2	6.01	17.7
150.	0.8506	0.848	4.419	142.27	27.49	43.09	292.0	6.12	17.9
155.	0.8076	0.865	4.630	143.66	26.98	41.36	300.4	6.30	18.2
160.	0.7701	0.879	4.834	144.95	26.71	40.24	308.2	6.49	18.6
165.	0.7368	0.890	5.033	146.18	26.51	39.39	315.5	6.67	19.0
170.	0.7070	0.901	5.228	147.34	26.35	38.69	322.5	6.85	19.5
175.	0.6801	0.909	5.420	148.45	26.21	38.12	329.1	7.03	20.0
180.	0.6556	0.917	5.609	149.52	26.09	37.64	335.5	7.22	20.6

METHANE ISOBAR AT P = 0.900 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
185.	0.6331	0.924	5.797	150.55	26.00	37.24	341.7	7.40	21.1
190.	0.6123	0.930	5.982	151.53	25.92	36.90	347.7	7.58	21.8
195.	0.5931	0.936	6.166	152.49	25.87	36.62	353.5	7.76	22.2
200.	0.5753	0.941	6.348	153.41	25.83	36.39	359.1	7.94	22.7
205.	0.5586	0.945	6.530	154.31	25.81	36.20	364.5	8.11	23.3
210.	0.5430	0.949	6.710	155.18	25.81	36.04	369.8	8.29	23.8
215.	0.5283	0.953	6.890	156.03	25.82	35.92	374.9	8.47	24.4
220.	0.5145	0.956	7.070	156.85	25.84	35.82	380.0	8.65	24.9
225.	0.5015	0.959	7.248	157.66	25.87	35.74	384.9	8.82	25.5
230.	0.4892	0.962	7.427	158.44	25.92	35.69	389.7	8.99	26.1
235.	0.4775	0.965	7.605	159.21	25.98	35.66	394.3	9.17	26.7
240.	0.4664	0.967	7.784	159.96	26.04	35.65	398.9	9.34	27.3
245.	0.4559	0.969	7.962	160.69	26.12	35.65	403.4	9.51	27.9
250.	0.4458	0.971	8.140	161.41	26.21	35.68	407.8	9.68	28.5
255.	0.4363	0.973	8.319	162.12	26.31	35.71	412.1	9.85	29.1
260.	0.4271	0.975	8.497	162.81	26.42	35.76	416.3	10.02	29.7
265.	0.4184	0.976	8.676	163.50	26.53	35.83	420.4	10.19	30.3
270.	0.4100	0.978	8.856	164.17	26.66	35.91	424.5	10.35	31.0
275.	0.4020	0.979	9.035	164.83	26.79	36.00	428.5	10.52	31.6
280.	0.3943	0.980	9.216	165.48	26.94	36.10	432.4	10.68	32.2
285.	0.3869	0.982	9.396	166.12	27.09	36.22	436.2	10.84	32.9
290.	0.3798	0.983	9.578	166.75	27.25	36.34	440.0	11.01	33.6
295.	0.3730	0.984	9.760	167.37	27.42	36.48	443.7	11.17	34.2
300.	0.3664	0.985	9.943	167.98	27.60	36.62	447.3	11.33	34.9
310.	0.3539	0.987	10.310	169.19	27.98	36.94	454.4	11.65	36.3
320.	0.3423	0.988	10.682	170.37	28.38	37.30	461.3	11.96	37.7
330.	0.3315	0.990	11.056	171.52	28.81	37.68	468.0	12.27	39.2
340.	0.3213	0.991	11.435	172.65	29.27	38.10	474.5	12.58	40.7
350.	0.3118	0.992	11.818	173.76	29.74	38.54	480.9	12.88	42.2
360.	0.3028	0.993	12.206	174.86	30.24	39.00	487.1	13.18	43.8
370.	0.2944	0.994	12.599	175.93	30.75	39.48	493.1	13.47	45.4
380.	0.2864	0.995	12.996	176.99	31.28	39.98	499.0	13.77	47.0
390.	0.2789	0.995	13.398	178.03	31.81	40.50	504.8	14.06	48.7
400.	0.2717	0.996	13.806	179.07	32.36	41.02	510.5	14.34	50.4
410.	0.2649	0.996	14.219	180.09	32.92	41.56	516.1		52.1
420.	0.2585	0.997	14.637	181.09	33.49	42.11	521.6		53.9
430.	0.2524	0.997	15.061	182.09	34.06	42.66	527.0		55.6
440.	0.2465	0.998	15.490	183.08	34.63	43.22	532.4		57.4
450.	0.2409	0.998	15.925	184.06	35.21	43.79	537.6		59.3
460.	0.2356	0.999	16.366	185.03	35.79	44.35	542.8		61.1

METHANE ISOBAR AT P = 0.900 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
470.	0.2305	0.999	16.812	185.99	36.37	44.92	548.0		62.9
480.	0.2257	0.999	17.264	186.94	36.95	45.48	553.0		64.8
490.	0.2210	1.000	17.722	187.88	37.52	46.05	558.1		66.7
500.	0.2165	1.000	18.185	188.82	38.09	46.61	563.0		68.6
520.	0.2081	1.000	19.129	190.67	39.23	47.72	572.8		72.4
540.	0.2003	1.001	20.094	192.49	40.34	48.82	582.4		76.3
560.	0.1931	1.001	21.081	194.28	41.43	49.90	591.8		80.2
580.	0.1864	1.001	22.090	196.05	42.49	50.95	601.1		84.1
600.	0.1801	1.001	23.119	197.80	43.53	51.97	610.2		88.1

METHANE ISOBAR AT P = 0.950 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.827	0.043	-5.491	70.18	34.02	53.66	1506.1	181.44	206.9
100.	27.406	0.042	-5.220	72.95	34.11	54.53	1454.1	159.00	200.6
105.	26.976	0.040	-4.946	75.63	33.89	55.16	1404.7	140.05	194.0
110.	26.535	0.039	-4.669	78.21	33.52	55.69	1355.8	124.07	187.2
115.	26.081	0.038	-4.389	80.69	33.10	56.23	1306.5	110.55	180.2
120.	25.613	0.037	-4.106	83.10	32.67	56.85	1256.2	99.07	173.1
125.	25.127	0.036	-3.820	85.43	32.26	57.57	1204.6	89.24	166.0
130.	24.621	0.036	-3.530	87.71	31.88	58.46	1151.5	80.75	158.8
135.	24.092	0.035	-3.235	89.94	31.54	59.56	1096.4	73.34	151.5
140.	23.533	0.035	-2.934	92.13	31.23	60.93	1039.1	66.79	144.1
145.	22.939	0.034	-2.625	94.29	30.97	62.69	978.9	60.92	136.7
148.011	22.559	0.034	-2.435	95.60	30.84	64.01	940.9	57.64	132.2
148.011	0.9295	0.831	4.293	141.05	28.28	45.59	286.1	6.07	18.0
150.	0.9088	0.838	4.381	141.64	27.79	44.23	289.9	6.14	18.1
155.	0.8611	0.856	4.597	143.05	27.15	42.11	298.6	6.32	18.4
160.	0.8200	0.871	4.804	144.37	26.83	40.82	306.6	6.50	18.7
165.	0.7837	0.884	5.005	145.61	26.61	39.86	314.1	6.69	19.2
170.	0.7514	0.894	5.203	146.79	26.43	39.09	321.2	6.87	19.6
175.	0.7222	0.904	5.396	147.91	26.28	38.46	328.0	7.05	20.1
180.	0.6957	0.912	5.587	148.99	26.15	37.94	334.5	7.23	20.7
185.	0.6715	0.920	5.776	150.02	26.05	37.50	340.8	7.41	21.2
190.	0.6492	0.926	5.963	151.02	25.97	37.14	346.8	7.59	21.8
195.	0.6286	0.932	6.147	151.98	25.91	36.83	352.7	7.77	22.3
200.	0.6094	0.937	6.331	152.90	25.87	36.58	358.4	7.95	22.8
205.	0.5916	0.942	6.513	153.81	25.85	36.37	363.8	8.13	23.3

METHANE ISOBAR AT P = 0.950 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
210.	0.5749	0.946	6.695	154.68	25.84	36.20	369.2	8.30	23.9
215.	0.5593	0.950	6.875	155.53	25.85	36.06	374.4	8.48	24.4
220.	0.5445	0.954	7.055	156.36	25.86	35.95	379.5	8.66	25.0
225.	0.5306	0.957	7.235	157.16	25.90	35.86	384.4	8.83	25.6
230.	0.5175	0.960	7.414	157.95	25.94	35.80	389.2	9.01	26.1
235.	0.5051	0.963	7.593	158.72	25.99	35.76	393.9	9.18	26.7
240.	0.4933	0.965	7.772	159.47	26.06	35.74	398.5	9.35	27.3
245.	0.4821	0.967	7.950	160.21	26.14	35.74	403.0	9.52	27.9
250.	0.4714	0.970	8.129	160.93	26.22	35.76	407.5	9.69	28.5
255.	0.4612	0.971	8.308	161.64	26.32	35.79	411.8	9.86	29.1
260.	0.4515	0.973	8.487	162.34	26.43	35.84	416.0	10.03	29.7
265.	0.4422	0.975	8.666	163.02	26.54	35.90	420.2	10.19	30.4
270.	0.4333	0.977	8.846	163.69	26.67	35.97	424.2	10.36	31.0
275.	0.4248	0.978	9.026	164.35	26.80	36.06	428.2	10.53	31.6
280.	0.4167	0.979	9.207	165.00	26.95	36.16	432.2	10.69	32.3
285.	0.4088	0.981	9.388	165.64	27.10	36.27	436.0	10.85	32.9
290.	0.4013	0.982	9.569	166.28	27.26	36.40	439.8	11.02	33.6
295.	0.3941	0.983	9.752	166.90	27.43	36.53	443.5	11.18	34.3
300.	0.3871	0.984	9.935	167.51	27.61	36.67	447.2	11.34	35.0
310.	0.3739	0.986	10.303	168.72	27.98	36.99	454.3	11.65	36.3
320.	0.3616	0.987	10.675	169.90	28.39	37.34	461.2	11.97	37.8
330.	0.3501	0.989	11.050	171.06	28.82	37.72	467.9	12.28	39.2
340.	0.3394	0.990	11.429	172.19	29.27	38.13	474.5	12.58	40.7
350.	0.3293	0.991	11.813	173.30	29.75	38.57	480.8	12.89	42.3
360.	0.3198	0.992	12.201	174.39	30.24	39.03	487.0	13.19	43.8
370.	0.3109	0.993	12.593	175.47	30.75	39.51	493.1	13.48	45.4
380.	0.3024	0.994	12.991	176.53	31.28	40.01	499.0	13.77	47.1
390.	0.2944	0.995	13.393	177.58	31.82	40.52	504.8	14.06	48.7
400.	0.2869	0.996	13.801	178.61	32.37	41.05	510.5	14.35	50.4
410.	0.2797	0.996	14.214	179.63	32.93	41.58	516.1		52.1
420.	0.2729	0.997	14.633	180.64	33.49	42.13	521.7		53.9
430.	0.2664	0.997	15.057	181.63	34.06	42.68	527.1		55.7
440.	0.2602	0.998	15.487	182.62	34.64	43.24	532.4		57.5
450.	0.2544	0.998	15.922	183.60	35.21	43.80	537.7		59.3
460.	0.2487	0.999	16.363	184.57	35.79	44.37	542.9		61.1
470.	0.2434	0.999	16.809	185.53	36.37	44.93	548.0		63.0
480.	0.2382	0.999	17.261	186.48	36.95	45.50	553.1		64.8
490.	0.2333	1.000	17.719	187.42	37.52	46.06	558.1		66.7
500.	0.2285	1.000	18.183	188.36	38.10	46.62	563.1		68.6
520.	0.2197	1.000	19.126	190.21	39.23	47.73	572.9		72.5

METHANE ISOBAR AT P = 0.950 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
540.	0.2114	1.001	20.092	192.03	40.34	48.83	582.5		76.3
560.	0.2038	1.001	21.079	193.83	41.43	49.91	591.9		80.2
580.	0.1967	1.001	22.088	195.60	42.49	50.96	601.2		84.2
600.	0.1901	1.002	23.117	197.34	43.53	51.98	610.3		88.1

METHANE ISOBAR AT P = 1.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.829	0.045	-5.490	70.17	34.02	53.66	1506.5	181.54	207.0
100.	27.408	0.044	-5.219	72.95	34.11	54.53	1454.5	159.09	200.7
105.	26.978	0.042	-4.945	75.62	33.89	55.15	1405.1	140.14	194.1
110.	26.538	0.041	-4.668	78.20	33.52	55.68	1356.3	124.15	187.2
115.	26.084	0.040	-4.388	80.69	33.10	56.22	1307.0	110.62	180.3
120.	25.616	0.039	-4.105	83.09	32.67	56.83	1256.8	99.13	173.2
125.	25.131	0.038	-3.819	85.43	32.26	57.56	1205.3	89.30	166.1
130.	24.626	0.038	-3.529	87.70	31.88	58.44	1152.2	80.81	158.8
135.	24.097	0.037	-3.235	89.93	31.54	59.53	1097.2	73.40	151.5
140.	23.539	0.036	-2.934	92.12	31.23	60.90	1040.0	66.84	144.2
145.	22.945	0.036	-2.625	94.28	30.97	62.65	979.9	60.97	136.8
149.124	22.422	0.036	-2.363	96.06	30.80	64.50	927.7	56.53	130.6
149.124	0.9783	0.824	4.302	140.76	28.41	46.26	286.0	6.13	18.2
150.	0.9687	0.828	4.342	141.02	28.16	45.57	287.7	6.16	18.3
155.	0.9160	0.847	4.562	142.47	27.33	42.94	296.8	6.34	18.5
160.	0.8709	0.863	4.773	143.80	26.95	41.43	305.0	6.52	18.9
165.	0.8315	0.877	4.977	145.06	26.71	40.35	312.7	6.70	19.3
170.	0.7964	0.888	5.177	146.25	26.51	39.51	320.0	6.88	19.7
175.	0.7649	0.898	5.372	147.39	26.35	38.82	326.9	7.06	20.2
180.	0.7364	0.907	5.565	148.47	26.22	38.25	333.5	7.24	20.8
185.	0.7103	0.915	5.755	149.52	26.11	37.77	339.9	7.43	21.3
190.	0.6864	0.922	5.943	150.52	26.02	37.38	346.0	7.60	21.9
195.	0.6644	0.928	6.129	151.48	25.96	37.05	351.9	7.78	22.4
200.	0.6439	0.934	6.313	152.42	25.91	36.77	357.6	7.96	22.9
205.	0.6248	0.939	6.497	153.32	25.88	36.54	363.2	8.14	23.4
210.	0.6070	0.943	6.679	154.20	25.87	36.35	368.6	8.32	23.9
215.	0.5904	0.948	6.860	155.06	25.87	36.20	373.8	8.49	24.5
220.	0.5747	0.951	7.041	155.89	25.89	36.08	378.9	8.67	25.1
225.	0.5599	0.955	7.221	156.70	25.92	35.98	383.9	8.84	25.6
230.	0.5460	0.958	7.401	157.49	25.96	35.91	388.8	9.02	26.2

METHANE ISOBAR AT P = 1.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
235.	0.5328	0.961	7.580	158.26	26.01	35.87	393.5	9.19	26.8
240.	0.5202	0.963	7.760	159.01	26.08	35.84	398.2	9.36	27.4
245.	0.5084	0.966	7.939	159.75	26.15	35.83	402.7	9.53	28.0
250.	0.4970	0.968	8.118	160.48	26.24	35.84	407.1	9.70	28.6
255.	0.4863	0.970	8.297	161.19	26.33	35.87	411.5	9.87	29.2
260.	0.4760	0.972	8.477	161.88	26.44	35.91	415.7	10.04	29.8
265.	0.4661	0.974	8.656	162.57	26.56	35.97	419.9	10.20	30.4
270.	0.4567	0.975	8.836	163.24	26.68	36.04	424.0	10.37	31.0
275.	0.4477	0.977	9.017	163.90	26.82	36.12	428.0	10.54	31.7
280.	0.4391	0.978	9.198	164.55	26.96	36.22	432.0	10.70	32.3
285.	0.4308	0.980	9.379	165.20	27.11	36.33	435.8	10.86	33.0
290.	0.4228	0.981	9.561	165.83	27.27	36.45	439.6	11.02	33.6
295.	0.4152	0.982	9.744	166.45	27.44	36.58	443.4	11.19	34.3
300.	0.4078	0.983	9.927	167.07	27.61	36.72	447.0	11.35	35.0
310.	0.3939	0.985	10.296	168.28	27.99	37.03	454.2	11.66	36.4
320.	0.3809	0.987	10.668	169.46	28.39	37.38	461.1	11.98	37.8
330.	0.3687	0.988	11.043	170.62	28.82	37.76	467.9	12.29	39.3
340.	0.3574	0.990	11.423	171.75	29.28	38.17	474.4	12.59	40.8
350.	0.3468	0.991	11.807	172.86	29.75	38.60	480.8	12.89	42.3
360.	0.3368	0.992	12.195	173.95	30.25	39.06	487.0	13.19	43.9
370.	0.3273	0.993	12.588	175.03	30.76	39.54	493.1	13.49	45.5
380.	0.3184	0.994	12.986	176.09	31.28	40.03	499.0	13.78	47.1
390.	0.3100	0.995	13.389	177.14	31.82	40.55	504.8	14.07	48.7
400.	0.3021	0.995	13.797	178.17	32.37	41.07	510.5	14.36	50.4
410.	0.2945	0.996	14.210	179.19	32.93	41.61	516.2		52.2
420.	0.2873	0.997	14.629	180.20	33.50	42.15	521.7		53.9
430.	0.2805	0.997	15.053	181.20	34.07	42.70	527.1		55.7
440.	0.2740	0.998	15.483	182.19	34.64	43.26	532.4		57.5
450.	0.2678	0.998	15.918	183.17	35.22	43.82	537.7		59.3
460.	0.2618	0.999	16.359	184.14	35.80	44.38	542.9		61.1
470.	0.2562	0.999	16.806	185.10	36.37	44.95	548.1		63.0
480.	0.2508	0.999	17.258	186.05	36.95	45.51	553.1		64.9
490.	0.2456	1.000	17.716	186.99	37.53	46.07	558.2		66.7
500.	0.2406	1.000	18.180	187.93	38.10	46.63	563.1		68.6
520.	0.2312	1.000	19.124	189.78	39.23	47.75	572.9		72.5
540.	0.2226	1.001	20.090	191.60	40.34	48.84	582.5		76.4
560.	0.2145	1.001	21.077	193.40	41.43	49.92	592.0		80.3
580.	0.2071	1.001	22.086	195.17	42.49	50.96	601.3		84.2
600.	0.2001	1.002	23.116	196.91	43.53	51.99	610.4		88.1

METHANE ISOBAR AT P = 1.5 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.850	0.068	-5.477	70.12	34.04	53.61	1510.4	182.52	207.4
100.	27.432	0.066	-5.206	72.89	34.13	54.47	1458.8	159.98	201.1
105.	27.004	0.064	-4.932	75.56	33.90	55.08	1409.7	140.96	194.6
110.	26.566	0.062	-4.656	78.14	33.54	55.60	1361.1	124.90	187.8
115.	26.115	0.060	-4.376	80.62	33.12	56.12	1312.2	111.32	180.9
120.	25.650	0.059	-4.094	83.02	32.69	56.71	1262.4	99.78	173.8
125.	25.169	0.057	-3.809	85.35	32.28	57.41	1211.4	89.91	166.7
130.	24.668	0.056	-3.520	87.62	31.90	58.25	1159.0	81.39	159.5
135.	24.145	0.055	-3.226	89.83	31.55	59.29	1104.7	73.96	152.3
140.	23.595	0.055	-2.927	92.01	31.25	60.59	1048.4	67.40	145.0
145.	23.010	0.054	-2.620	94.17	30.98	62.23	989.6	61.53	137.7
150.	22.383	0.054	-2.304	96.31	30.77	64.37	927.4	56.20	130.2
155.	21.700	0.054	-1.975	98.47	30.61	67.25	861.0	51.26	122.6
158.514	21.176	0.054	-1.734	100.00	30.55	69.98	810.9	47.95	117.2
158.514	1.485	0.766	4.339	138.32	29.70	53.79	283.4	6.70	20.8
160.	1.454	0.775	4.417	138.81	29.11	51.72	286.9	6.75	20.8
165.	1.365	0.801	4.664	140.32	28.02	47.41	297.3	6.91	20.8
170.	1.291	0.822	4.894	141.70	27.50	44.95	306.6	7.08	21.1
175.	1.227	0.840	5.115	142.98	27.16	43.26	315.0	7.25	21.4
180.	1.172	0.855	5.328	144.18	26.91	41.98	322.9	7.42	21.8
185.	1.123	0.868	5.535	145.31	26.71	40.97	330.3	7.59	22.3
190.	1.080	0.879	5.738	146.39	26.55	40.15	337.3	7.76	22.8
195.	1.040	0.890	5.937	147.43	26.42	39.48	344.0	7.93	23.2
200.	1.004	0.899	6.133	148.42	26.32	38.92	350.5	8.11	23.6
205.	0.9708	0.906	6.326	149.38	26.24	38.46	356.6	8.28	24.1
210.	0.9403	0.914	6.517	150.30	26.19	38.08	362.6	8.45	24.6
215.	0.9120	0.920	6.707	151.19	26.16	37.76	368.3	8.62	25.1
220.	0.8856	0.926	6.895	152.06	26.15	37.50	373.9	8.80	25.6
225.	0.8610	0.931	7.082	152.90	26.15	37.28	379.2	8.97	26.2
230.	0.8380	0.936	7.268	153.71	26.17	37.11	384.5	9.14	26.7
235.	0.8163	0.940	7.453	154.51	26.20	36.97	389.5	9.31	27.3
240.	0.7959	0.945	7.638	155.29	26.25	36.86	394.5	9.47	27.9
245.	0.7766	0.948	7.822	156.05	26.31	36.78	399.3	9.64	28.4
250.	0.7583	0.952	8.006	156.79	26.39	36.73	404.0	9.81	29.0
255.	0.7410	0.955	8.189	157.52	26.47	36.70	408.6	9.98	29.6
260.	0.7245	0.958	8.373	158.23	26.57	36.69	413.1	10.14	30.2
265.	0.7089	0.960	8.556	158.93	26.67	36.70	417.4	10.31	30.8
270.	0.6939	0.963	8.740	159.61	26.79	36.73	421.7	10.47	31.4
275.	0.6797	0.965	8.923	160.29	26.92	36.77	425.9	10.63	32.1
280.	0.6660	0.967	9.107	160.95	27.06	36.84	430.0	10.80	32.7

METHANE ISOBAR AT P = 1.5 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
285.	0.6530	0.969	9.292	161.60	27.20	36.91	434.0	10.96	33.4
290.	0.6405	0.971	9.476	162.25	27.36	37.00	438.0	11.12	34.0
295.	0.6285	0.973	9.662	162.88	27.52	37.11	441.8	11.28	34.7
300.	0.6170	0.975	9.848	163.50	27.69	37.22	445.6	11.43	35.3
310.	0.5952	0.978	10.221	164.73	28.06	37.49	453.0	11.75	36.7
320.	0.5751	0.980	10.597	165.92	28.46	37.80	460.2	12.06	38.1
330.	0.5563	0.983	10.977	167.09	28.88	38.14	467.1	12.37	39.6
340.	0.5388	0.985	11.360	168.24	29.33	38.52	473.8	12.67	41.1
350.	0.5225	0.987	11.748	169.36	29.80	38.93	480.3	12.97	42.6
360.	0.5071	0.988	12.139	170.46	30.29	39.36	486.7	13.27	44.1
370.	0.4927	0.990	12.535	171.55	30.80	39.82	492.9	13.56	45.7
380.	0.4791	0.991	12.935	172.61	31.32	40.30	498.9	13.85	47.3
390.	0.4662	0.992	13.341	173.67	31.86	40.79	504.8	14.14	49.0
400.	0.4541	0.993	13.751	174.71	32.41	41.30	510.6	14.42	50.7
410.	0.4426	0.994	14.167	175.73	32.96	41.82	516.3		52.4
420.	0.4316	0.995	14.588	176.75	33.53	42.36	521.9		54.1
430.	0.4213	0.996	15.014	177.75	34.10	42.90	527.4		55.9
440.	0.4114	0.997	15.446	178.74	34.67	43.44	532.8		57.7
450.	0.4020	0.997	15.883	179.72	35.25	43.99	538.2		59.5
460.	0.3930	0.998	16.326	180.70	35.82	44.55	543.4		61.3
470.	0.3844	0.998	16.774	181.66	36.40	45.10	548.6		63.2
480.	0.3762	0.999	17.228	182.62	36.97	45.66	553.7		65.1
490.	0.3684	0.999	17.687	183.56	37.55	46.21	558.8		66.9
500.	0.3609	1.000	18.152	184.50	38.12	46.77	563.8		68.8
520.	0.3467	1.001	19.098	186.36	39.25	47.87	573.7		72.7
540.	0.3337	1.001	20.067	188.19	40.36	48.95	583.3		76.5
560.	0.3216	1.002	21.056	189.99	41.45	50.02	592.8		80.4
580.	0.3104	1.002	22.067	191.76	42.51	51.06	602.2		84.3
600.	0.2999	1.003	23.098	193.51	43.54	52.07	611.4		88.3

METHANE ISOBAR AT P = 2.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.872	0.091	-5.464	70.06	34.05	53.56	1514.4	183.50	207.9
100.	27.455	0.088	-5.194	72.83	34.14	54.41	1463.0	160.88	201.6
105.	27.029	0.085	-4.920	75.50	33.92	55.01	1414.1	141.78	195.1
110.	26.593	0.082	-4.644	78.07	33.56	55.51	1365.9	125.65	188.3
115.	26.145	0.080	-4.365	80.55	33.14	56.02	1317.4	112.02	181.4

METHANE ISOBAR AT P = 2.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
120.	25.684	0.078	-4.084	82.95	32.71	56.59	1268.0	100.43	174.4
125.	25.206	0.076	-3.799	85.27	32.30	57.26	1217.5	90.52	167.3
130.	24.711	0.075	-3.511	87.53	31.92	58.07	1165.6	81.97	160.2
135.	24.193	0.074	-3.218	89.74	31.57	59.06	1112.1	74.52	153.0
140.	23.649	0.073	-2.920	91.91	31.26	60.29	1056.7	67.96	145.8
145.	23.073	0.072	-2.615	94.05	30.99	61.84	998.9	62.09	138.5
150.	22.458	0.071	-2.301	96.18	30.77	63.83	938.2	56.76	131.2
155.	21.791	0.071	-1.975	98.32	30.61	66.48	873.7	51.85	123.7
160.	21.054	0.071	-1.634	100.48	30.52	70.18	804.0	47.23	116.0
165.	20.215	0.072	-1.270	102.72	30.54	75.82	726.6	42.74	108.0
165.860	20.057	0.072	-1.205	103.12	30.56	77.11	712.3	41.97	106.6
165.860	2.036	0.712	4.303	136.32	30.99	63.76	279.2	7.24	23.5
170.	1.904	0.743	4.548	137.78	29.24	55.59	290.3	7.35	23.1
175.	1.779	0.773	4.812	139.32	28.30	50.57	301.4	7.49	23.1
180.	1.678	0.796	5.057	140.70	27.78	47.53	311.1	7.64	23.2
185.	1.593	0.816	5.289	141.97	27.42	45.42	319.9	7.79	23.5
190.	1.519	0.833	5.512	143.16	27.15	43.83	328.1	7.95	24.0
195.	1.454	0.848	5.728	144.28	26.94	42.59	335.8	8.11	24.1
200.	1.397	0.861	5.939	145.34	26.77	41.60	343.0	8.28	24.5
205.	1.345	0.872	6.144	146.36	26.63	40.79	349.9	8.44	24.9
210.	1.298	0.883	6.347	147.34	26.53	40.13	356.4	8.61	25.3
215.	1.255	0.892	6.546	148.27	26.46	39.58	362.7	8.77	25.8
220.	1.215	0.900	6.743	149.18	26.42	39.13	368.8	8.94	26.3
225.	1.178	0.907	6.937	150.05	26.39	38.76	374.6	9.10	26.8
230.	1.144	0.914	7.130	150.90	26.39	38.45	380.2	9.27	27.3
235.	1.113	0.920	7.322	151.73	26.40	38.19	385.6	9.44	27.8
240.	1.083	0.925	7.512	152.53	26.43	37.98	390.9	9.60	28.4
245.	1.055	0.931	7.702	153.31	26.48	37.82	396.0	9.76	28.9
250.	1.029	0.935	7.891	154.07	26.54	37.69	400.9	9.93	29.5
255.	1.004	0.940	8.079	154.82	26.61	37.59	405.8	10.09	30.1
260.	0.9806	0.943	8.267	155.55	26.70	37.52	410.5	10.25	30.7
265.	0.9584	0.947	8.454	156.26	26.80	37.48	415.1	10.42	31.3
270.	0.9373	0.951	8.641	156.96	26.90	37.46	419.5	10.58	31.9
275.	0.9172	0.954	8.829	157.65	27.02	37.46	423.9	10.74	32.5
280.	0.8981	0.957	9.016	158.32	27.15	37.48	428.2	10.90	33.1
285.	0.8798	0.959	9.204	158.99	27.29	37.52	432.3	11.06	33.7
290.	0.8624	0.962	9.391	159.64	27.44	37.58	436.4	11.22	34.4
295.	0.8457	0.964	9.579	160.28	27.60	37.65	440.4	11.37	35.0
300.	0.8297	0.966	9.768	160.92	27.77	37.74	444.3	11.53	35.7
310.	0.7996	0.970	10.146	162.16	28.13	37.96	452.0	11.84	37.1

METHANE ISOBAR AT P = 2.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
320.	0.7718	0.974	10.527	163.37	28.52	38.22	459.3	12.15	38.5
330.	0.7460	0.977	10.911	164.55	28.94	38.53	466.4	12.45	39.9
340.	0.7221	0.980	11.298	165.70	29.39	38.88	473.3	12.75	41.4
350.	0.6997	0.982	11.689	166.83	29.85	39.26	479.9	13.05	42.9
360.	0.6787	0.984	12.083	167.95	30.34	39.67	486.4	13.35	44.4
370.	0.6591	0.986	12.482	169.04	30.84	40.11	492.7	13.64	46.0
380.	0.6406	0.988	12.885	170.11	31.37	40.56	498.9	13.93	47.6
390.	0.6232	0.990	13.293	171.17	31.90	41.04	504.9	14.21	49.3
400.	0.6067	0.991	13.706	172.22	32.44	41.53	510.8	14.49	50.9
410.	0.5911	0.992	14.124	173.25	33.00	42.04	516.5		52.6
420.	0.5764	0.994	14.547	174.27	33.56	42.56	522.2		54.4
430.	0.5624	0.995	14.975	175.28	34.13	43.09	527.8		56.1
440.	0.5491	0.996	15.409	176.28	34.70	43.62	533.2		57.9
450.	0.5364	0.997	15.848	177.26	35.27	44.16	538.6		59.7
460.	0.5243	0.997	16.292	178.24	35.85	44.71	543.9		61.6
470.	0.5128	0.998	16.742	179.21	36.42	45.26	549.2		63.4
480.	0.5018	0.999	17.197	180.16	37.00	45.80	554.3		65.3
490.	0.4912	0.999	17.658	181.11	37.57	46.35	559.5		67.1
500.	0.4812	1.000	18.124	182.06	38.14	46.90	564.5		69.0
520.	0.4622	1.001	19.073	183.92	39.27	47.99	574.4		72.8
540.	0.4447	1.002	20.044	185.75	40.38	49.06	584.2		76.7
560.	0.4285	1.002	21.036	187.55	41.46	50.12	593.7		80.6
580.	0.4135	1.003	22.048	189.33	42.53	51.15	603.1		84.5
600.	0.3995	1.003	23.081	191.08	43.56	52.16	612.3		88.4

METHANE ISOBAR AT P = 2.5 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.893	0.113	-5.451	70.01	34.07	53.51	1518.2	184.49	208.3
100.	27.478	0.109	-5.181	72.78	34.16	54.35	1467.1	161.78	202.1
105.	27.054	0.106	-4.908	75.44	33.94	54.94	1418.6	142.60	195.6
110.	26.621	0.103	-4.632	78.01	33.57	55.43	1370.6	126.41	188.9
115.	26.176	0.100	-4.354	80.49	33.16	55.92	1322.4	112.71	182.0
120.	25.717	0.097	-4.073	82.88	32.73	56.47	1273.5	101.08	175.0
125.	25.243	0.095	-3.789	85.20	32.32	57.11	1223.5	91.13	168.0
130.	24.752	0.093	-3.501	87.45	31.94	57.89	1172.2	82.55	160.9
135.	24.240	0.092	-3.210	89.65	31.59	58.84	1119.3	75.08	153.8
140.	23.702	0.091	-2.913	91.81	31.28	60.01	1064.8	68.50	146.6

METHANE ISOBAR AT P = 2.5 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
145.	23.135	0.090	-2.609	93.94	31.01	61.47	1008.0	62.63	139.4
150.	22.530	0.089	-2.297	96.06	30.78	63.33	948.7	57.32	132.1
155.	21.878	0.089	-1.975	98.17	30.60	65.77	885.9	52.44	124.8
160.	21.162	0.089	-1.638	100.31	30.49	69.11	818.6	47.85	117.2
165.	20.357	0.090	-1.281	102.51	30.48	74.02	744.8	43.45	109.4
170.	19.412	0.091	-0.893	104.82	30.63	82.14	661.1	39.04	101.1
171.980	18.978	0.092	-0.726	105.80	30.77	87.13	623.9	37.24	97.6
171.980	2.651	0.660	4.211	134.51	32.36	78.20	274.3	7.80	26.5
175.	2.490	0.690	4.428	135.76	30.48	66.54	284.3	7.84	25.8
180.	2.293	0.728	4.735	137.48	29.05	57.23	297.4	7.93	25.3
185.	2.143	0.758	5.007	138.98	28.33	52.26	308.4	8.06	25.2
190.	2.021	0.783	5.260	140.33	27.87	49.05	318.2	8.19	25.5
195.	1.919	0.804	5.499	141.57	27.53	46.76	327.0	8.33	25.3
200.	1.831	0.821	5.728	142.73	27.27	45.03	335.3	8.48	25.5
205.	1.753	0.837	5.950	143.83	27.07	43.69	343.0	8.63	25.8
210.	1.684	0.850	6.166	144.86	26.91	42.61	350.2	8.79	26.2
215.	1.622	0.862	6.377	145.86	26.79	41.74	357.1	8.94	26.6
220.	1.566	0.873	6.583	146.81	26.71	41.03	363.7	9.10	27.0
225.	1.514	0.883	6.787	147.72	26.65	40.44	370.0	9.26	27.5
230.	1.467	0.891	6.988	148.61	26.62	39.96	376.0	9.42	28.0
235.	1.423	0.899	7.187	149.46	26.61	39.56	381.8	9.58	28.5
240.	1.382	0.906	7.384	150.29	26.62	39.22	387.4	9.74	29.0
245.	1.345	0.913	7.579	151.10	26.65	38.95	392.8	9.90	29.5
250.	1.309	0.919	7.773	151.88	26.69	38.73	398.0	10.06	30.0
255.	1.276	0.924	7.967	152.65	26.75	38.55	403.1	10.22	30.6
260.	1.245	0.929	8.159	153.39	26.83	38.41	408.0	10.38	31.2
265.	1.215	0.934	8.351	154.12	26.92	38.30	412.8	10.54	31.7
270.	1.187	0.938	8.542	154.84	27.02	38.23	417.5	10.69	32.3
275.	1.161	0.942	8.733	155.54	27.13	38.18	422.0	10.85	32.9
280.	1.135	0.946	8.924	156.23	27.25	38.16	426.4	11.01	33.5
285.	1.111	0.949	9.115	156.90	27.39	38.16	430.7	11.16	34.2
290.	1.089	0.952	9.305	157.57	27.53	38.18	435.0	11.32	34.8
295.	1.067	0.955	9.496	158.22	27.69	38.22	439.1	11.48	35.4
300.	1.046	0.958	9.688	158.86	27.85	38.28	443.1	11.63	36.1
310.	1.007	0.963	10.071	160.12	28.20	38.44	451.0	11.94	37.4
320.	0.9711	0.968	10.457	161.34	28.59	38.66	458.5	12.24	38.8
330.	0.9379	0.972	10.845	162.54	29.00	38.93	465.8	12.54	40.2
340.	0.9070	0.975	11.235	163.70	29.44	39.25	472.8	12.84	41.7
350.	0.8784	0.978	11.630	164.85	29.90	39.60	479.6	13.13	43.2
360.	0.8516	0.981	12.027	165.97	30.39	39.98	486.2	13.43	44.7

METHANE ISOBAR AT P = 2.5 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
370.	0.8265	0.983	12.429	167.07	30.89	40.39	492.6	13.71	46.3
380.	0.8030	0.985	12.835	168.15	31.41	40.83	498.9	14.00	47.9
390.	0.7808	0.987	13.246	169.22	31.94	41.29	505.0	14.28	49.5
400.	0.7599	0.989	13.661	170.27	32.48	41.77	511.0	14.56	51.2
410.	0.7402	0.991	14.081	171.31	33.03	42.26	516.8		52.9
420.	0.7215	0.992	14.507	172.33	33.59	42.77	522.5		54.6
430.	0.7038	0.994	14.937	173.34	34.16	43.28	528.2		56.4
440.	0.6870	0.995	15.372	174.35	34.73	43.81	533.7		58.1
450.	0.6710	0.996	15.813	175.34	35.30	44.34	539.1		59.9
460.	0.6558	0.997	16.259	176.32	35.87	44.87	544.5		61.8
470.	0.6412	0.998	16.710	177.29	36.45	45.41	549.8		63.6
480.	0.6274	0.998	17.167	178.25	37.02	45.95	555.0		65.5
490.	0.6141	0.999	17.629	179.20	37.59	46.49	560.1		67.3
500.	0.6014	1.000	18.097	180.15	38.16	47.03	565.2		69.2
520.	0.5776	1.001	19.048	182.01	39.29	48.11	575.2		73.0
540.	0.5556	1.002	20.021	183.85	40.40	49.17	585.0		76.9
560.	0.5353	1.003	21.015	185.65	41.48	50.22	594.6		80.8
580.	0.5165	1.004	22.030	187.43	42.54	51.24	604.1		84.7
600.	0.4990	1.004	23.065	189.19	43.57	52.24	613.3		88.6

METHANE ISOBAR AT P = 3.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.914	0.136	-5.438	69.96	34.09	53.47	1522.1	185.48	208.8
100.	27.501	0.131	-5.168	72.72	34.18	54.30	1471.2	162.69	202.6
105.	27.079	0.127	-4.895	75.39	33.96	54.87	1422.9	143.43	196.1
110.	26.648	0.123	-4.620	77.95	33.59	55.35	1375.3	127.17	189.4
115.	26.206	0.120	-4.342	80.42	33.17	55.83	1327.5	113.41	182.6
120.	25.750	0.117	-4.062	82.81	32.75	56.35	1278.9	101.73	175.6
125.	25.280	0.114	-3.778	85.12	32.34	56.97	1229.3	91.74	168.6
130.	24.793	0.112	-3.492	87.37	31.96	57.72	1178.6	83.13	161.6
135.	24.285	0.110	-3.201	89.56	31.61	58.62	1126.4	75.64	154.5
140.	23.754	0.108	-2.905	91.72	31.30	59.74	1072.6	69.05	147.4
145.	23.195	0.107	-2.603	93.83	31.02	61.12	1016.9	63.18	140.2
150.	22.600	0.106	-2.293	95.93	30.79	62.86	958.7	57.87	133.0
155.	21.962	0.106	-1.974	98.03	30.60	65.12	897.6	53.01	125.8
160.	21.265	0.106	-1.641	100.14	30.48	68.15	832.4	48.46	118.4
165.	20.489	0.107	-1.290	102.30	30.44	72.48	761.8	44.13	110.7

METHANE ISOBAR AT P = 3.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
170.	19.593	0.108	-0.912	104.56	30.53	79.26	683.1	39.85	102.7
175.	18.493	0.111	-0.488	107.02	30.87	91.95	590.9	35.39	94.0
177.262	17.876	0.114	-0.270	108.26	31.19	102.68	541.8	33.18	89.7
177.262	3.359	0.606	4.064	132.70	33.91	101.61	268.7	8.43	30.3
180.	3.120	0.642	4.309	134.08	31.56	80.48	280.0	8.39	28.9
185.	2.825	0.690	4.666	136.03	29.68	64.62	295.2	8.42	27.8
190.	2.615	0.726	4.969	137.65	28.79	57.18	307.3	8.50	27.6
195.	2.452	0.755	5.243	139.07	28.24	52.68	317.8	8.61	26.9
200.	2.317	0.779	5.498	140.36	27.85	49.62	327.2	8.73	26.8
205.	2.203	0.799	5.740	141.56	27.55	47.38	335.9	8.86	26.9
210.	2.105	0.816	5.973	142.68	27.32	45.67	344.0	9.00	27.2
215.	2.018	0.832	6.197	143.74	27.15	44.33	351.5	9.14	27.5
220.	1.940	0.845	6.416	144.75	27.02	43.26	358.7	9.29	27.8
225.	1.870	0.857	6.630	145.71	26.92	42.39	365.4	9.44	28.2
230.	1.807	0.868	6.840	146.63	26.86	41.67	371.9	9.59	28.7
235.	1.749	0.878	7.047	147.52	26.83	41.08	378.1	9.74	29.1
240.	1.695	0.887	7.251	148.38	26.81	40.59	384.0	9.89	29.6
245.	1.646	0.895	7.453	149.21	26.82	40.19	389.7	10.05	30.1
250.	1.600	0.902	7.653	150.02	26.85	39.86	395.2	10.20	30.6
255.	1.557	0.909	7.852	150.81	26.90	39.58	400.5	10.35	31.2
260.	1.517	0.915	8.049	151.57	26.96	39.36	405.7	10.51	31.7
265.	1.479	0.921	8.246	152.32	27.04	39.18	410.7	10.66	32.3
270.	1.443	0.926	8.441	153.05	27.13	39.04	415.5	10.82	32.8
275.	1.410	0.931	8.636	153.77	27.24	38.94	420.2	10.97	33.4
280.	1.378	0.935	8.831	154.47	27.35	38.87	424.8	11.13	34.0
285.	1.348	0.939	9.025	155.16	27.48	38.82	429.3	11.28	34.6
290.	1.319	0.943	9.219	155.83	27.62	38.80	433.6	11.43	35.2
295.	1.292	0.947	9.413	156.50	27.77	38.81	437.9	11.58	35.9
300.	1.266	0.950	9.607	157.15	27.93	38.83	442.1	11.74	36.5
310.	1.217	0.956	9.996	158.42	28.27	38.94	450.1	12.04	37.8
320.	1.173	0.961	10.386	159.66	28.65	39.11	457.8	12.34	39.2
330.	1.132	0.966	10.778	160.87	29.06	39.34	465.3	12.63	40.6
340.	1.094	0.970	11.173	162.05	29.49	39.62	472.4	12.93	42.0
350.	1.059	0.974	11.571	163.20	29.95	39.94	479.4	13.22	43.5
360.	1.026	0.977	11.972	164.33	30.43	40.30	486.1	13.51	45.0
370.	0.9950	0.980	12.377	165.44	30.93	40.69	492.6	13.80	46.6
380.	0.9662	0.983	12.786	166.53	31.45	41.10	499.0	14.08	48.2
390.	0.9392	0.985	13.199	167.60	31.97	41.54	505.2	14.36	49.8
400.	0.9137	0.987	13.617	168.66	32.51	42.00	511.2	14.64	51.5
410.	0.8897	0.989	14.039	169.70	33.06	42.48	517.1		53.1

METHANE ISOBAR AT P = 3.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
420.	0.8670	0.991	14.466	170.73	33.62	42.97	522.9		54.9
430.	0.8455	0.992	14.899	171.75	34.19	43.48	528.6		56.6
440.	0.8251	0.994	15.336	172.76	34.75	43.99	534.2		58.4
450.	0.8058	0.995	15.778	173.75	35.33	44.51	539.7		60.2
460.	0.7873	0.996	16.226	174.73	35.90	45.03	545.1		62.0
470.	0.7697	0.997	16.679	175.71	36.47	45.56	550.4		63.8
480.	0.7530	0.998	17.137	176.67	37.04	46.10	555.7		65.7
490.	0.7369	0.999	17.601	177.63	37.61	46.63	560.9		67.5
500.	0.7216	1.000	18.070	178.58	38.18	47.16	566.0		69.4
520.	0.6929	1.001	19.024	180.45	39.31	48.23	576.1		73.2
540.	0.6664	1.003	19.999	182.29	40.41	49.28	585.9		77.1
560.	0.6420	1.004	20.995	184.10	41.50	50.32	595.6		80.9
580.	0.6193	1.005	22.011	185.88	42.56	51.33	605.0		84.8
600.	0.5982	1.005	23.048	187.64	43.59	52.33	614.3		88.8

METHANE ISOBAR AT P = 4.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.956	0.181	-5.412	69.85	34.12	53.37	1529.7	187.47	209.7
100.	27.546	0.175	-5.143	72.61	34.21	54.19	1479.3	164.51	203.5
105.	27.129	0.169	-4.871	75.27	33.99	54.74	1431.6	145.09	197.1
110.	26.702	0.164	-4.596	77.83	33.63	55.20	1384.5	128.69	190.5
115.	26.264	0.159	-4.319	80.29	33.21	55.64	1337.3	114.81	183.7
120.	25.815	0.155	-4.039	82.67	32.79	56.13	1289.5	103.03	176.8
125.	25.352	0.152	-3.757	84.97	32.38	56.71	1240.8	92.96	169.9
130.	24.873	0.149	-3.472	87.21	32.00	57.39	1191.1	84.29	162.9
135.	24.375	0.146	-3.183	89.39	31.65	58.22	1140.2	76.75	155.9
140.	23.856	0.144	-2.890	91.53	31.33	59.23	1087.9	70.13	148.9
145.	23.311	0.142	-2.590	93.62	31.05	60.47	1033.9	64.25	141.9
150.	22.735	0.141	-2.284	95.70	30.81	62.01	978.0	58.95	134.8
155.	22.121	0.140	-1.970	97.76	30.61	63.95	919.7	54.12	127.7
160.	21.458	0.140	-1.644	99.83	30.46	66.50	858.3	49.64	120.6
165.	20.730	0.141	-1.303	101.93	30.38	69.95	792.8	45.40	113.3
170.	19.913	0.142	-0.942	104.09	30.39	74.95	721.8	41.31	105.7
175.	18.958	0.145	-0.549	106.36	30.55	82.98	642.7	37.21	97.8
180.	17.758	0.151	-0.100	108.89	31.00	98.73	550.0	32.84	89.2
185.	15.923	0.163	0.494	112.14	32.37	154.98	424.3	27.36	79.5
186.094	15.222	0.170	0.691	113.20	33.27	208.48	380.1	25.55	77.3

METHANE ISOBAR AT P = 4.0 MPa (continued)

T	ρ	Z	H	S	C _v	C _p	W	η	λ
K	mol·dm ⁻³		kJ/mol	J/(mol·K)	J/(mol·K)	J/(mol·K)	m·s ⁻¹	μPa·s	mW/(m·K)
186.094	5.377	0.481	3.518	128.40	38.57	271.14	254.9	10.25	47.9
190.	4.416	0.573	4.132	131.67	32.58	110.14	279.6	9.66	37.9
195.	3.877	0.636	4.588	134.04	30.40	78.39	297.0	9.48	32.6
200.	3.535	0.680	4.945	135.84	29.38	65.92	310.2	9.45	30.9
205.	3.283	0.715	5.256	137.38	28.74	59.01	321.5	9.49	30.2
210.	3.083	0.743	5.539	138.75	28.30	54.54	331.5	9.55	29.9
215.	2.918	0.767	5.803	139.99	27.96	51.40	340.6	9.65	29.8
220.	2.778	0.787	6.054	141.14	27.71	49.07	348.9	9.75	29.9
225.	2.656	0.805	6.295	142.23	27.52	47.27	356.8	9.87	30.1
230.	2.549	0.821	6.528	143.25	27.38	45.86	364.1	9.99	30.4
235.	2.453	0.835	6.754	144.22	27.29	44.72	371.1	10.12	30.7
240.	2.366	0.847	6.975	145.15	27.22	43.80	377.7	10.25	31.1
245.	2.287	0.858	7.192	146.05	27.19	43.04	384.0	10.39	31.5
250.	2.215	0.869	7.406	146.91	27.18	42.41	390.1	10.52	31.9
255.	2.149	0.878	7.617	147.75	27.20	41.89	395.9	10.67	32.4
260.	2.087	0.886	7.825	148.56	27.24	41.46	401.5	10.81	32.9
265.	2.030	0.894	8.031	149.34	27.29	41.11	406.9	10.95	33.4
270.	1.977	0.901	8.236	150.11	27.36	40.81	412.1	11.09	33.9
275.	1.927	0.908	8.440	150.85	27.45	40.57	417.1	11.24	34.4
280.	1.880	0.914	8.642	151.58	27.55	40.38	422.0	11.38	35.0
285.	1.836	0.920	8.844	152.30	27.67	40.24	426.8	11.53	35.6
290.	1.794	0.925	9.044	153.00	27.80	40.12	431.4	11.67	36.2
295.	1.754	0.930	9.245	153.68	27.93	40.04	435.9	11.82	36.8
300.	1.717	0.934	9.445	154.35	28.08	39.99	440.3	11.97	37.4
310.	1.647	0.942	9.845	155.66	28.41	39.97	448.8	12.26	38.6
320.	1.584	0.949	10.245	156.93	28.78	40.04	456.8	12.55	39.9
330.	1.526	0.956	10.646	158.17	29.17	40.18	464.6	12.83	41.3
340.	1.472	0.961	11.048	159.37	29.60	40.38	472.0	13.12	42.7
350.	1.423	0.966	11.454	160.54	30.05	40.64	479.2	13.40	44.2
360.	1.377	0.970	11.861	161.69	30.52	40.94	486.1	13.69	45.7
370.	1.335	0.974	12.272	162.82	31.01	41.28	492.8	13.97	47.2
380.	1.295	0.978	12.687	163.92	31.52	41.65	499.4	14.24	48.8
390.	1.258	0.981	13.105	165.01	32.05	42.05	505.7	14.52	50.4
400.	1.223	0.984	13.528	166.08	32.58	42.48	511.9	14.79	52.0
410.	1.190	0.986	13.955	167.14	33.13	42.92	518.0		53.7
420.	1.159	0.988	14.387	168.18	33.68	43.39	523.9		55.4
430.	1.130	0.990	14.823	169.20	34.24	43.86	529.7		57.1
440.	1.102	0.992	15.264	170.22	34.81	44.35	535.4		58.9
450.	1.076	0.994	15.710	171.22	35.38	44.85	541.0		60.6
460.	1.051	0.995	16.161	172.21	35.95	45.36	546.5		62.4

METHANE ISOBAR AT P = 4.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
470.	1.027	0.997	16.617	173.19	36.52	45.87	551.9		64.3
480.	1.004	0.998	17.078	174.16	37.09	46.39	557.2		66.1
490.	0.9825	0.999	17.545	175.12	37.66	46.91	562.4		68.0
500.	0.9618	1.000	18.016	176.08	38.22	47.43	567.6		69.8
520.	0.9231	1.002	18.975	177.96	39.34	48.46	577.8		73.6
540.	0.8875	1.004	19.955	179.81	40.45	49.50	587.8		77.4
560.	0.8547	1.005	20.955	181.62	41.53	50.51	597.5		81.3
580.	0.8243	1.006	21.975	183.41	42.58	51.51	607.0		85.2
600.	0.7961	1.007	23.016	185.18	43.61	52.49	616.4		89.1

METHANE ISOBAR AT P = 5.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	27.998	0.226	-5.386	69.75	34.16	53.29	1537.2	189.48	210.6
100.	27.591	0.218	-5.118	72.50	34.25	54.08	1487.3	166.34	204.5
105.	27.177	0.211	-4.846	75.16	34.02	54.62	1440.0	146.76	198.1
110.	26.755	0.204	-4.572	77.71	33.66	55.05	1393.5	130.21	191.5
115.	26.322	0.199	-4.295	80.16	33.25	55.47	1346.9	116.21	184.8
120.	25.879	0.194	-4.017	82.53	32.83	55.92	1299.8	104.33	178.0
125.	25.422	0.189	-3.736	84.83	32.42	56.45	1252.0	94.18	171.1
130.	24.950	0.185	-3.452	87.05	32.04	57.09	1203.2	85.44	164.2
135.	24.462	0.182	-3.165	89.22	31.69	57.85	1153.4	77.86	157.3
140.	23.954	0.179	-2.874	91.34	31.37	58.76	1102.5	71.20	150.4
145.	23.422	0.177	-2.577	93.42	31.09	59.88	1050.1	65.30	143.4
150.	22.863	0.175	-2.274	95.48	30.84	61.25	996.2	60.01	136.5
155.	22.270	0.174	-1.964	97.51	30.63	62.95	940.3	55.19	129.6
160.	21.635	0.174	-1.644	99.54	30.46	65.11	882.0	50.75	122.6
165.	20.948	0.174	-1.312	101.59	30.35	67.95	820.7	46.60	115.6
170.	20.189	0.175	-0.963	103.67	30.30	71.82	755.4	42.64	108.4
175.	19.330	0.178	-0.591	105.83	30.36	77.50	684.7	38.76	101.0
180.	18.316	0.182	-0.182	108.13	30.58	86.75	606.4	34.82	93.3
185.	17.023	0.191	0.292	110.72	31.11	105.36	515.9	30.57	85.2
190.	14.994	0.211	0.939	114.17	32.57	172.39	396.8	25.12	78.2
195.	7.142	0.432	3.274	126.27	36.88	311.74	267.3	12.29	58.0
200.	5.459	0.551	4.144	130.69	32.02	116.34	292.0	10.90	40.4
205.	4.776	0.614	4.632	133.10	30.42	84.31	307.4	10.54	36.1
210.	4.340	0.660	5.015	134.94	29.53	70.53	319.8	10.40	34.3
215.	4.021	0.696	5.347	136.50	28.94	62.71	330.6	10.37	33.4

METHANE ISOBAR AT P = 5.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
220.	3.770	0.725	5.647	137.88	28.52	57.62	340.3	10.38	32.9
225.	3.563	0.750	5.925	139.14	28.20	54.04	349.2	10.43	32.7
230.	3.389	0.772	6.189	140.29	27.96	51.39	357.5	10.51	32.7
235.	3.237	0.790	6.440	141.38	27.79	49.36	365.2	10.59	32.8
240.	3.104	0.807	6.683	142.40	27.66	47.76	372.5	10.69	33.0
245.	2.986	0.822	6.918	143.37	27.58	46.47	379.4	10.80	33.2
250.	2.880	0.835	7.148	144.30	27.53	45.43	385.9	10.91	33.5
255.	2.783	0.847	7.373	145.19	27.51	44.57	392.2	11.03	33.9
260.	2.695	0.858	7.594	146.05	27.52	43.86	398.2	11.16	34.3
265.	2.614	0.868	7.812	146.88	27.55	43.27	403.9	11.28	34.7
270.	2.539	0.877	8.027	147.68	27.60	42.78	409.5	11.41	35.1
275.	2.469	0.886	8.240	148.46	27.67	42.37	414.8	11.54	35.6
280.	2.404	0.893	8.451	149.22	27.75	42.04	420.0	11.68	36.1
285.	2.343	0.901	8.660	149.96	27.86	41.76	425.0	11.81	36.6
290.	2.286	0.907	8.868	150.69	27.97	41.54	429.8	11.95	37.2
295.	2.232	0.913	9.076	151.40	28.10	41.36	434.5	12.08	37.7
300.	2.182	0.919	9.282	152.09	28.24	41.23	439.1	12.22	38.3
310.	2.088	0.929	9.693	153.44	28.55	41.06	447.9	12.50	39.5
320.	2.004	0.938	10.104	154.74	28.90	41.00	456.3	12.77	40.8
330.	1.927	0.946	10.514	156.00	29.29	41.04	464.3	13.05	42.1
340.	1.857	0.952	10.925	157.23	29.70	41.16	472.0	13.33	43.5
350.	1.793	0.958	11.337	158.43	30.14	41.35	479.4	13.60	44.9
360.	1.733	0.964	11.752	159.59	30.61	41.59	486.5	13.88	46.3
370.	1.678	0.969	12.169	160.74	31.10	41.87	493.4	14.15	47.8
380.	1.627	0.973	12.589	161.86	31.60	42.20	500.1	14.42	49.4
390.	1.579	0.977	13.013	162.96	32.12	42.56	506.6	14.69	51.0
400.	1.534	0.980	13.441	164.04	32.65	42.95	512.9	14.96	52.6
410.	1.492	0.983	13.872	165.11	33.19	43.36	519.0		54.2
420.	1.452	0.986	14.308	166.16	33.74	43.80	525.1		55.9
430.	1.415	0.989	14.748	167.19	34.30	44.25	531.0		57.6
440.	1.379	0.991	15.193	168.22	34.86	44.72	536.7		59.4
450.	1.346	0.993	15.643	169.23	35.43	45.19	542.4		61.1
460.	1.314	0.995	16.097	170.22	36.00	45.68	548.0		62.9
470.	1.284	0.997	16.556	171.21	36.56	46.18	553.5		64.7
480.	1.255	0.998	17.020	172.19	37.13	46.68	558.9		66.5
490.	1.228	1.000	17.490	173.16	37.70	47.18	564.2		68.4
500.	1.202	1.001	17.964	174.12	38.26	47.69	569.4		70.3
520.	1.153	1.003	18.928	176.01	39.38	48.70	579.7		74.0
540.	1.108	1.005	19.912	177.86	40.48	49.71	589.7		77.8
560.	1.067	1.007	20.916	179.69	41.56	50.71	599.5		81.7

METHANE ISOBAR AT P = 5.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
580.	1.029	1.008	21.940	181.48	42.61	51.69	609.2		85.5
600.	0.9931	1.009	22.984	183.25	43.64	52.66	618.6		89.4

METHANE ISOBAR AT P = 6.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	28.038	0.271	-5.360	69.65	34.19	53.20	1544.6	191.49	211.5
100.	27.635	0.261	-5.092	72.40	34.28	53.98	1495.1	168.18	205.4
105.	27.225	0.252	-4.821	75.04	34.06	54.50	1448.3	148.44	199.1
110.	26.807	0.245	-4.547	77.59	33.70	54.91	1402.3	131.75	192.6
115.	26.379	0.238	-4.272	80.04	33.29	55.30	1356.3	117.62	185.9
120.	25.941	0.232	-3.994	82.40	32.87	55.72	1309.9	105.63	179.1
125.	25.490	0.226	-3.715	84.69	32.47	56.22	1262.8	95.40	172.3
130.	25.026	0.222	-3.432	86.90	32.09	56.80	1215.0	86.59	165.5
135.	24.546	0.218	-3.146	89.06	31.74	57.50	1166.2	78.95	158.6
140.	24.048	0.214	-2.857	91.16	31.41	58.34	1116.5	72.26	151.8
145.	23.529	0.212	-2.563	93.23	31.13	59.35	1065.6	66.34	145.0
150.	22.985	0.209	-2.263	95.26	30.87	60.57	1013.4	61.04	138.2
155.	22.411	0.208	-1.957	97.27	30.65	62.07	959.6	56.24	131.4
160.	21.801	0.207	-1.642	99.27	30.47	63.93	904.0	51.83	124.6
165.	21.146	0.207	-1.316	101.27	30.33	66.31	846.0	47.73	117.8
170.	20.434	0.208	-0.977	103.29	30.25	69.43	785.2	43.86	110.9
175.	19.644	0.210	-0.620	105.36	30.25	73.71	720.7	40.14	103.9
180.	18.746	0.214	-0.237	107.52	30.35	79.99	651.4	36.46	96.7
185.	17.681	0.221	0.186	109.84	30.61	90.21	575.6	32.70	89.5
190.	16.319	0.233	0.681	112.48	31.15	110.35	490.3	28.62	82.8
195.	14.264	0.259	1.346	115.93	32.39	167.24	388.7	23.58	74.4
200.	10.203	0.354	2.572	122.13	35.35	314.49	293.7	16.33	66.5
205.	7.243	0.486	3.720	127.81	32.84	156.54	298.3	12.81	49.3
210.	6.099	0.563	4.345	130.82	31.10	103.21	311.6	11.87	42.1
215.	5.437	0.617	4.801	132.97	30.10	81.96	323.4	11.48	38.9
220.	4.977	0.659	5.180	134.71	29.43	70.62	334.0	11.29	37.2
225.	4.629	0.693	5.515	136.22	28.95	63.55	343.7	11.20	36.2
230.	4.350	0.721	5.820	137.56	28.59	58.73	352.6	11.18	35.6
235.	4.118	0.746	6.104	138.78	28.32	55.24	360.9	11.20	35.3
240.	3.921	0.767	6.374	139.92	28.12	52.61	368.7	11.24	35.2

METHANE ISOBAR AT P = 6.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
245.	3.749	0.786	6.631	140.98	27.98	50.57	376.0	11.30	35.3
250.	3.598	0.802	6.880	141.98	27.89	48.94	383.0	11.38	35.4
255.	3.463	0.817	7.121	142.94	27.83	47.63	389.6	11.47	35.6
260.	3.341	0.831	7.357	143.85	27.80	46.56	395.9	11.57	35.9
265.	3.231	0.843	7.587	144.73	27.81	45.67	401.9	11.67	36.2
270.	3.129	0.854	7.814	145.58	27.84	44.94	407.7	11.78	36.6
275.	3.036	0.864	8.037	146.40	27.89	44.33	413.3	11.89	37.0
280.	2.950	0.874	8.257	147.19	27.95	43.82	418.7	12.01	37.4
285.	2.870	0.882	8.475	147.96	28.04	43.39	423.9	12.13	37.8
290.	2.796	0.890	8.691	148.71	28.14	43.04	429.0	12.25	38.3
295.	2.726	0.897	8.906	149.45	28.26	42.75	433.8	12.38	38.8
300.	2.660	0.904	9.119	150.16	28.39	42.52	438.6	12.50	39.4
310.	2.540	0.916	9.542	151.55	28.68	42.18	447.7	12.76	40.5
320.	2.433	0.927	9.963	152.89	29.02	42.00	456.3	13.02	41.7
330.	2.336	0.936	10.382	154.18	29.40	41.93	464.5	13.28	42.9
340.	2.248	0.944	10.802	155.43	29.80	41.96	472.4	13.55	44.3
350.	2.167	0.952	11.222	156.65	30.24	42.07	480.0	13.81	45.6
360.	2.093	0.958	11.643	157.84	30.70	42.24	487.3	14.08	47.0
370.	2.024	0.964	12.067	159.00	31.18	42.47	494.3	14.34	48.5
380.	1.961	0.969	12.493	160.13	31.67	42.75	501.1	14.60	50.0
390.	1.901	0.973	12.922	161.25	32.19	43.07	507.7	14.87	51.6
400.	1.846	0.977	13.354	162.34	32.72	43.42	514.1	15.13	53.2
410.	1.794	0.981	13.791	163.42	33.25	43.80	520.4		54.8
420.	1.746	0.984	14.231	164.48	33.80	44.21	526.5		56.5
430.	1.700	0.987	14.675	165.52	34.36	44.63	532.5		58.2
440.	1.657	0.990	15.123	166.56	34.92	45.08	538.3		59.9
450.	1.616	0.992	15.576	167.57	35.48	45.53	544.1		61.6
460.	1.577	0.995	16.034	168.58	36.04	46.00	549.7		63.4
470.	1.541	0.997	16.496	169.57	36.61	46.48	555.2		65.2
480.	1.506	0.998	16.964	170.56	37.18	46.96	560.7		67.0
490.	1.473	1.000	17.436	171.53	37.74	47.45	566.1		68.8
500.	1.441	1.002	17.913	172.49	38.30	47.94	571.3		70.7
520.	1.382	1.004	18.881	174.39	39.42	48.93	581.7		74.4
540.	1.328	1.007	19.870	176.26	40.51	49.92	591.8		78.2
560.	1.278	1.008	20.878	178.09	41.59	50.90	601.7		82.0
580.	1.232	1.010	21.906	179.90	42.64	51.87	611.4		85.9
600.	1.189	1.011	22.953	181.67	43.67	52.82	620.8		89.8

METHANE ISOBAR AT P = 7.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	28.079	0.316	-5.334	69.55	34.23	53.12	1551.8	193.53	212.4
100.	27.679	0.304	-5.067	72.29	34.32	53.88	1502.8	170.04	206.4
105.	27.273	0.294	-4.796	74.93	34.10	54.38	1456.4	150.13	200.1
110.	26.858	0.285	-4.523	77.47	33.74	54.77	1410.9	133.29	193.6
115.	26.435	0.277	-4.248	79.92	33.33	55.14	1365.5	119.04	187.0
120.	26.002	0.270	-3.972	82.27	32.91	55.53	1319.7	106.94	180.3
125.	25.557	0.264	-3.693	84.55	32.51	55.99	1273.4	96.62	173.5
130.	25.100	0.258	-3.411	86.75	32.13	56.53	1226.4	87.74	166.7
135.	24.628	0.253	-3.127	88.90	31.78	57.17	1178.6	80.05	160.0
140.	24.139	0.249	-2.840	90.99	31.46	57.94	1130.0	73.32	153.2
145.	23.632	0.246	-2.548	93.04	31.17	58.86	1080.4	67.37	146.5
150.	23.101	0.243	-2.251	95.05	30.91	59.96	1029.8	62.06	139.8
155.	22.545	0.241	-1.948	97.04	30.68	61.29	977.9	57.26	133.1
160.	21.956	0.240	-1.637	99.01	30.49	62.91	924.5	52.87	126.5
165.	21.329	0.239	-1.318	100.98	30.33	64.94	869.4	48.82	119.8
170.	20.655	0.240	-0.987	102.95	30.23	67.51	812.2	45.01	113.2
175.	19.919	0.242	-0.641	104.95	30.18	70.88	752.4	41.39	106.5
180.	19.101	0.245	-0.276	107.01	30.21	75.50	689.4	37.89	99.7
185.	18.170	0.250	0.117	109.17	30.34	82.20	622.5	34.41	93.0
190.	17.067	0.260	0.552	111.49	30.61	92.85	551.0	30.85	86.7
195.	15.679	0.275	1.059	114.12	31.10	112.08	473.8	27.02	79.3
200.	13.764	0.306	1.704	117.38	31.98	149.65	393.4	22.66	71.8
205.	11.100	0.370	2.579	121.70	33.07	195.46	331.6	17.91	64.4
210.	8.693	0.461	3.489	126.09	32.44	156.19	317.7	14.68	54.7
215.	7.316	0.535	4.149	129.20	31.25	112.40	323.7	13.28	47.4
220.	6.475	0.591	4.648	131.49	30.36	89.52	332.7	12.62	43.3
225.	5.893	0.635	5.060	133.34	29.71	76.48	341.9	12.27	41.0
230.	5.455	0.671	5.420	134.93	29.23	68.21	350.7	12.07	39.5
235.	5.108	0.701	5.746	136.33	28.86	62.54	359.1	11.97	38.6
240.	4.822	0.727	6.048	137.60	28.59	58.44	367.0	11.92	38.1
245.	4.581	0.750	6.332	138.77	28.39	55.36	374.6	11.92	37.8
250.	4.372	0.770	6.603	139.87	28.24	52.97	381.7	11.94	37.6
255.	4.189	0.788	6.863	140.90	28.15	51.08	388.5	11.98	37.6
260.	4.027	0.804	7.114	141.87	28.09	49.55	395.0	12.04	37.7
265.	3.881	0.819	7.359	142.81	28.06	48.31	401.2	12.11	37.9
270.	3.749	0.832	7.598	143.70	28.07	47.28	407.2	12.20	38.2
275.	3.629	0.844	7.832	144.56	28.10	46.43	412.9	12.29	38.5
280.	3.518	0.855	8.062	145.39	28.15	45.71	418.4	12.38	38.8
285.	3.416	0.865	8.289	146.19	28.22	45.12	423.8	12.49	39.2
290.	3.322	0.874	8.514	146.97	28.31	44.62	428.9	12.59	39.6

METHANE ISOBAR AT P = 7.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
295.	3.234	0.882	8.736	147.73	28.42	44.20	434.0	12.70	40.0
300.	3.152	0.890	8.956	148.47	28.54	43.86	438.8	12.82	40.5
310.	3.003	0.905	9.392	149.90	28.82	43.34	448.1	13.05	41.5
320.	2.870	0.917	9.823	151.27	29.14	43.01	456.9	13.29	42.7
330.	2.751	0.927	10.252	152.59	29.50	42.83	465.3	13.54	43.8
340.	2.643	0.937	10.680	153.87	29.90	42.76	473.3	13.79	45.1
350.	2.545	0.945	11.108	155.11	30.33	42.79	481.0	14.04	46.4
360.	2.455	0.952	11.536	156.32	30.78	42.90	488.4	14.29	47.8
370.	2.373	0.959	11.966	157.49	31.25	43.07	495.6	14.55	49.2
380.	2.297	0.965	12.398	158.64	31.75	43.30	502.5	14.80	50.7
390.	2.226	0.970	12.832	159.77	32.26	43.58	509.2	15.05	52.2
400.	2.160	0.975	13.270	160.88	32.78	43.89	515.7	15.31	53.8
410.	2.098	0.979	13.710	161.97	33.31	44.24	522.0		55.4
420.	2.040	0.983	14.155	163.04	33.86	44.62	528.2		57.0
430.	1.986	0.986	14.603	164.09	34.41	45.02	534.2		58.7
440.	1.935	0.989	15.055	165.13	34.97	45.43	540.1		60.4
450.	1.886	0.992	15.512	166.16	35.53	45.87	545.9		62.1
460.	1.840	0.994	15.972	167.17	36.09	46.32	551.6		63.9
470.	1.797	0.997	16.438	168.17	36.65	46.78	557.2		65.7
480.	1.756	0.999	16.908	169.16	37.22	47.24	562.7		67.5
490.	1.717	1.001	17.383	170.14	37.78	47.72	568.1		69.3
500.	1.680	1.003	17.862	171.11	38.34	48.19	573.4		71.1
520.	1.610	1.006	18.836	173.02	39.45	49.16	583.9		74.8
540.	1.546	1.008	19.829	174.89	40.55	50.13	594.0		78.6
560.	1.488	1.010	20.841	176.73	41.62	51.09	603.9		82.4
580.	1.434	1.012	21.872	178.54	42.67	52.04	613.7		86.3
600.	1.384	1.014	22.922	180.32	43.69	52.98	623.2		90.1

METHANE ISOBAR AT P = 8.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	28.119	0.360	-5.308	69.45	34.27	53.04	1558.9	195.57	213.2
100.	27.722	0.347	-5.041	72.19	34.35	53.79	1510.3	171.91	207.3
105.	27.319	0.335	-4.771	74.82	34.13	54.27	1464.4	151.83	201.0
110.	26.909	0.325	-4.498	77.36	33.78	54.64	1419.4	134.85	194.6
115.	26.490	0.316	-4.224	79.79	33.37	54.98	1374.5	120.47	188.0
120.	26.062	0.308	-3.949	82.14	32.96	55.35	1329.3	108.26	181.4

METHANE ISOBAR AT P = 8.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
125.	25.623	0.300	-3.671	84.41	32.55	55.78	1283.7	97.84	174.7
130.	25.172	0.294	-3.391	86.61	32.18	56.28	1237.5	88.89	168.0
135.	24.708	0.288	-3.108	88.74	31.83	56.87	1190.6	81.14	161.3
140.	24.228	0.284	-2.822	90.82	31.50	57.57	1143.0	74.37	154.6
145.	23.731	0.280	-2.532	92.86	31.21	58.41	1094.7	68.39	147.9
150.	23.213	0.276	-2.237	94.85	30.95	59.40	1045.4	63.06	141.3
155.	22.672	0.274	-1.938	96.82	30.71	60.59	995.2	58.26	134.8
160.	22.102	0.272	-1.631	98.76	30.51	62.02	943.8	53.89	128.3
165.	21.500	0.271	-1.317	100.70	30.35	63.77	891.1	49.86	121.8
170.	20.857	0.271	-0.993	102.63	30.22	65.93	836.9	46.11	115.3
175.	20.164	0.273	-0.657	104.58	30.14	68.67	780.8	42.56	108.8
180.	19.407	0.275	-0.305	106.56	30.12	72.24	722.5	39.17	102.4
185.	18.567	0.280	0.068	108.61	30.17	77.06	661.9	35.88	96.0
190.	17.613	0.288	0.469	110.75	30.31	83.89	598.6	32.60	90.1
195.	16.494	0.299	0.912	113.05	30.58	94.18	532.7	29.27	83.3
200.	15.130	0.318	1.420	115.62	30.98	110.16	465.7	25.79	76.6
205.	13.426	0.350	2.025	118.60	31.55	132.18	403.5	22.13	70.0
210.	11.433	0.401	2.735	122.03	32.00	148.93	359.5	18.64	63.7
215.	9.592	0.467	3.459	125.43	31.74	135.46	342.0	16.06	56.9
220.	8.273	0.529	4.071	128.25	31.05	110.05	341.4	14.56	51.1
225.	7.368	0.580	4.572	130.50	30.37	91.50	346.6	13.73	47.1
230.	6.712	0.623	4.997	132.37	29.82	79.27	353.5	13.24	44.4
235.	6.211	0.659	5.371	133.98	29.38	70.97	360.9	12.95	42.7
240.	5.811	0.690	5.711	135.41	29.04	65.08	368.3	12.76	41.5
245.	5.481	0.717	6.025	136.70	28.78	60.74	375.5	12.66	40.8
250.	5.202	0.740	6.320	137.90	28.59	57.43	382.5	12.60	40.3
255.	4.961	0.761	6.600	139.01	28.46	54.85	389.2	12.58	40.0
260.	4.750	0.779	6.869	140.05	28.37	52.79	395.7	12.59	39.9
265.	4.563	0.796	7.129	141.04	28.32	51.13	401.9	12.62	39.9
270.	4.395	0.811	7.381	141.98	28.30	49.77	407.9	12.67	40.0
275.	4.244	0.824	7.627	142.89	28.31	48.64	413.7	12.73	40.1
280.	4.106	0.837	7.867	143.75	28.34	47.70	419.3	12.80	40.4
285.	3.979	0.848	8.104	144.59	28.40	46.91	424.7	12.88	40.6
290.	3.863	0.859	8.337	145.40	28.48	46.25	429.9	12.97	41.0
295.	3.755	0.869	8.567	146.19	28.57	45.70	434.9	13.06	41.4
300.	3.655	0.878	8.794	146.95	28.68	45.24	439.8	13.16	41.8
310.	3.474	0.894	9.243	148.42	28.94	44.52	449.2	13.36	42.7
320.	3.314	0.907	9.685	149.83	29.25	44.04	458.2	13.58	43.7
330.	3.171	0.919	10.124	151.18	29.61	43.74	466.6	13.81	44.8
340.	3.043	0.930	10.560	152.48	30.00	43.57	474.8	14.04	46.0

METHANE ISOBAR AT P = 8.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
350.	2.927	0.939	10.996	153.74	30.41	43.52	482.5	14.28	47.3
360.	2.821	0.947	11.431	154.97	30.86	43.56	490.0	14.52	48.6
370.	2.724	0.955	11.867	156.16	31.33	43.67	497.2	14.76	50.0
380.	2.634	0.961	12.305	157.33	31.82	43.85	504.2	15.01	51.4
390.	2.551	0.967	12.744	158.47	32.32	44.08	510.9	15.25	52.9
400.	2.474	0.972	13.187	159.59	32.84	44.36	517.5	15.50	54.4
410.	2.402	0.977	13.632	160.69	33.37	44.67	523.9		56.0
420.	2.335	0.981	14.080	161.77	33.91	45.02	530.1		57.6
430.	2.271	0.985	14.532	162.83	34.46	45.39	536.2		59.3
440.	2.212	0.989	14.988	163.88	35.02	45.79	542.2		61.0
450.	2.156	0.992	15.448	164.92	35.57	46.20	548.0		62.7
460.	2.103	0.995	15.912	165.94	36.13	46.63	553.7		64.4
470.	2.053	0.997	16.381	166.94	36.70	47.07	559.3		66.2
480.	2.006	0.999	16.854	167.94	37.26	47.52	564.9		68.0
490.	1.960	1.002	17.331	168.92	37.82	47.98	570.3		69.8
500.	1.917	1.004	17.813	169.90	38.38	48.44	575.6		71.6
520.	1.837	1.007	18.791	171.82	39.49	49.38	586.1		75.3
540.	1.764	1.010	19.789	173.70	40.58	50.33	596.3		79.0
560.	1.697	1.012	20.805	175.55	41.65	51.27	606.3		82.8
580.	1.636	1.014	21.840	177.36	42.70	52.21	616.1		86.6
600.	1.578	1.016	22.893	179.15	43.72	53.13	625.6		90.5

METHANE ISOBAR AT P = 9.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	28.158	0.405	-5.282	69.35	34.30	52.96	1565.9	197.64	214.1
100.	27.765	0.390	-5.015	72.08	34.39	53.69	1517.7	173.79	208.2
105.	27.365	0.377	-4.746	74.72	34.17	54.16	1472.2	153.55	202.0
110.	26.958	0.365	-4.474	77.24	33.82	54.51	1427.7	136.41	195.6
115.	26.544	0.355	-4.200	79.67	33.41	54.84	1383.3	121.90	189.1
120.	26.120	0.345	-3.925	82.02	33.00	55.18	1338.7	109.58	182.5
125.	25.687	0.337	-3.649	84.28	32.60	55.57	1293.7	99.06	175.8
130.	25.242	0.330	-3.370	86.46	32.22	56.03	1248.2	90.04	169.2
135.	24.785	0.324	-3.088	88.59	31.87	56.58	1202.2	82.23	162.5
140.	24.314	0.318	-2.804	90.66	31.55	57.23	1155.6	75.41	155.9

METHANE ISOBAR AT P = 9.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
145.	23.826	0.313	-2.516	92.68	31.25	57.99	1108.4	69.40	149.4
150.	23.320	0.309	-2.223	94.66	30.99	58.89	1060.4	64.05	142.9
155.	22.793	0.306	-1.926	96.61	30.75	59.96	1011.7	59.24	136.4
160.	22.241	0.304	-1.624	98.53	30.54	61.23	962.1	54.87	130.0
165.	21.660	0.303	-1.314	100.44	30.37	62.75	911.5	50.87	123.6
170.	21.044	0.303	-0.995	102.34	30.22	64.60	859.7	47.15	117.3
175.	20.386	0.303	-0.667	104.24	30.12	66.88	806.7	43.67	111.1
180.	19.678	0.306	-0.326	106.16	30.06	69.74	752.2	40.36	104.9
185.	18.905	0.310	0.032	108.12	30.06	73.41	696.1	37.19	98.8
190.	18.049	0.316	0.410	110.14	30.13	78.25	638.6	34.10	93.1
195.	17.084	0.325	0.817	112.25	30.27	84.85	579.8	31.04	86.8
200.	15.974	0.339	1.263	114.51	30.50	93.94	520.7	27.97	80.6
205.	14.678	0.360	1.761	116.97	30.81	105.72	464.1	24.87	74.6
210.	13.188	0.391	2.321	119.67	31.17	117.98	415.7	21.84	68.9
215.	11.600	0.434	2.932	122.54	31.36	124.35	382.1	19.11	63.5
220.	10.135	0.485	3.541	125.34	31.17	117.27	365.5	17.01	58.2
225.	8.967	0.537	4.092	127.82	30.73	102.72	361.2	15.62	53.6
230.	8.084	0.582	4.571	129.93	30.24	89.44	363.1	14.73	50.0
235.	7.408	0.622	4.992	131.74	29.80	79.35	367.7	14.16	47.4
240.	6.874	0.656	5.369	133.33	29.43	71.89	373.5	13.79	45.5
245.	6.441	0.686	5.714	134.75	29.14	66.32	379.6	13.54	44.2
250.	6.080	0.712	6.034	136.04	28.91	62.08	385.9	13.38	43.3
255.	5.772	0.735	6.336	137.24	28.75	58.78	392.2	13.28	42.7
260.	5.506	0.756	6.623	138.35	28.63	56.16	398.3	13.23	42.3
265.	5.273	0.775	6.898	139.40	28.55	54.05	404.3	13.20	42.1
270.	5.065	0.792	7.164	140.40	28.51	52.33	410.2	13.21	42.0
275.	4.879	0.807	7.422	141.34	28.51	50.91	415.8	13.23	42.0
280.	4.711	0.821	7.674	142.25	28.53	49.73	421.3	13.27	42.1
285.	4.557	0.833	7.920	143.12	28.57	48.75	426.7	13.32	42.3
290.	4.417	0.845	8.162	143.96	28.63	47.92	431.8	13.38	42.5
295.	4.287	0.856	8.399	144.77	28.72	47.22	436.9	13.45	42.8
300.	4.168	0.866	8.634	145.56	28.82	46.63	441.7	13.53	43.1
310.	3.952	0.883	9.095	147.08	29.07	45.71	451.1	13.70	43.9
320.	3.763	0.899	9.549	148.52	29.36	45.08	460.1	13.90	44.8
330.	3.596	0.912	9.998	149.90	29.71	44.64	468.6	14.10	45.8
340.	3.446	0.924	10.443	151.23	30.09	44.38	476.7	14.31	47.0
350.	3.311	0.934	10.886	152.51	30.50	44.24	484.5	14.53	48.2
360.	3.188	0.943	11.328	153.76	30.94	44.21	492.0	14.76	49.4
370.	3.076	0.951	11.770	154.97	31.40	44.27	499.3	14.99	50.8
380.	2.972	0.958	12.213	156.15	31.89	44.40	506.3	15.22	52.2

METHANE ISOBAR AT P = 9.0 MPa (continued)

T	ρ	Z	H	S	C _v	C _p	W	η	λ
K	mol·dm ⁻³		kJ/mol	J/(mol·K)	J/(mol·K)	J/(mol·K)	m·s ⁻¹	μPa·s	mW/(m·K)
390.	2.877	0.965	12.658	157.30	32.39	44.58	513.0	15.46	53.6
400.	2.788	0.971	13.105	158.44	32.90	44.82	519.6	15.70	55.1
410.	2.706	0.976	13.555	159.55	33.43	45.10	526.1		56.7
420.	2.629	0.980	14.007	160.64	33.97	45.42	532.3		58.3
430.	2.557	0.985	14.463	161.71	34.51	45.76	538.4		59.9
440.	2.489	0.988	14.923	162.77	35.06	46.13	544.4		61.5
450.	2.425	0.992	15.386	163.81	35.62	46.53	550.3		63.2
460.	2.365	0.995	15.853	164.83	36.18	46.93	556.0		64.9
470.	2.308	0.998	16.325	165.85	36.74	47.36	561.7		66.7
480.	2.254	1.000	16.800	166.85	37.30	47.79	567.2		68.5
490.	2.203	1.003	17.281	167.84	37.86	48.24	572.7		70.2
500.	2.154	1.005	17.765	168.82	38.41	48.69	578.0		72.0
520.	2.064	1.009	18.748	170.75	39.52	49.60	588.5		75.7
540.	1.981	1.012	19.749	172.64	40.61	50.53	598.8		79.4
560.	1.906	1.014	20.769	174.49	41.68	51.46	608.8		83.2
580.	1.836	1.017	21.808	176.31	42.72	52.38	618.6		87.0
600.	1.771	1.018	22.864	178.10	43.74	53.29	628.1		90.8

METHANE ISOBAR AT P = 10.0 MPa

T	ρ	Z	H	S	C _v	C _p	W	η	λ
K	mol·dm ⁻³		kJ/mol	J/(mol·K)	J/(mol·K)	J/(mol·K)	m·s ⁻¹	μPa·s	mW/(m·K)
95.	28.197	0.449	-5.256	69.25	34.34	52.89	1572.8	199.72	215.0
100.	27.807	0.433	-4.989	71.98	34.42	53.61	1525.0	175.69	209.1
105.	27.410	0.418	-4.720	74.61	34.21	54.06	1479.9	155.28	203.0
110.	27.007	0.405	-4.449	77.13	33.86	54.39	1435.8	137.99	196.6
115.	26.597	0.393	-4.176	79.56	33.46	54.70	1391.9	123.34	190.1
120.	26.178	0.383	-3.902	81.89	33.04	55.02	1347.9	110.90	183.6
125.	25.750	0.374	-3.626	84.14	32.65	55.38	1303.5	100.29	177.0
130.	25.311	0.366	-3.348	86.32	32.27	55.81	1258.7	91.19	170.4
135.	24.861	0.358	-3.068	88.44	31.92	56.31	1213.5	83.31	163.8
140.	24.397	0.352	-2.785	90.50	31.60	56.91	1167.8	76.45	157.3
145.	23.919	0.347	-2.499	92.51	31.30	57.60	1121.6	70.40	150.8
150.	23.424	0.342	-2.209	94.47	31.03	58.42	1074.8	65.03	144.3
155.	22.909	0.339	-1.914	96.40	30.79	59.39	1027.4	60.21	138.0
160.	22.373	0.336	-1.615	98.31	30.58	60.52	979.4	55.84	131.7
165.	21.810	0.334	-1.309	100.19	30.39	61.86	930.6	51.85	125.4

METHANE ISOBAR AT P = 10.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
170.	21.218	0.333	-0.995	102.06	30.24	63.46	881.0	48.16	119.3
175.	20.591	0.334	-0.674	103.93	30.12	65.39	830.5	44.72	113.2
180.	19.921	0.335	-0.341	105.80	30.04	67.74	779.0	41.48	107.2
185.	19.200	0.339	0.005	107.69	30.00	70.65	726.6	38.39	101.3
190.	18.416	0.344	0.367	109.62	30.01	74.30	673.4	35.43	95.8
195.	17.554	0.351	0.750	111.61	30.08	78.97	619.6	32.54	89.9
200.	16.594	0.362	1.159	113.68	30.21	84.94	566.0	29.72	84.1
205.	15.518	0.378	1.601	115.87	30.40	92.29	514.1	26.93	78.4
210.	14.315	0.400	2.083	118.19	30.62	100.26	467.0	24.22	73.1
215.	13.014	0.430	2.602	120.63	30.83	106.87	428.7	21.68	68.1
220.	11.697	0.467	3.144	123.12	30.89	108.93	401.9	19.47	63.5
225.	10.485	0.510	3.679	125.53	30.73	104.07	386.9	17.72	59.1
230.	9.464	0.553	4.177	127.72	30.42	94.96	381.1	16.46	55.3
235.	8.641	0.592	4.628	129.66	30.06	85.63	380.8	15.59	52.2
240.	7.980	0.628	5.036	131.38	29.72	77.75	383.4	14.99	49.8
245.	7.440	0.660	5.409	132.91	29.42	71.46	387.5	14.57	48.0
250.	6.992	0.688	5.753	134.31	29.19	66.52	392.4	14.28	46.6
255.	6.613	0.713	6.075	135.58	29.00	62.61	397.7	14.08	45.7
260.	6.288	0.736	6.380	136.77	28.86	59.48	403.2	13.94	45.0
265.	6.004	0.756	6.671	137.87	28.77	56.95	408.7	13.85	44.5
270.	5.753	0.774	6.951	138.92	28.71	54.89	414.1	13.80	44.2
275.	5.530	0.791	7.221	139.91	28.69	53.18	419.5	13.78	44.0
280.	5.329	0.806	7.483	140.86	28.70	51.76	424.7	13.78	44.0
285.	5.147	0.820	7.739	141.76	28.73	50.58	429.9	13.80	44.0
290.	4.981	0.833	7.989	142.63	28.78	49.58	434.9	13.83	44.1
295.	4.828	0.844	8.235	143.47	28.86	48.73	439.8	13.88	44.3
300.	4.688	0.855	8.477	144.28	28.95	48.02	444.6	13.93	44.6
310.	4.436	0.875	8.951	145.84	29.18	46.90	453.8	14.07	45.2
320.	4.217	0.891	9.416	147.32	29.47	46.10	462.7	14.23	46.0
330.	4.024	0.906	9.874	148.73	29.80	45.54	471.1	14.41	46.9
340.	3.852	0.918	10.327	150.08	30.17	45.18	479.2	14.60	48.0
350.	3.697	0.930	10.778	151.39	30.58	44.96	487.0	14.80	49.1
360.	3.556	0.939	11.227	152.65	31.01	44.86	494.5	15.01	50.3
370.	3.428	0.948	11.675	153.88	31.47	44.85	501.7	15.23	51.6
380.	3.311	0.956	12.124	155.08	31.95	44.93	508.7	15.45	53.0
390.	3.203	0.963	12.574	156.24	32.45	45.07	515.5	15.67	54.4
400.	3.103	0.969	13.026	157.39	32.96	45.27	522.1	15.90	55.8
410.	3.010	0.975	13.480	158.51	33.48	45.52	528.5		57.3
420.	2.923	0.980	13.936	159.61	34.02	45.81	534.8		58.9
430.	2.842	0.984	14.396	160.69	34.56	46.13	540.9		60.5

METHANE ISOBAR AT P = 10.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
440.	2.765	0.988	14.859	161.76	35.11	46.47	546.9		62.1
450.	2.694	0.992	15.325	162.80	35.66	46.84	552.7		63.8
460.	2.626	0.996	15.796	163.84	36.22	47.23	558.5		65.5
470.	2.562	0.999	16.270	164.86	36.78	47.64	564.2		67.2
480.	2.502	1.001	16.749	165.87	37.34	48.06	569.7		69.0
490.	2.445	1.004	17.231	166.86	37.89	48.49	575.2		70.7
500.	2.390	1.006	17.718	167.84	38.45	48.93	580.6		72.5
520.	2.289	1.010	18.706	169.78	39.55	49.82	591.1		76.2
540.	2.197	1.014	19.711	171.68	40.64	50.73	601.4		79.9
560.	2.113	1.017	20.735	173.54	41.71	51.64	611.4		83.6
580.	2.035	1.019	21.777	175.37	42.75	52.54	621.2		87.4
600.	1.963	1.021	22.837	177.16	43.77	53.44	630.7		91.2

METHANE ISOBAR AT P = 11.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	28.236	0.493	-5.230	69.15	34.38	52.81	1579.6	201.81	215.8
100.	27.848	0.475	-4.964	71.88	34.46	53.52	1532.2	177.60	210.0
105.	27.455	0.459	-4.695	74.50	34.25	53.96	1487.5	157.02	203.9
110.	27.055	0.445	-4.424	77.02	33.90	54.28	1443.8	139.57	197.6
115.	26.649	0.432	-4.152	79.44	33.50	54.56	1400.4	124.79	191.2
120.	26.234	0.420	-3.879	81.77	33.09	54.86	1356.9	112.23	184.7
125.	25.811	0.410	-3.604	84.01	32.69	55.20	1313.1	101.53	178.1
130.	25.378	0.401	-3.327	86.19	32.32	55.59	1269.0	92.34	171.6
135.	24.935	0.393	-3.048	88.29	31.97	56.06	1224.5	84.40	165.1
140.	24.479	0.386	-2.766	90.34	31.64	56.61	1179.6	77.48	158.6
145.	24.009	0.380	-2.481	92.34	31.35	57.25	1134.4	71.40	152.1
150.	23.524	0.375	-2.193	94.29	31.08	57.99	1088.7	66.00	145.8
155.	23.021	0.371	-1.901	96.21	30.83	58.87	1042.5	61.16	139.5
160.	22.498	0.368	-1.604	98.09	30.62	59.88	995.9	56.79	133.3
165.	21.953	0.365	-1.302	99.95	30.42	61.07	948.7	52.80	127.2
170.	21.382	0.364	-0.993	101.80	30.26	62.47	901.0	49.13	121.1
175.	20.780	0.364	-0.677	103.63	30.13	64.12	852.6	45.72	115.2
180.	20.142	0.365	-0.352	105.46	30.03	66.10	803.7	42.53	109.3
185.	19.463	0.367	-0.015	107.30	29.96	68.47	754.2	39.51	103.6
190.	18.735	0.372	0.334	109.17	29.94	71.34	704.4	36.63	98.3

METHANE ISOBAR AT P = 11.0 MPa (continued)

T	ρ	Z	H	S	C _v	C _p	W	η	λ
K	mol·dm ⁻³		kJ/mol	J/(mol·K)	J/(mol·K)	J/(mol·K)	m·s ⁻¹	μPa·s	mW/(m·K)
195.	17.947	0.378	0.699	111.06	29.96	74.85	654.4	33.87	92.6
200.	17.089	0.387	1.084	113.01	30.03	79.12	604.9	31.20	87.1
205.	16.150	0.400	1.492	115.03	30.14	84.18	556.8	28.61	81.8
210.	15.124	0.417	1.926	117.12	30.28	89.68	512.0	26.11	76.7
215.	14.022	0.439	2.388	119.29	30.43	94.76	472.9	23.75	72.0
220.	12.881	0.467	2.871	121.51	30.54	98.12	441.8	21.60	67.6
225.	11.759	0.500	3.364	123.73	30.53	98.25	419.8	19.76	63.6
230.	10.726	0.536	3.847	125.85	30.39	94.46	406.5	18.28	59.9
235.	9.829	0.573	4.304	127.82	30.15	88.20	400.2	17.15	56.7
240.	9.074	0.607	4.728	129.60	29.88	81.48	398.4	16.32	54.0
245.	8.445	0.639	5.120	131.22	29.62	75.39	399.5	15.72	51.8
250.	7.916	0.669	5.484	132.69	29.39	70.24	402.3	15.29	50.1
255.	7.467	0.695	5.824	134.04	29.21	66.00	406.1	14.97	48.8
260.	7.082	0.718	6.145	135.28	29.06	62.53	410.4	14.74	47.8
265.	6.747	0.740	6.450	136.45	28.96	59.67	415.0	14.57	47.1
270.	6.452	0.759	6.742	137.54	28.89	57.32	419.8	14.46	46.6
275.	6.190	0.777	7.024	138.57	28.86	55.36	424.7	14.38	46.2
280.	5.955	0.793	7.297	139.56	28.85	53.73	429.5	14.34	46.0
285.	5.744	0.808	7.562	140.50	28.88	52.35	434.3	14.32	45.9
290.	5.551	0.822	7.821	141.40	28.92	51.19	439.1	14.32	45.9
295.	5.375	0.834	8.074	142.26	28.99	50.21	443.8	14.34	46.0
300.	5.213	0.846	8.323	143.10	29.07	49.37	448.4	14.37	46.1
310.	4.924	0.867	8.810	144.69	29.29	48.06	457.4	14.46	46.6
320.	4.674	0.885	9.285	146.20	29.57	47.10	466.0	14.59	47.2
330.	4.454	0.900	9.753	147.64	29.89	46.42	474.3	14.74	48.1
340.	4.259	0.914	10.214	149.02	30.26	45.96	482.2	14.90	49.0
350.	4.084	0.926	10.672	150.35	30.66	45.65	489.9	15.09	50.1
360.	3.925	0.936	11.128	151.63	31.09	45.49	497.4	15.28	51.2
370.	3.781	0.946	11.582	152.88	31.54	45.43	504.5	15.48	52.5
380.	3.650	0.954	12.037	154.09	32.01	45.45	511.5	15.69	53.8
390.	3.528	0.961	12.492	155.27	32.51	45.55	518.3	15.90	55.1
400.	3.416	0.968	12.948	156.43	33.02	45.72	524.8	16.12	56.6
410.	3.312	0.974	13.406	157.56	33.54	45.93	531.2		58.0
420.	3.216	0.980	13.867	158.67	34.07	46.19	537.5		59.6
430.	3.125	0.984	14.330	159.76	34.61	46.48	543.6		61.1
440.	3.041	0.989	14.797	160.83	35.16	46.81	549.6		62.7
450.	2.961	0.993	15.266	161.89	35.71	47.16	555.4		64.4
460.	2.886	0.996	15.740	162.93	36.26	47.53	561.2		66.0
470.	2.816	1.000	16.217	163.95	36.82	47.92	566.8		67.8
480.	2.749	1.003	16.698	164.97	37.37	48.32	572.4		69.5

METHANE ISOBAR AT P = 11.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
490.	2.685	1.005	17.183	165.97	37.93	48.74	577.9		71.2
500.	2.625	1.008	17.673	166.96	38.48	49.16	583.2		73.0
520.	2.513	1.012	18.665	168.90	39.58	50.03	593.8		76.6
540.	2.412	1.016	19.674	170.81	40.67	50.92	604.0		80.3
560.	2.318	1.019	20.702	172.67	41.73	51.81	614.1		84.0
580.	2.233	1.022	21.747	174.51	42.77	52.70	623.9		87.8
600.	2.154	1.024	22.810	176.31	43.79	53.59	633.4		91.6

METHANE ISOBAR AT P = 12.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	28.274	0.537	-5.203	69.06	34.41	52.74	1586.3	203.92	216.7
100.	27.889	0.517	-4.938	71.78	34.50	53.44	1539.3	179.53	210.9
105.	27.499	0.500	-4.669	74.40	34.28	53.86	1494.9	158.78	204.8
110.	27.103	0.484	-4.399	76.91	33.94	54.16	1451.7	141.17	198.6
115.	26.700	0.470	-4.128	79.32	33.54	54.43	1408.7	126.25	192.2
120.	26.290	0.457	-3.855	81.65	33.13	54.71	1365.7	113.58	185.7
125.	25.872	0.446	-3.581	83.89	32.74	55.02	1322.5	102.77	179.2
130.	25.444	0.436	-3.305	86.05	32.36	55.39	1279.0	93.50	172.8
135.	25.007	0.428	-3.027	88.15	32.01	55.82	1235.2	85.49	166.3
140.	24.558	0.420	-2.746	90.19	31.69	56.32	1191.1	78.51	159.9
145.	24.096	0.413	-2.463	92.18	31.40	56.91	1146.7	72.39	153.5
150.	23.620	0.407	-2.177	94.12	31.13	57.60	1102.0	66.96	147.2
155.	23.128	0.403	-1.887	96.02	30.88	58.39	1057.0	62.10	141.0
160.	22.619	0.399	-1.593	97.88	30.66	59.30	1011.6	57.72	134.9
165.	22.089	0.396	-1.294	99.73	30.46	60.37	965.9	53.74	128.8
170.	21.536	0.394	-0.989	101.55	30.29	61.60	919.8	50.08	122.9
175.	20.956	0.394	-0.678	103.35	30.15	63.03	873.4	46.69	117.1
180.	20.347	0.394	-0.358	105.15	30.03	64.71	826.6	43.53	111.4
185.	19.702	0.396	-0.030	106.95	29.95	66.69	779.5	40.56	105.8
190.	19.018	0.399	0.309	108.76	29.90	69.02	732.4	37.75	100.6
195.	18.287	0.405	0.661	110.58	29.88	71.77	685.4	35.08	95.1
200.	17.503	0.412	1.028	112.44	29.91	75.00	639.1	32.52	89.9
205.	16.659	0.423	1.412	114.34	29.96	78.71	594.1	30.06	84.8
210.	15.753	0.436	1.815	116.28	30.05	82.72	551.6	27.70	79.9
215.	14.789	0.454	2.239	118.28	30.15	86.59	513.2	25.48	75.4

METHANE ISOBAR AT P = 12.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
220.	13.786	0.476	2.680	120.30	30.25	89.65	480.6	23.42	71.1
225.	12.776	0.502	3.133	122.34	30.29	91.14	454.9	21.58	67.3
230.	11.800	0.532	3.587	124.34	30.24	90.36	436.4	20.01	63.8
235.	10.901	0.563	4.032	126.25	30.11	87.23	424.6	18.73	60.7
240.	10.105	0.595	4.457	128.04	29.93	82.61	418.2	17.73	57.9
245.	9.415	0.626	4.858	129.69	29.72	77.58	415.6	16.96	55.5
250.	8.823	0.654	5.233	131.21	29.53	72.84	415.7	16.37	53.5
255.	8.315	0.681	5.587	132.61	29.36	68.65	417.4	15.93	52.0
260.	7.875	0.705	5.921	133.91	29.22	65.07	420.1	15.60	50.7
265.	7.491	0.727	6.239	135.12	29.12	62.05	423.6	15.35	49.8
270.	7.153	0.747	6.542	136.25	29.05	59.51	427.4	15.17	49.0
275.	6.853	0.766	6.834	137.33	29.01	57.36	431.5	15.04	48.5
280.	6.585	0.783	7.116	138.34	29.00	55.56	435.8	14.94	48.1
285.	6.343	0.798	7.390	139.31	29.01	54.03	440.1	14.88	47.8
290.	6.124	0.813	7.657	140.24	29.05	52.73	444.5	14.84	47.7
295.	5.923	0.826	7.918	141.13	29.11	51.62	448.9	14.83	47.7
300.	5.740	0.838	8.174	141.99	29.19	50.67	453.2	14.83	47.7
310.	5.413	0.860	8.672	143.63	29.40	49.17	461.7	14.87	48.0
320.	5.131	0.879	9.158	145.17	29.67	48.07	470.0	14.96	48.6
330.	4.884	0.895	9.635	146.64	29.98	47.28	478.1	15.08	49.3
340.	4.666	0.910	10.105	148.04	30.34	46.71	485.9	15.22	50.1
350.	4.470	0.923	10.570	149.39	30.73	46.33	493.4	15.38	51.1
360.	4.294	0.934	11.032	150.69	31.16	46.10	500.7	15.56	52.2
370.	4.134	0.944	11.492	151.95	31.60	45.98	507.8	15.74	53.3
380.	3.987	0.953	11.952	153.18	32.08	45.96	514.7	15.93	54.6
390.	3.853	0.960	12.412	154.37	32.57	46.02	521.4	16.13	55.9
400.	3.729	0.968	12.872	155.54	33.07	46.15	527.9	16.34	57.3
410.	3.614	0.974	13.335	156.68	33.59	46.33	534.2		58.7
420.	3.508	0.980	13.799	157.80	34.12	46.56	540.5		60.2
430.	3.408	0.985	14.266	158.90	34.66	46.83	546.5		61.8
440.	3.315	0.990	14.736	159.98	35.20	47.13	552.5		63.4
450.	3.227	0.994	15.209	161.04	35.75	47.46	558.3		65.0
460.	3.145	0.998	15.685	162.09	36.30	47.82	564.1		66.6
470.	3.067	1.001	16.165	163.12	36.86	48.19	569.7		68.3
480.	2.994	1.004	16.649	164.14	37.41	48.58	575.2		70.0
490.	2.924	1.007	17.137	165.14	37.97	48.98	580.7		71.8
500.	2.858	1.010	17.629	166.14	38.52	49.39	586.1		73.5
520.	2.736	1.014	18.625	168.09	39.62	50.24	596.6		77.1
540.	2.625	1.018	19.638	170.00	40.70	51.11	606.9		80.7
560.	2.523	1.021	20.669	171.88	41.76	51.98	616.9		84.4

METHANE ISOBAR AT P = 12.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
580.	2.430	1.024	21.718	173.72	42.80	52.86	626.6		88.2
600.	2.343	1.026	22.784	175.52	43.81	53.73	636.2		91.9

METHANE ISOBAR AT P = 13.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	28.312	0.581	-5.177	68.96	34.45	52.67	1592.9	206.06	217.5
100.	27.930	0.560	-4.912	71.68	34.53	53.36	1546.2	181.48	211.8
105.	27.543	0.541	-4.644	74.30	34.32	53.77	1502.3	160.55	205.8
110.	27.150	0.524	-4.374	76.80	33.98	54.06	1459.4	142.78	199.6
115.	26.751	0.508	-4.104	79.21	33.58	54.31	1416.8	127.72	193.2
120.	26.345	0.495	-3.831	81.53	33.18	54.56	1374.3	114.92	186.8
125.	25.931	0.482	-3.558	83.76	32.78	54.85	1331.6	104.01	180.4
130.	25.509	0.471	-3.283	85.92	32.41	55.19	1288.7	94.66	173.9
135.	25.077	0.462	-3.006	88.01	32.06	55.59	1245.6	86.58	167.5
140.	24.635	0.453	-2.727	90.04	31.74	56.06	1202.3	79.55	161.1
145.	24.181	0.446	-2.445	92.02	31.44	56.60	1158.7	73.38	154.8
150.	23.714	0.440	-2.161	93.94	31.17	57.23	1115.0	67.91	148.6
155.	23.232	0.434	-1.873	95.83	30.92	57.95	1071.0	63.04	142.4
160.	22.734	0.430	-1.581	97.69	30.70	58.78	1026.7	58.64	136.4
165.	22.218	0.426	-1.285	99.51	30.50	59.73	982.3	54.65	130.5
170.	21.682	0.424	-0.983	101.31	30.32	60.82	937.7	51.00	124.6
175.	21.122	0.423	-0.676	103.09	30.17	62.08	892.9	47.63	118.9
180.	20.537	0.423	-0.362	104.86	30.04	63.53	847.9	44.50	113.3
185.	19.922	0.424	-0.041	106.62	29.95	65.20	802.9	41.56	107.9
190.	19.273	0.427	0.290	108.38	29.88	67.14	758.1	38.80	102.8
195.	18.588	0.431	0.631	110.16	29.84	69.36	713.6	36.19	97.5
200.	17.860	0.438	0.984	111.94	29.83	71.91	669.8	33.71	92.4
205.	17.087	0.446	1.351	113.75	29.85	74.75	627.4	31.34	87.5
210.	16.267	0.458	1.732	115.59	29.89	77.81	586.9	29.09	82.8
215.	15.403	0.472	2.129	117.46	29.96	80.81	549.7	26.97	78.4
220.	14.505	0.490	2.540	119.35	30.02	83.37	516.8	24.99	74.3
225.	13.593	0.511	2.961	121.24	30.07	85.07	489.3	23.19	70.6
230.	12.691	0.536	3.388	123.12	30.07	85.47	467.8	21.60	67.2
235.	11.830	0.562	3.813	124.95	30.01	84.28	452.0	20.25	64.1
240.	11.034	0.590	4.228	126.69	29.90	81.62	441.4	19.12	61.3

METHANE ISOBAR AT P = 13.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
245.	10.319	0.618	4.628	128.34	29.75	78.02	435.2	18.22	58.9
250.	9.688	0.646	5.008	129.88	29.60	74.13	432.2	17.51	56.8
255.	9.134	0.671	5.369	131.31	29.46	70.37	431.4	16.95	55.1
260.	8.650	0.695	5.712	132.64	29.34	66.95	432.3	16.52	53.6
265.	8.223	0.717	6.039	133.89	29.24	63.94	434.2	16.19	52.4
270.	7.847	0.738	6.352	135.06	29.17	61.34	436.9	15.93	51.5
275.	7.511	0.757	6.653	136.16	29.13	59.10	440.1	15.73	50.8
280.	7.211	0.774	6.944	137.21	29.12	57.19	443.6	15.58	50.3
285.	6.940	0.790	7.226	138.21	29.13	55.54	447.3	15.47	49.9
290.	6.695	0.805	7.500	139.16	29.16	54.14	451.1	15.40	49.6
295.	6.471	0.819	7.767	140.07	29.22	52.93	455.0	15.35	49.5
300.	6.265	0.832	8.029	140.96	29.29	51.89	459.0	15.32	49.4
310.	5.901	0.855	8.540	142.63	29.50	50.23	466.9	15.31	49.5
320.	5.588	0.874	9.035	144.20	29.76	49.00	474.8	15.36	49.9
330.	5.314	0.892	9.521	145.70	30.06	48.10	482.5	15.44	50.5
340.	5.071	0.907	9.998	147.12	30.42	47.44	490.0	15.56	51.3
350.	4.855	0.920	10.470	148.49	30.80	46.99	497.4	15.69	52.2
360.	4.661	0.932	10.938	149.81	31.22	46.69	504.5	15.84	53.2
370.	4.484	0.942	11.404	151.09	31.67	46.52	511.4	16.01	54.3
380.	4.324	0.952	11.869	152.33	32.13	46.46	518.2	16.19	55.5
390.	4.176	0.960	12.334	153.53	32.62	46.48	524.8	16.37	56.7
400.	4.041	0.967	12.799	154.71	33.12	46.57	531.2	16.57	58.1
410.	3.915	0.974	13.265	155.86	33.64	46.72	537.5		59.5
420.	3.798	0.980	13.734	156.99	34.17	46.92	543.7		60.9
430.	3.689	0.986	14.204	158.10	34.70	47.17	549.7		62.4
440.	3.587	0.991	14.677	159.18	35.24	47.45	555.6		64.0
450.	3.492	0.995	15.153	160.25	35.79	47.76	561.4		65.6
460.	3.402	0.999	15.632	161.31	36.34	48.09	567.1		67.2
470.	3.318	1.003	16.115	162.35	36.89	48.45	572.8		68.9
480.	3.238	1.006	16.601	163.37	37.45	48.82	578.3		70.6
490.	3.162	1.009	17.092	164.38	38.00	49.21	583.7		72.3
500.	3.090	1.012	17.586	165.38	38.55	49.61	589.1		74.0
520.	2.957	1.017	18.586	167.34	39.65	50.44	599.6		77.6
540.	2.837	1.021	19.603	169.26	40.73	51.29	609.8		81.2
560.	2.726	1.024	20.638	171.14	41.79	52.15	619.8		84.9
580.	2.625	1.027	21.689	172.99	42.82	53.01	629.5		88.6
600.	2.532	1.029	22.758	174.80	43.83	53.87	639.1		92.3

METHANE ISOBAR AT P = 14.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	28.349	0.625	-5.151	68.87	34.49	52.61	1599.4	208.21	218.4
100.	27.970	0.602	-4.886	71.58	34.57	53.28	1553.1	183.44	212.7
105.	27.586	0.581	-4.618	74.19	34.36	53.68	1509.5	162.33	206.7
110.	27.196	0.563	-4.349	76.70	34.02	53.95	1467.0	144.41	200.5
115.	26.801	0.546	-4.079	79.10	33.62	54.19	1424.8	129.20	194.2
120.	26.399	0.532	-3.807	81.41	33.22	54.42	1382.8	116.28	187.9
125.	25.989	0.518	-3.535	83.64	32.83	54.69	1340.6	105.26	181.5
130.	25.572	0.507	-3.260	85.79	32.46	55.01	1298.3	95.82	175.1
135.	25.146	0.496	-2.985	87.87	32.11	55.37	1255.8	87.67	168.7
140.	24.710	0.487	-2.707	89.89	31.79	55.81	1213.1	80.58	162.4
145.	24.263	0.479	-2.426	91.86	31.49	56.30	1170.4	74.36	156.1
150.	23.804	0.472	-2.143	93.78	31.22	56.88	1127.5	68.86	150.0
155.	23.332	0.466	-1.857	95.65	30.97	57.54	1084.4	63.96	143.9
160.	22.845	0.461	-1.568	97.49	30.75	58.29	1041.3	59.55	137.9
165.	22.342	0.457	-1.274	99.30	30.54	59.15	998.0	55.55	132.0
170.	21.820	0.454	-0.976	101.08	30.36	60.13	954.7	51.90	126.3
175.	21.279	0.452	-0.673	102.84	30.20	61.24	911.3	48.54	120.6
180.	20.714	0.452	-0.364	104.58	30.06	62.50	868.0	45.43	115.2
185.	20.124	0.452	-0.048	106.31	29.95	63.94	824.8	42.52	109.8
190.	19.507	0.454	0.276	108.04	29.87	65.57	781.8	39.80	104.8
195.	18.858	0.458	0.609	109.76	29.81	67.41	739.4	37.24	99.7
200.	18.176	0.463	0.951	111.50	29.78	69.47	697.8	34.81	94.7
205.	17.458	0.470	1.304	113.24	29.77	71.74	657.4	32.51	90.0
210.	16.704	0.480	1.668	115.00	29.79	74.14	618.8	30.34	85.5
215.	15.915	0.492	2.045	116.77	29.82	76.52	582.8	28.29	81.2
220.	15.097	0.507	2.433	118.55	29.86	78.64	550.3	26.38	77.2
225.	14.264	0.525	2.830	120.34	29.90	80.23	522.1	24.62	73.5
230.	13.432	0.545	3.234	122.11	29.92	81.03	498.7	23.04	70.2
235.	12.621	0.568	3.639	123.86	29.90	80.80	480.3	21.65	67.2
240.	11.851	0.592	4.040	125.55	29.83	79.45	466.6	20.46	64.4
245.	11.138	0.617	4.432	127.16	29.74	77.14	457.1	19.47	62.0
250.	10.490	0.642	4.811	128.69	29.63	74.24	451.2	18.65	59.9
255.	9.910	0.666	5.174	130.13	29.51	71.13	447.9	18.00	58.0
260.	9.393	0.689	5.522	131.48	29.41	68.09	446.7	17.47	56.4
265.	8.933	0.711	5.855	132.75	29.33	65.28	446.9	17.05	55.1
270.	8.523	0.732	6.175	133.95	29.27	62.75	448.2	16.72	54.0
275.	8.157	0.751	6.483	135.08	29.23	60.52	450.2	16.46	53.2
280.	7.827	0.768	6.781	136.15	29.22	58.56	452.8	16.26	52.5
285.	7.530	0.785	7.069	137.17	29.23	56.86	455.7	16.10	52.0
290.	7.259	0.800	7.350	138.15	29.27	55.39	458.9	15.98	51.6

METHANE ISOBAR AT P = 14.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
295.	7.013	0.814	7.624	139.08	29.32	54.11	462.3	15.89	51.3
300.	6.787	0.827	7.891	139.98	29.39	53.00	465.8	15.83	51.1
310.	6.386	0.851	8.412	141.69	29.59	51.21	473.0	15.77	51.1
320.	6.041	0.871	8.917	143.30	29.84	49.87	480.3	15.77	51.3
330.	5.741	0.889	9.410	144.81	30.14	48.87	487.6	15.82	51.8
340.	5.475	0.905	9.895	146.26	30.49	48.14	494.8	15.90	52.4
350.	5.238	0.918	10.374	147.65	30.87	47.61	501.8	16.01	53.2
360.	5.026	0.931	10.848	148.98	31.29	47.26	508.7	16.14	54.2
370.	4.833	0.942	11.320	150.28	31.73	47.04	515.5	16.29	55.2
380.	4.658	0.951	11.789	151.53	32.19	46.93	522.1	16.45	56.3
390.	4.498	0.960	12.258	152.75	32.67	46.91	528.6	16.62	57.6
400.	4.350	0.968	12.728	153.94	33.17	46.97	534.9	16.80	58.9
410.	4.213	0.975	13.198	155.10	33.69	47.10	541.1		60.2
420.	4.087	0.981	13.670	156.23	34.21	47.27	547.2		61.6
430.	3.969	0.987	14.144	157.35	34.75	47.49	553.2		63.1
440.	3.858	0.992	14.620	158.44	35.29	47.75	559.0		64.6
450.	3.755	0.996	15.099	159.52	35.83	48.05	564.8		66.2
460.	3.658	1.001	15.581	160.58	36.38	48.37	570.4		67.8
470.	3.566	1.005	16.066	161.62	36.93	48.71	576.0		69.4
480.	3.480	1.008	16.555	162.65	37.48	49.07	581.5		71.1
490.	3.398	1.011	17.048	163.67	38.03	49.44	586.9		72.8
500.	3.321	1.014	17.544	164.67	38.58	49.83	592.2		74.5
520.	3.177	1.019	18.549	166.64	39.68	50.64	602.6		78.1
540.	3.047	1.023	19.570	168.57	40.75	51.47	612.8		81.6
560.	2.928	1.027	20.607	170.45	41.81	52.31	622.8		85.3
580.	2.819	1.030	21.662	172.30	42.85	53.16	632.5		89.0
600.	2.719	1.032	22.734	174.12	43.86	54.01	642.1		92.7

METHANE ISOBAR AT P = 15.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	28.386	0.669	-5.124	68.77	34.52	52.54	1605.8	210.37	219.2
100.	28.009	0.644	-4.860	71.49	34.61	53.20	1559.9	185.42	213.6
105.	27.628	0.622	-4.593	74.09	34.40	53.59	1516.6	164.14	207.6
110.	27.242	0.602	-4.324	76.59	34.06	53.85	1474.4	146.05	201.5
115.	26.850	0.584	-4.054	78.99	33.67	54.07	1432.7	130.69	195.2

METHANE ISOBAR AT P = 15.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
120.	26.452	0.568	-3.784	81.30	33.27	54.29	1391.1	117.65	188.9
125.	26.047	0.554	-3.511	83.52	32.88	54.54	1349.4	106.52	182.5
130.	25.634	0.541	-3.238	85.66	32.51	54.83	1307.6	96.99	176.2
135.	25.213	0.530	-2.963	87.74	32.16	55.17	1265.7	88.76	169.9
140.	24.784	0.520	-2.686	89.75	31.84	55.57	1223.7	81.61	163.6
145.	24.344	0.511	-2.407	91.71	31.54	56.03	1181.7	75.35	157.4
150.	23.892	0.503	-2.126	93.62	31.27	56.56	1139.6	69.81	151.3
155.	23.429	0.497	-1.842	95.48	31.02	57.16	1097.4	64.88	145.3
160.	22.952	0.491	-1.554	97.31	30.79	57.85	1055.2	60.45	139.4
165.	22.461	0.487	-1.263	99.10	30.58	58.62	1013.1	56.44	133.6
170.	21.953	0.483	-0.968	100.86	30.40	59.50	970.9	52.79	127.9
175.	21.427	0.481	-0.668	102.60	30.23	60.49	928.8	49.43	122.3
180.	20.881	0.480	-0.363	104.32	30.09	61.60	886.9	46.33	116.9
185.	20.314	0.480	-0.052	106.02	29.97	62.85	845.3	43.45	111.7
190.	19.722	0.481	0.266	107.72	29.87	64.24	804.0	40.75	106.8
195.	19.105	0.484	0.591	109.41	29.80	65.80	763.3	38.22	101.8
200.	18.460	0.489	0.924	111.09	29.75	67.50	723.5	35.84	96.9
205.	17.786	0.495	1.266	112.78	29.72	69.35	684.9	33.60	92.3
210.	17.083	0.503	1.618	114.48	29.72	71.29	647.9	31.48	87.9
215.	16.353	0.513	1.979	116.18	29.73	73.22	613.1	29.49	83.7
220.	15.599	0.526	2.350	117.88	29.75	74.98	581.2	27.63	79.8
225.	14.831	0.541	2.728	119.58	29.77	76.39	552.8	25.91	76.2
230.	14.059	0.558	3.113	121.27	29.79	77.28	528.5	24.35	72.9
235.	13.298	0.577	3.500	122.94	29.79	77.49	508.4	22.95	69.9
240.	12.563	0.598	3.886	124.56	29.75	76.90	492.5	21.72	67.2
245.	11.867	0.620	4.268	126.14	29.70	75.52	480.5	20.67	64.8
250.	11.221	0.643	4.641	127.64	29.62	73.50	471.9	19.78	62.6
255.	10.629	0.666	5.002	129.07	29.54	71.10	466.3	19.04	60.7
260.	10.093	0.687	5.351	130.43	29.46	68.55	462.9	18.43	59.1
265.	9.610	0.708	5.688	131.71	29.39	66.06	461.3	17.94	57.7
270.	9.175	0.728	6.012	132.93	29.35	63.71	461.1	17.54	56.5
275.	8.782	0.747	6.325	134.07	29.32	61.57	461.9	17.22	55.5
280.	8.428	0.765	6.628	135.17	29.31	59.66	463.4	16.96	54.7
285.	8.106	0.781	6.922	136.21	29.32	57.96	465.4	16.75	54.0
290.	7.814	0.796	7.208	137.20	29.35	56.46	467.8	16.59	53.5
295.	7.546	0.810	7.487	138.16	29.41	55.14	470.6	16.46	53.2
300.	7.301	0.824	7.760	139.07	29.48	53.99	473.5	16.36	52.9
310.	6.865	0.848	8.290	140.81	29.67	52.11	479.8	16.25	52.7
320.	6.490	0.869	8.803	142.44	29.92	50.67	486.5	16.20	52.8
330.	6.163	0.887	9.304	143.98	30.22	49.59	493.2	16.21	53.1

METHANE ISOBAR AT P = 15.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
340.	5.875	0.903	9.796	145.45	30.56	48.79	500.0	16.26	53.6
350.	5.619	0.917	10.281	146.86	30.94	48.21	506.8	16.35	54.4
360.	5.388	0.930	10.761	148.21	31.35	47.80	513.4	16.45	55.2
370.	5.180	0.941	11.237	149.51	31.79	47.53	519.9	16.58	56.2
380.	4.990	0.951	11.712	150.78	32.25	47.38	526.4	16.72	57.3
390.	4.817	0.960	12.186	152.01	32.73	47.33	532.7	16.88	58.4
400.	4.657	0.968	12.659	153.21	33.22	47.36	538.9	17.05	59.7
410.	4.510	0.976	13.133	154.38	33.73	47.46	545.0		61.0
420.	4.373	0.982	13.608	155.52	34.26	47.61	550.9		62.4
430.	4.246	0.988	14.085	156.65	34.79	47.81	556.8		63.8
440.	4.127	0.993	14.565	157.75	35.33	48.05	562.6		65.3
450.	4.016	0.998	15.046	158.83	35.87	48.32	568.3		66.8
460.	3.912	1.003	15.531	159.90	36.42	48.63	573.9		68.4
470.	3.813	1.007	16.019	160.95	36.97	48.95	579.4		70.0
480.	3.720	1.010	16.510	161.98	37.52	49.30	584.8		71.7
490.	3.633	1.014	17.005	163.00	38.07	49.66	590.2		73.4
500.	3.549	1.017	17.504	164.01	38.61	50.04	595.5		75.1
520.	3.395	1.022	18.512	165.99	39.70	50.83	605.8		78.6
540.	3.256	1.026	19.537	167.92	40.78	51.64	616.0		82.1
560.	3.128	1.030	20.578	169.81	41.83	52.47	625.9		85.7
580.	3.012	1.033	21.636	171.67	42.87	53.31	635.6		89.4
600.	2.904	1.035	22.710	173.49	43.88	54.14	645.1		93.1

METHANE ISOBAR AT P = 16.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	28.423	0.713	-5.098	68.68	34.56	52.48	1612.2	212.56	220.1
100.	28.048	0.686	-4.834	71.39	34.64	53.13	1566.5	187.42	214.4
105.	27.670	0.662	-4.567	73.99	34.44	53.50	1523.6	165.95	208.5
110.	27.287	0.641	-4.299	76.49	34.10	53.75	1481.8	147.70	202.4
115.	26.898	0.622	-4.030	78.88	33.71	53.96	1440.5	132.20	196.2
120.	26.504	0.605	-3.759	81.18	33.31	54.16	1399.2	119.02	189.9
125.	26.103	0.590	-3.488	83.40	32.92	54.39	1358.0	107.79	183.6
130.	25.695	0.576	-3.215	85.54	32.55	54.66	1316.7	98.16	177.3
135.	25.280	0.564	-2.941	87.60	32.21	54.98	1275.4	89.86	171.0
140.	24.855	0.553	-2.666	89.61	31.89	55.34	1234.1	82.64	164.8

METHANE ISOBAR AT P = 16.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
145.	24.422	0.543	-2.388	91.56	31.59	55.77	1192.7	76.33	158.7
150.	23.978	0.535	-2.108	93.46	31.32	56.26	1151.3	70.75	152.6
155.	23.523	0.528	-1.825	95.31	31.07	56.81	1110.0	65.79	146.6
160.	23.056	0.522	-1.540	97.12	30.84	57.44	1068.7	61.34	140.8
165.	22.575	0.517	-1.251	98.90	30.63	58.14	1027.5	57.32	135.1
170.	22.079	0.513	-0.958	100.65	30.44	58.93	986.4	53.66	129.5
175.	21.568	0.510	-0.661	102.37	30.27	59.81	945.5	50.30	124.0
180.	21.039	0.508	-0.360	104.07	30.12	60.80	904.9	47.21	118.7
185.	20.491	0.508	-0.053	105.75	30.00	61.89	864.6	44.34	113.5
190.	19.922	0.508	0.259	107.42	29.89	63.10	824.8	41.67	108.7
195.	19.332	0.510	0.578	109.07	29.80	64.43	785.6	39.16	103.7
200.	18.718	0.514	0.904	110.72	29.74	65.87	747.3	36.82	99.0
205.	18.081	0.519	1.237	112.37	29.70	67.40	710.2	34.61	94.5
210.	17.420	0.526	1.578	114.01	29.67	69.00	674.6	32.54	90.2
215.	16.736	0.535	1.927	115.65	29.66	70.59	641.0	30.59	86.1
220.	16.034	0.546	2.284	117.29	29.67	72.07	609.8	28.77	82.3
225.	15.318	0.558	2.647	118.93	29.68	73.31	581.6	27.09	78.8
230.	14.598	0.573	3.016	120.55	29.69	74.17	556.8	25.54	75.5
235.	13.883	0.590	3.388	122.15	29.69	74.56	535.7	24.14	72.5
240.	13.185	0.608	3.761	123.72	29.68	74.38	518.2	22.90	69.8
245.	12.514	0.628	4.131	125.24	29.65	73.60	504.3	21.81	67.4
250.	11.880	0.648	4.496	126.72	29.60	72.26	493.6	20.87	65.2
255.	11.289	0.668	4.853	128.13	29.54	70.48	485.9	20.06	63.3
260.	10.745	0.689	5.200	129.48	29.48	68.45	480.5	19.39	61.6
265.	10.248	0.709	5.537	130.76	29.44	66.33	477.2	18.83	60.1
270.	9.795	0.728	5.864	131.98	29.40	64.25	475.4	18.37	58.8
275.	9.383	0.746	6.180	133.15	29.38	62.28	474.8	17.99	57.7
280.	9.008	0.763	6.487	134.25	29.38	60.46	475.2	17.67	56.8
285.	8.666	0.779	6.785	135.31	29.40	58.81	476.2	17.42	56.1
290.	8.354	0.794	7.075	136.32	29.43	57.33	477.8	17.21	55.5
295.	8.067	0.809	7.358	137.28	29.49	56.01	479.8	17.05	55.0
300.	7.804	0.822	7.635	138.22	29.56	54.84	482.2	16.92	54.7
310.	7.336	0.846	8.174	139.98	29.74	52.90	487.5	16.74	54.3
320.	6.933	0.867	8.695	141.64	29.99	51.41	493.4	16.64	54.2
330.	6.581	0.886	9.203	143.20	30.28	50.26	499.5	16.61	54.4
340.	6.271	0.903	9.701	144.69	30.62	49.40	505.8	16.63	54.9
350.	5.995	0.917	10.192	146.11	31.00	48.76	512.2	16.69	55.5
360.	5.747	0.930	10.677	147.48	31.41	48.31	518.5	16.77	56.3
370.	5.523	0.942	11.158	148.80	31.84	48.00	524.8	16.88	57.2
380.	5.319	0.952	11.637	150.07	32.30	47.82	531.0	17.00	58.2

METHANE ISOBAR AT P = 16.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
390.	5.133	0.961	12.115	151.31	32.78	47.73	537.1	17.14	59.3
400.	4.962	0.970	12.592	152.52	33.27	47.73	543.1	17.29	60.5
410.	4.804	0.977	13.070	153.70	33.78	47.80	549.1		61.8
420.	4.657	0.984	13.549	154.85	34.30	47.93	554.9		63.1
430.	4.521	0.990	14.029	155.98	34.83	48.11	560.7		64.5
440.	4.394	0.995	14.511	157.09	35.36	48.34	566.4		66.0
450.	4.275	1.000	14.996	158.18	35.91	48.59	572.0		67.5
460.	4.163	1.005	15.483	159.25	36.45	48.88	577.5		69.0
470.	4.058	1.009	15.973	160.31	37.00	49.19	583.0		70.6
480.	3.959	1.013	16.467	161.35	37.55	49.53	588.3		72.3
490.	3.865	1.016	16.964	162.37	38.10	49.88	593.6		73.9
500.	3.776	1.019	17.465	163.38	38.64	50.25	598.9		75.6
520.	3.612	1.025	18.477	165.37	39.73	51.01	609.2		79.1
540.	3.463	1.029	19.505	167.31	40.80	51.81	619.2		82.6
560.	3.327	1.033	20.550	169.21	41.86	52.63	629.1		86.2
580.	3.203	1.036	21.610	171.07	42.89	53.45	638.8		89.8
600.	3.088	1.039	22.688	172.89	43.90	54.28	648.2		93.5

METHANE ISOBAR AT P = 17.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
95.	28.459	0.756	-5.072	68.59	34.60	52.42	1618.4	214.77	220.9
100.	28.087	0.728	-4.808	71.29	34.68	53.06	1573.1	189.44	215.3
105.	27.711	0.703	-4.541	73.89	34.48	53.42	1530.5	167.79	209.4
110.	27.331	0.680	-4.274	76.38	34.14	53.66	1489.0	149.37	203.4
115.	26.946	0.660	-4.005	78.77	33.75	53.85	1448.1	133.71	197.2
120.	26.555	0.642	-3.735	81.07	33.35	54.04	1407.3	120.41	190.9
125.	26.158	0.625	-3.465	83.28	32.97	54.25	1366.5	109.06	184.7
130.	25.755	0.611	-3.193	85.41	32.60	54.50	1325.7	99.34	178.4
135.	25.344	0.598	-2.919	87.47	32.26	54.79	1284.9	90.96	172.2
140.	24.926	0.586	-2.645	89.47	31.94	55.13	1244.2	83.68	166.0
145.	24.498	0.576	-2.368	91.41	31.64	55.52	1203.4	77.31	159.9
150.	24.061	0.567	-2.089	93.30	31.37	55.97	1162.8	71.69	153.9
155.	23.614	0.559	-1.808	95.15	31.12	56.48	1122.2	66.70	148.0
160.	23.156	0.552	-1.524	96.95	30.89	57.05	1081.8	62.23	142.2
165.	22.685	0.546	-1.238	98.71	30.68	57.69	1041.5	58.19	136.5

METHANE ISOBAR AT P = 17.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
170.	22.201	0.542	-0.947	100.45	30.48	58.41	1001.4	54.52	131.0
175.	21.703	0.538	-0.653	102.15	30.31	59.20	961.5	51.16	125.6
180.	21.189	0.536	-0.355	103.83	30.16	60.08	922.0	48.07	120.3
185.	20.658	0.535	-0.052	105.49	30.02	61.05	882.9	45.21	115.3
190.	20.110	0.535	0.255	107.13	29.91	62.10	844.4	42.55	110.5
195.	19.543	0.537	0.569	108.76	29.82	63.25	806.5	40.07	105.6
200.	18.956	0.539	0.888	110.38	29.74	64.48	769.6	37.75	101.0
205.	18.349	0.544	1.214	111.98	29.69	65.78	733.8	35.57	96.6
210.	17.723	0.549	1.546	113.59	29.65	67.12	699.4	33.53	92.4
215.	17.078	0.557	1.885	115.18	29.63	68.45	666.8	31.61	88.4
220.	16.418	0.566	2.230	116.77	29.62	69.70	636.4	29.83	84.6
225.	15.746	0.577	2.582	118.35	29.62	70.78	608.5	28.17	81.1
230.	15.069	0.590	2.938	119.91	29.62	71.59	583.6	26.64	77.9
235.	14.395	0.604	3.297	121.46	29.62	72.04	561.8	25.25	74.9
240.	13.732	0.620	3.657	122.98	29.61	72.08	543.3	24.00	72.2
245.	13.088	0.638	4.017	124.46	29.60	71.66	528.0	22.89	69.8
250.	12.472	0.656	4.373	125.90	29.57	70.79	515.7	21.91	67.6
255.	11.890	0.674	4.724	127.29	29.53	69.51	506.2	21.06	65.7
260.	11.347	0.693	5.068	128.62	29.50	67.95	499.1	20.33	63.9
265.	10.843	0.712	5.403	129.90	29.46	66.21	494.1	19.72	62.4
270.	10.379	0.730	5.730	131.12	29.44	64.42	490.8	19.20	61.1
275.	9.953	0.747	6.048	132.29	29.43	62.65	488.9	18.76	59.9
280.	9.563	0.764	6.357	133.40	29.44	60.98	488.0	18.40	58.9
285.	9.205	0.779	6.658	134.47	29.46	59.42	488.1	18.10	58.1
290.	8.876	0.794	6.951	135.49	29.50	57.99	488.8	17.85	57.4
295.	8.574	0.808	7.238	136.47	29.55	56.70	490.0	17.65	56.9
300.	8.295	0.822	7.518	137.41	29.62	55.55	491.7	17.48	56.4
310.	7.798	0.846	8.064	139.20	29.81	53.59	495.9	17.24	55.9
320.	7.368	0.867	8.592	140.88	30.06	52.06	500.9	17.10	55.7
330.	6.992	0.886	9.106	142.46	30.35	50.87	506.4	17.03	55.8
340.	6.661	0.903	9.610	143.96	30.68	49.96	512.1	17.01	56.1
350.	6.366	0.918	10.106	145.40	31.06	49.28	518.0	17.04	56.7
360.	6.101	0.931	10.596	146.78	31.46	48.79	524.0	17.10	57.3
370.	5.862	0.943	11.082	148.11	31.89	48.45	529.9	17.18	58.2
380.	5.645	0.953	11.566	149.40	32.35	48.23	535.9	17.29	59.1
390.	5.446	0.963	12.047	150.65	32.82	48.12	541.8	17.41	60.2
400.	5.264	0.971	12.528	151.87	33.32	48.09	547.7	17.55	61.3
410.	5.095	0.979	13.009	153.06	33.82	48.14	553.4		62.6
420.	4.939	0.986	13.491	154.22	34.34	48.25	559.2		63.9
430.	4.794	0.992	13.974	155.36	34.87	48.41	564.8		65.3

METHANE ISOBAR AT P = 17.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
440.	4.658	0.998	14.459	156.47	35.40	48.61	570.4		66.7
450.	4.532	1.003	14.947	157.57	35.94	48.85	575.9		68.2
460.	4.413	1.007	15.437	158.65	36.49	49.13	581.3		69.7
470.	4.301	1.011	15.929	159.70	37.03	49.43	586.7		71.2
480.	4.195	1.015	16.425	160.75	37.58	49.75	592.0		72.8
490.	4.096	1.019	16.924	161.78	38.13	50.09	597.3		74.5
500.	4.001	1.022	17.427	162.79	38.67	50.44	602.4		76.2
520.	3.827	1.027	18.443	164.79	39.76	51.19	612.6		79.6
540.	3.669	1.032	19.475	166.73	40.83	51.97	622.6		83.1
560.	3.524	1.036	20.522	168.64	41.88	52.78	632.4		86.6
580.	3.392	1.039	21.586	170.50	42.91	53.59	642.0		90.3
600.	3.271	1.042	22.666	172.33	43.92	54.40	651.4		93.9

METHANE ISOBAR AT P = 18.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
100.	28.126	0.770	-4.782	71.20	34.72	52.99	1579.6	191.48	216.2
105.	27.752	0.743	-4.516	73.79	34.51	53.34	1537.3	169.64	210.3
110.	27.375	0.719	-4.248	76.28	34.18	53.57	1496.2	151.05	204.3
115.	26.993	0.697	-3.980	78.67	33.80	53.75	1455.6	135.24	198.2
120.	26.606	0.678	-3.711	80.96	33.40	53.92	1415.1	121.80	192.0
125.	26.213	0.661	-3.441	83.16	33.01	54.12	1374.8	110.34	185.7
130.	25.814	0.645	-3.170	85.29	32.65	54.34	1334.5	100.52	179.5
135.	25.408	0.631	-2.897	87.35	32.31	54.61	1294.2	92.06	173.3
140.	24.994	0.619	-2.623	89.34	31.99	54.93	1254.0	84.72	167.2
145.	24.573	0.608	-2.348	91.27	31.69	55.29	1213.9	78.29	161.1
150.	24.143	0.598	-2.070	93.15	31.42	55.70	1173.9	72.63	155.2
155.	23.703	0.589	-1.791	94.99	31.17	56.17	1134.0	67.60	149.3
160.	23.253	0.582	-1.509	96.78	30.94	56.70	1094.4	63.10	143.6
165.	22.791	0.576	-1.224	98.53	30.72	57.28	1054.9	59.05	138.0
170.	22.318	0.571	-0.936	100.25	30.53	57.93	1015.7	55.36	132.5
175.	21.831	0.567	-0.644	101.94	30.35	58.65	976.9	52.00	127.1
180.	21.331	0.564	-0.349	103.60	30.20	59.43	938.4	48.91	122.0
185.	20.816	0.562	-0.050	105.24	30.06	60.29	900.4	46.05	116.9
190.	20.286	0.562	0.254	106.86	29.94	61.22	863.0	43.40	112.2
195.	19.739	0.562	0.562	108.47	29.84	62.22	826.3	40.94	107.5

METHANE ISOBAR AT P = 18.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
200.	19.176	0.564	0.876	110.06	29.75	63.29	790.5	38.63	102.9
205.	18.595	0.568	1.195	111.63	29.69	64.40	755.9	36.48	98.5
210.	17.999	0.573	1.520	113.20	29.64	65.55	722.6	34.46	94.4
215.	17.387	0.579	1.851	114.75	29.60	66.68	690.9	32.58	90.5
220.	16.762	0.587	2.187	116.30	29.58	67.74	661.2	30.82	86.8
225.	16.127	0.597	2.528	117.83	29.57	68.68	633.7	29.18	83.3
230.	15.487	0.608	2.873	119.35	29.57	69.41	608.9	27.67	80.1
235.	14.848	0.620	3.222	120.85	29.57	69.88	586.8	26.29	77.2
240.	14.217	0.634	3.572	122.32	29.56	70.04	567.6	25.03	74.5
245.	13.600	0.650	3.922	123.76	29.56	69.84	551.3	23.90	72.1
250.	13.005	0.666	4.270	125.17	29.54	69.28	537.7	22.90	69.9
255.	12.436	0.683	4.614	126.53	29.52	68.37	526.8	22.01	67.9
260.	11.899	0.700	4.953	127.85	29.50	67.18	518.2	21.25	66.1
265.	11.395	0.717	5.285	129.12	29.48	65.79	511.7	20.58	64.6
270.	10.927	0.734	5.611	130.33	29.47	64.29	507.0	20.02	63.2
275.	10.493	0.750	5.928	131.50	29.47	62.75	503.8	19.54	62.0
280.	10.091	0.766	6.238	132.62	29.48	61.25	501.8	19.13	60.9
285.	9.721	0.781	6.541	133.69	29.51	59.81	500.7	18.78	60.0
290.	9.379	0.796	6.836	134.72	29.56	58.47	500.5	18.50	59.3
295.	9.063	0.810	7.126	135.70	29.61	57.24	501.0	18.26	58.7
300.	8.771	0.823	7.409	136.66	29.69	56.11	501.9	18.06	58.2
310.	8.247	0.847	7.960	138.46	29.88	54.18	504.9	17.76	57.5
320.	7.793	0.868	8.494	140.16	30.12	52.63	509.0	17.57	57.2
330.	7.396	0.887	9.014	141.76	30.41	51.42	513.7	17.45	57.2
340.	7.045	0.904	9.523	143.28	30.74	50.48	518.9	17.40	57.4
350.	6.732	0.919	10.024	144.73	31.11	49.76	524.3	17.40	57.8
360.	6.451	0.932	10.519	146.13	31.51	49.24	529.8	17.43	58.4
370.	6.197	0.944	11.009	147.47	31.94	48.86	535.5	17.50	59.2
380.	5.966	0.955	11.497	148.77	32.40	48.62	541.1	17.58	60.1
390.	5.755	0.964	11.982	150.03	32.87	48.48	546.8	17.69	61.1
400.	5.562	0.973	12.466	151.26	33.36	48.43	552.5	17.81	62.2
410.	5.383	0.981	12.951	152.45	33.86	48.45	558.1		63.4
420.	5.218	0.988	13.436	153.62	34.38	48.54	563.6		64.7
430.	5.064	0.994	13.922	154.76	34.91	48.68	569.1		66.0
440.	4.920	1.000	14.410	155.89	35.44	48.87	574.6		67.4
450.	4.786	1.005	14.899	156.99	35.98	49.10	580.0		68.8
460.	4.660	1.010	15.392	158.07	36.52	49.36	585.3		70.3
470.	4.541	1.014	15.887	159.13	37.06	49.65	590.6		71.9
480.	4.430	1.018	16.385	160.18	37.61	49.96	595.8		73.4
490.	4.324	1.022	16.886	161.21	38.16	50.29	601.0		75.1

METHANE ISOBAR AT P = 18.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
500.	4.224	1.025	17.391	162.23	38.70	50.64	606.1		76.7
520.	4.040	1.031	18.410	164.23	39.79	51.37	616.2		80.1
540.	3.872	1.035	19.445	166.19	40.85	52.13	626.1		83.5
560.	3.720	1.039	20.496	168.10	41.91	52.92	635.8		87.1
580.	3.580	1.042	21.562	169.97	42.93	53.72	645.4		90.7
600.	3.452	1.045	22.645	171.80	43.94	54.53	654.7		94.3

METHANE ISOBAR AT P = 19.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
100.	28.163	0.811	-4.755	71.11	34.76	52.92	1586.0	193.53	217.0
105.	27.793	0.783	-4.490	73.70	34.55	53.26	1544.0	171.51	211.2
110.	27.418	0.758	-4.223	76.18	34.22	53.48	1503.2	152.75	205.2
115.	27.040	0.735	-3.955	78.56	33.84	53.65	1462.9	136.79	199.1
120.	26.656	0.714	-3.686	80.85	33.44	53.81	1422.9	123.21	193.0
125.	26.267	0.696	-3.417	83.05	33.06	53.99	1383.0	111.63	186.8
130.	25.872	0.679	-3.147	85.17	32.70	54.20	1343.1	101.72	180.6
135.	25.470	0.665	-2.875	87.22	32.36	54.44	1303.3	93.17	174.4
140.	25.062	0.651	-2.602	89.21	32.04	54.73	1263.7	85.76	168.3
145.	24.646	0.639	-2.328	91.13	31.74	55.07	1224.1	79.28	162.3
150.	24.222	0.629	-2.051	93.01	31.47	55.45	1184.7	73.57	156.4
155.	23.789	0.620	-1.773	94.83	31.22	55.88	1145.6	68.50	150.6
160.	23.347	0.612	-1.492	96.61	30.98	56.37	1106.6	63.98	144.9
165.	22.894	0.605	-1.209	98.35	30.77	56.90	1068.0	59.90	139.4
170.	22.430	0.599	-0.923	100.06	30.57	57.49	1029.6	56.20	133.9
175.	21.955	0.595	-0.634	101.74	30.40	58.14	991.6	52.83	128.6
180.	21.468	0.591	-0.342	103.39	30.24	58.85	954.1	49.73	123.5
185.	20.967	0.589	-0.046	105.01	30.09	59.61	917.0	46.88	118.6
190.	20.452	0.588	0.254	106.61	29.97	60.44	880.6	44.24	113.9
195.	19.924	0.588	0.559	108.19	29.86	61.32	845.0	41.78	109.2
200.	19.381	0.590	0.868	109.75	29.77	62.25	810.3	39.49	104.7
205.	18.824	0.592	1.181	111.30	29.70	63.22	776.7	37.35	100.4
210.	18.252	0.596	1.500	112.84	29.64	64.20	744.3	35.36	96.3
215.	17.668	0.602	1.823	114.36	29.60	65.17	713.5	33.49	92.5
220.	17.073	0.608	2.152	115.87	29.57	66.09	684.5	31.75	88.8

METHANE ISOBAR AT P = 19.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
225.	16.470	0.617	2.484	117.36	29.55	66.91	657.5	30.13	85.4
230.	15.862	0.626	2.820	118.84	29.54	67.57	632.8	28.63	82.3
235.	15.254	0.637	3.159	120.30	29.53	68.03	610.5	27.26	79.3
240.	14.652	0.650	3.500	121.73	29.53	68.24	590.9	26.00	76.7
245.	14.061	0.663	3.841	123.14	29.52	68.17	573.8	24.86	74.2
250.	13.486	0.678	4.181	124.52	29.52	67.82	559.4	23.84	72.0
255.	12.933	0.693	4.519	125.85	29.51	67.18	547.3	22.93	70.0
260.	12.405	0.708	4.853	127.15	29.50	66.28	537.5	22.13	68.2
265.	11.906	0.724	5.182	128.40	29.49	65.18	529.7	21.43	66.6
270.	11.437	0.740	5.504	129.61	29.49	63.95	523.7	20.82	65.2
275.	10.999	0.755	5.821	130.77	29.50	62.63	519.3	20.30	64.0
280.	10.591	0.771	6.131	131.89	29.52	61.31	516.2	19.85	62.9
285.	10.212	0.785	6.434	132.96	29.56	60.01	514.1	19.47	61.9
290.	9.860	0.799	6.731	133.99	29.60	58.77	513.0	19.14	61.1
295.	9.534	0.813	7.022	134.99	29.67	57.61	512.6	18.87	60.4
300.	9.230	0.825	7.307	135.95	29.74	56.54	512.8	18.64	59.9
310.	8.684	0.849	7.863	137.77	29.93	54.66	514.6	18.28	59.1
320.	8.208	0.870	8.402	139.48	30.18	53.12	517.6	18.04	58.6
330.	7.791	0.889	8.926	141.09	30.47	51.90	521.6	17.89	58.5
340.	7.421	0.906	9.440	142.63	30.80	50.94	526.1	17.80	58.7
350.	7.091	0.921	9.946	144.09	31.16	50.20	531.0	17.77	59.0
360.	6.795	0.934	10.445	145.50	31.56	49.65	536.1	17.77	59.5
370.	6.527	0.946	10.939	146.86	31.99	49.25	541.4	17.81	60.2
380.	6.283	0.957	11.430	148.16	32.44	48.98	546.7	17.88	61.1
390.	6.061	0.967	11.919	149.43	32.91	48.82	552.1	17.97	62.0
400.	5.856	0.976	12.407	150.67	33.40	48.75	557.5	18.08	63.1
410.	5.668	0.983	12.895	151.87	33.90	48.75	562.9		64.2
420.	5.493	0.991	13.382	153.05	34.42	48.82	568.3		65.4
430.	5.331	0.997	13.871	154.20	34.94	48.95	573.7		66.7
440.	5.179	1.003	14.362	155.33	35.47	49.13	579.0		68.1
450.	5.037	1.008	14.854	156.43	36.01	49.34	584.2		69.5
460.	4.905	1.013	15.348	157.52	36.55	49.59	589.5		71.0
470.	4.780	1.017	15.846	158.59	37.10	49.86	594.7		72.5
480.	4.662	1.021	16.346	159.64	37.64	50.16	599.8		74.0
490.	4.551	1.025	16.849	160.68	38.19	50.48	604.9		75.6
500.	4.445	1.028	17.355	161.70	38.73	50.82	610.0		77.3
520.	4.251	1.034	18.379	163.71	39.81	51.54	619.9		80.6
540.	4.074	1.039	19.417	165.67	40.88	52.29	629.7		84.0
560.	3.914	1.043	20.471	167.58	41.93	53.07	639.3		87.6
580.	3.767	1.046	21.540	169.46	42.95	53.85	648.8		91.1
600.	3.632	1.049	22.625	171.30	43.96	54.65	658.1		94.7

METHANE ISOBAR AT P = 20.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
100.	28.201	0.853	-4.729	71.01	34.79	52.85	1592.3	195.61	217.9
105.	27.833	0.823	-4.464	73.60	34.59	53.19	1550.6	173.40	212.1
110.	27.461	0.796	-4.197	76.08	34.26	53.40	1510.1	154.46	206.2
115.	27.085	0.772	-3.930	78.46	33.88	53.55	1470.2	138.35	200.1
120.	26.705	0.751	-3.662	80.74	33.49	53.70	1430.5	124.63	194.0
125.	26.319	0.731	-3.393	82.94	33.11	53.86	1391.0	112.94	187.8
130.	25.928	0.714	-3.123	85.05	32.74	54.05	1351.6	102.92	181.7
135.	25.531	0.698	-2.852	87.10	32.40	54.28	1312.3	94.28	175.5
140.	25.128	0.684	-2.580	89.08	32.09	54.55	1273.1	86.80	169.5
145.	24.717	0.671	-2.307	90.99	31.79	54.86	1234.1	80.26	163.5
150.	24.299	0.660	-2.032	92.86	31.52	55.21	1195.3	74.51	157.7
155.	23.873	0.650	-1.755	94.68	31.27	55.61	1156.8	69.40	151.9
160.	23.438	0.641	-1.476	96.45	31.03	56.05	1118.5	64.84	146.2
165.	22.993	0.634	-1.194	98.18	30.82	56.54	1080.6	60.74	140.7
170.	22.539	0.628	-0.910	99.88	30.62	57.08	1043.0	57.03	135.4
175.	22.074	0.623	-0.623	101.54	30.44	57.67	1005.8	53.64	130.1
180.	21.598	0.619	-0.333	103.17	30.28	58.31	969.1	50.54	125.1
185.	21.110	0.616	-0.040	104.78	30.13	59.00	933.0	47.69	120.2
190.	20.610	0.614	0.257	106.36	30.00	59.74	897.5	45.05	115.5
195.	20.098	0.614	0.557	107.93	29.89	60.52	862.8	42.60	110.9
200.	19.573	0.614	0.862	109.47	29.79	61.34	829.1	40.32	106.5
205.	19.036	0.616	1.171	110.99	29.71	62.18	796.4	38.20	102.2
210.	18.487	0.620	1.484	112.50	29.65	63.03	764.9	36.21	98.2
215.	17.927	0.624	1.801	114.00	29.60	63.88	734.8	34.36	94.4
220.	17.358	0.630	2.123	115.47	29.56	64.68	706.4	32.64	90.8
225.	16.782	0.637	2.448	116.93	29.53	65.39	679.9	31.03	87.4
230.	16.201	0.646	2.776	118.38	29.52	65.99	655.4	29.54	84.3
235.	15.621	0.655	3.107	119.80	29.51	66.42	633.1	28.17	81.4
240.	15.045	0.666	3.440	121.20	29.50	66.66	613.2	26.92	78.7
245.	14.477	0.678	3.774	122.58	29.50	66.67	595.7	25.77	76.3
250.	13.923	0.691	4.107	123.92	29.50	66.46	580.5	24.74	74.0
255.	13.386	0.705	4.438	125.24	29.50	66.00	567.6	23.81	72.0
260.	12.870	0.719	4.766	126.51	29.50	65.33	556.7	22.98	70.2
265.	12.378	0.733	5.091	127.75	29.50	64.46	547.9	22.25	68.6
270.	11.913	0.748	5.411	128.94	29.51	63.45	540.8	21.61	67.2
275.	11.474	0.762	5.725	130.10	29.53	62.35	535.3	21.05	65.9
280.	11.063	0.777	6.034	131.21	29.56	61.20	531.1	20.57	64.7
285.	10.678	0.790	6.337	132.28	29.60	60.05	528.1	20.15	63.7
290.	10.319	0.804	6.635	133.32	29.65	58.92	526.0	19.79	62.9
295.	9.984	0.817	6.926	134.32	29.71	57.85	524.8	19.48	62.2

METHANE ISOBAR AT P = 20.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
300.	9.672	0.829	7.213	135.28	29.79	56.84	524.3	19.22	61.5
310.	9.107	0.852	7.772	137.11	29.99	55.04	524.8	18.81	60.6
320.	8.612	0.873	8.315	138.84	30.23	53.54	526.8	18.52	60.1
330.	8.176	0.892	8.844	140.47	30.52	52.32	529.9	18.33	59.9
340.	7.789	0.908	9.362	142.01	30.85	51.35	533.7	18.20	59.9
350.	7.444	0.923	9.872	143.49	31.21	50.60	538.0	18.14	60.2
360.	7.133	0.937	10.375	144.91	31.61	50.02	542.7	18.12	60.7
370.	6.852	0.949	10.873	146.27	32.04	49.61	547.5	18.14	61.3
380.	6.596	0.960	11.367	147.59	32.49	49.32	552.6	18.18	62.0
390.	6.362	0.969	11.859	148.87	32.96	49.14	557.7	18.26	62.9
400.	6.147	0.978	12.350	150.11	33.44	49.05	562.8	18.35	63.9
410.	5.949	0.986	12.841	151.32	33.94	49.04	568.0		65.0
420.	5.765	0.993	13.331	152.50	34.46	49.09	573.2		66.2
430.	5.594	1.000	13.823	153.66	34.98	49.21	578.4		67.5
440.	5.435	1.006	14.315	154.79	35.51	49.37	583.5		68.8
450.	5.286	1.011	14.810	155.90	36.04	49.57	588.7		70.2
460.	5.147	1.016	15.307	157.00	36.58	49.80	593.8		71.6
470.	5.015	1.020	15.806	158.07	37.13	50.07	598.9		73.1
480.	4.891	1.024	16.308	159.13	37.67	50.36	603.9		74.7
490.	4.775	1.028	16.813	160.17	38.21	50.67	608.9		76.2
500.	4.664	1.031	17.322	161.20	38.76	51.00	613.9		77.8
520.	4.460	1.037	18.349	163.21	39.84	51.70	623.7		81.1
540.	4.274	1.042	19.390	165.17	40.90	52.44	633.4		84.5
560.	4.106	1.046	20.446	167.10	41.95	53.20	642.9		88.0
580.	3.952	1.049	21.518	168.98	42.97	53.98	652.3		91.6
600.	3.810	1.052	22.606	170.82	43.98	54.77	661.5		95.2

METHANE ISOBAR AT P = 25.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
100.	28.383	1.059	-4.597	70.56	34.98	52.55	1622.8	206.34	222.0
105.	28.027	1.022	-4.334	73.14	34.79	52.85	1582.4	183.16	216.5
110.	27.668	0.988	-4.069	75.60	34.47	53.01	1543.4	163.31	210.7
115.	27.306	0.958	-3.804	77.96	34.09	53.11	1505.0	146.37	204.8
120.	26.941	0.930	-3.538	80.22	33.71	53.20	1467.0	131.93	198.8

METHANE ISOBAR AT P = 25.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
125.	26.572	0.905	-3.272	82.39	33.34	53.30	1429.2	119.61	192.8
130.	26.199	0.883	-3.005	84.49	32.98	53.43	1391.8	109.05	186.9
135.	25.822	0.863	-2.738	86.51	32.65	53.57	1354.5	99.96	180.9
140.	25.440	0.844	-2.469	88.46	32.33	53.75	1317.6	92.09	175.1
145.	25.053	0.828	-2.200	90.35	32.04	53.96	1281.0	85.23	169.3
150.	24.661	0.813	-1.930	92.18	31.77	54.19	1244.8	79.21	163.6
155.	24.263	0.800	-1.658	93.96	31.52	54.46	1208.9	73.89	158.0
160.	23.859	0.788	-1.385	95.69	31.28	54.75	1173.5	69.15	152.6
165.	23.450	0.777	-1.110	97.38	31.06	55.08	1138.6	64.91	147.2
170.	23.033	0.768	-0.834	99.03	30.86	55.43	1104.2	61.08	142.1
175.	22.611	0.760	-0.556	100.65	30.67	55.80	1070.3	57.61	137.1
180.	22.181	0.753	-0.276	102.22	30.50	56.20	1037.0	54.45	132.2
185.	21.744	0.747	0.006	103.77	30.34	56.62	1004.4	51.55	127.5
190.	21.301	0.743	0.290	105.28	30.20	57.07	972.5	48.89	123.0
195.	20.851	0.740	0.577	106.77	30.07	57.52	941.5	46.43	118.7
200.	20.394	0.737	0.865	108.24	29.96	57.99	911.3	44.16	114.5
205.	19.930	0.736	1.157	109.67	29.86	58.47	882.0	42.05	110.4
210.	19.461	0.736	1.450	111.09	29.77	58.94	853.8	40.09	106.6
215.	18.987	0.737	1.746	112.48	29.70	59.40	826.8	38.27	103.0
220.	18.509	0.738	2.044	113.85	29.64	59.83	801.0	36.57	99.5
225.	18.027	0.741	2.344	115.20	29.59	60.23	776.5	35.00	96.3
230.	17.544	0.745	2.646	116.53	29.55	60.58	753.4	33.53	93.2
235.	17.061	0.750	2.950	117.83	29.53	60.87	731.9	32.17	90.4
240.	16.580	0.756	3.255	119.12	29.51	61.08	711.9	30.91	87.7
245.	16.102	0.762	3.560	120.38	29.51	61.20	693.5	29.75	85.3
250.	15.631	0.769	3.867	121.61	29.51	61.23	676.7	28.68	83.0
255.	15.167	0.777	4.173	122.83	29.52	61.15	661.5	27.69	80.9
260.	14.714	0.786	4.478	124.01	29.54	60.98	648.0	26.80	79.1
265.	14.272	0.795	4.782	125.17	29.56	60.71	635.9	25.98	77.3
270.	13.844	0.804	5.085	126.30	29.60	60.34	625.3	25.23	75.8
275.	13.430	0.814	5.385	127.41	29.64	59.90	616.1	24.56	74.4
280.	13.033	0.824	5.684	128.48	29.69	59.38	608.1	23.95	73.1
285.	12.651	0.834	5.979	129.53	29.75	58.81	601.3	23.41	71.9
290.	12.287	0.844	6.272	130.54	29.82	58.21	595.6	22.92	70.9
295.	11.939	0.854	6.561	131.53	29.90	57.58	590.8	22.49	70.0
300.	11.608	0.863	6.848	132.50	29.99	56.95	586.9	22.10	69.2
310.	10.995	0.882	7.411	134.34	30.20	55.71	581.3	21.46	68.0
320.	10.443	0.900	7.962	136.09	30.45	54.56	578.2	20.95	67.0
330.	9.945	0.916	8.502	137.76	30.74	53.55	576.9	20.57	66.4
340.	9.496	0.931	9.034	139.34	31.07	52.69	576.9	20.28	66.1

METHANE ISOBAR AT P = 25.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
350.	9.090	0.945	9.557	140.86	31.43	51.98	578.1	20.06	66.0
360.	8.721	0.958	10.074	142.32	31.82	51.41	580.0	19.91	66.2
370.	8.384	0.969	10.585	143.72	32.24	50.97	582.6	19.82	66.5
380.	8.077	0.980	11.093	145.07	32.68	50.64	585.6	19.76	67.0
390.	7.794	0.989	11.599	146.38	33.15	50.41	589.0	19.74	67.6
400.	7.534	0.998	12.102	147.66	33.63	50.28	592.6	19.75	68.4
410.	7.293	1.006	12.604	148.90	34.12	50.21	596.5		69.3
420.	7.069	1.013	13.107	150.11	34.63	50.22	600.5		70.3
430.	6.861	1.019	13.609	151.29	35.14	50.28	604.7		71.3
440.	6.666	1.025	14.112	152.45	35.66	50.39	608.9		72.5
450.	6.484	1.030	14.617	153.58	36.19	50.55	613.2		73.7
460.	6.313	1.035	15.123	154.70	36.73	50.74	617.6		75.0
470.	6.153	1.040	15.632	155.79	37.27	50.97	622.0		76.4
480.	6.001	1.044	16.143	156.87	37.80	51.22	626.5		77.8
490.	5.858	1.047	16.656	157.92	38.34	51.49	631.0		79.2
500.	5.723	1.051	17.173	158.97	38.88	51.79	635.4		80.7
520.	5.472	1.057	18.215	161.01	39.95	52.43	644.4		83.8
540.	5.246	1.061	19.270	163.00	41.01	53.11	653.3		87.1
560.	5.039	1.065	20.340	164.95	42.05	53.83	662.2		90.4
580.	4.850	1.069	21.423	166.85	43.07	54.56	671.0		93.8
600.	4.677	1.071	22.522	168.71	44.06	55.31	679.8		97.3

METHANE ISOBAR AT P = 30.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
100.	28.557	1.263	-4.465	70.13	35.17	52.29	1651.5	217.69	226.1
105.	28.212	1.218	-4.203	72.69	34.98	52.55	1612.4	193.49	220.7
110.	27.864	1.177	-3.940	75.14	34.67	52.67	1574.6	172.67	215.1
115.	27.515	1.140	-3.676	77.48	34.30	52.74	1537.6	154.85	209.3
120.	27.163	1.107	-3.412	79.73	33.93	52.79	1501.0	139.62	203.5
125.	26.808	1.077	-3.148	81.88	33.56	52.84	1464.8	126.60	197.7
130.	26.451	1.049	-2.884	83.96	33.21	52.90	1428.9	115.44	191.9
135.	26.090	1.024	-2.619	85.96	32.88	52.99	1393.5	105.85	186.1
140.	25.726	1.002	-2.354	87.88	32.57	53.10	1358.4	97.54	180.3
145.	25.359	0.981	-2.088	89.75	32.28	53.23	1323.7	90.32	174.7

ETHANE ISOBAR AT P = 30.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
150.	24.988	0.963	-1.822	91.56	32.01	53.39	1289.5	83.99	169.2
155.	24.613	0.946	-1.554	93.31	31.76	53.56	1255.8	78.41	163.8
160.	24.234	0.931	-1.286	95.01	31.52	53.76	1222.6	73.46	158.5
165.	23.851	0.917	-1.017	96.67	31.30	53.97	1190.0	69.03	153.3
170.	23.464	0.905	-0.746	98.29	31.10	54.21	1157.9	65.06	148.3
175.	23.073	0.894	-0.475	99.86	30.91	54.45	1126.5	61.46	143.4
180.	22.677	0.884	-0.202	101.40	30.73	54.71	1095.7	58.20	138.7
185.	22.277	0.876	0.073	102.90	30.57	54.99	1065.6	55.22	134.2
190.	21.873	0.868	0.348	104.37	30.42	55.27	1036.2	52.49	129.8
195.	21.465	0.862	0.625	105.81	30.28	55.55	1007.6	49.99	125.6
200.	21.053	0.857	0.904	107.22	30.16	55.85	979.9	47.67	121.5
205.	20.638	0.853	1.184	108.60	30.05	56.14	953.0	45.53	117.6
210.	20.219	0.850	1.465	109.96	29.95	56.42	927.0	43.55	113.9
215.	19.799	0.848	1.748	111.29	29.87	56.70	902.1	41.71	110.4
220.	19.376	0.846	2.032	112.60	29.80	56.96	878.1	40.00	107.0
225.	18.953	0.846	2.318	113.88	29.74	57.20	855.2	38.41	103.9
230.	18.529	0.847	2.604	115.14	29.69	57.42	833.5	36.94	100.9
235.	18.106	0.848	2.892	116.38	29.66	57.60	812.9	35.56	98.1
240.	17.684	0.850	3.180	117.59	29.63	57.75	793.5	34.29	95.4
245.	17.265	0.853	3.469	118.78	29.62	57.86	775.3	33.10	93.0
250.	16.850	0.857	3.759	119.95	29.62	57.91	758.4	32.00	90.7
255.	16.440	0.861	4.048	121.10	29.63	57.92	742.7	30.98	88.6
260.	16.037	0.865	4.338	122.22	29.64	57.88	728.2	30.04	86.6
265.	15.640	0.871	4.627	123.33	29.67	57.78	714.9	29.17	84.8
270.	15.252	0.876	4.915	124.40	29.71	57.64	702.8	28.37	83.1
275.	14.873	0.882	5.203	125.46	29.76	57.44	691.8	27.64	81.6
280.	14.504	0.888	5.490	126.49	29.82	57.21	681.9	26.96	80.3
285.	14.146	0.895	5.775	127.50	29.88	56.93	673.0	26.35	79.0
290.	13.798	0.902	6.059	128.49	29.96	56.62	665.0	25.78	77.9
295.	13.463	0.909	6.341	129.46	30.05	56.29	658.0	25.27	76.9
300.	13.139	0.915	6.622	130.40	30.14	55.93	651.8	24.80	76.0
310.	12.527	0.929	7.177	132.22	30.36	55.19	641.7	23.99	74.5
320.	11.963	0.943	7.726	133.96	30.62	54.45	634.2	23.32	73.3
330.	11.443	0.956	8.267	135.63	30.92	53.74	628.9	22.79	72.4
340.	10.965	0.968	8.801	137.22	31.25	53.11	625.4	22.35	71.9
350.	10.527	0.979	9.329	138.75	31.61	52.55	623.4	22.01	71.5
360.	10.123	0.990	9.852	140.23	32.00	52.09	622.5	21.74	71.4
370.	9.752	1.000	10.371	141.65	32.41	51.71	622.5	21.54	71.5
380.	9.409	1.009	10.887	143.02	32.85	51.42	623.3	21.38	71.8
390.	9.091	1.018	11.400	144.36	33.31	51.22	624.8	21.27	72.2

METHANE ISOBAR AT P = 30.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
400.	8.797	1.025	11.911	145.65	33.78	51.08	626.7	21.20	72.8
410.	8.524	1.032	12.422	146.91	34.27	51.02	629.0		73.5
420.	8.269	1.039	12.932	148.14	34.77	51.01	631.7		74.3
430.	8.031	1.045	13.442	149.34	35.28	51.06	634.6		75.2
440.	7.808	1.050	13.953	150.52	35.80	51.16	637.7		76.2
450.	7.599	1.055	14.465	151.67	36.33	51.29	641.0		77.3
460.	7.402	1.060	14.979	152.80	36.85	51.46	644.5		78.5
470.	7.216	1.064	15.495	153.90	37.39	51.67	648.1		79.7
480.	7.041	1.068	16.012	154.99	37.92	51.90	651.8		81.0
490.	6.876	1.071	16.533	156.07	38.46	52.15	655.6		82.3
500.	6.719	1.074	17.055	157.12	38.99	52.42	659.5		83.7
520.	6.428	1.079	18.110	159.19	40.05	53.02	667.3		86.6
540.	6.165	1.084	19.177	161.20	41.10	53.67	675.3		89.7
560.	5.925	1.088	20.257	163.17	42.14	54.35	683.4		92.9
580.	5.705	1.091	21.351	165.09	43.15	55.05	691.5		96.2
600.	5.502	1.093	22.459	166.97	44.14	55.76	699.7		99.5

METHANE ISOBAR AT P = 35.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
100.	28.723	1.466	-4.332	69.72	35.35	52.05	1678.9	229.75	230.1
105.	28.388	1.412	-4.071	72.27	35.17	52.29	1640.9	204.48	224.8
110.	28.051	1.364	-3.809	74.70	34.87	52.39	1604.2	182.63	219.3
115.	27.712	1.321	-3.547	77.03	34.51	52.42	1568.3	163.86	213.7
120.	27.372	1.282	-3.285	79.26	34.14	52.43	1533.0	147.76	208.1
125.	27.030	1.246	-3.023	81.40	33.78	52.44	1498.1	133.99	202.4
130.	26.686	1.213	-2.761	83.46	33.44	52.47	1463.7	122.17	196.7
135.	26.340	1.184	-2.498	85.44	33.11	52.51	1429.7	112.01	191.0
140.	25.992	1.157	-2.235	87.35	32.80	52.56	1396.2	103.22	185.4
145.	25.641	1.132	-1.972	89.20	32.52	52.64	1363.2	95.59	179.9
150.	25.288	1.110	-1.709	90.98	32.25	52.74	1330.6	88.91	174.5
155.	24.932	1.089	-1.445	92.71	31.99	52.85	1298.7	83.03	169.2
160.	24.573	1.071	-1.180	94.39	31.76	52.97	1267.3	77.83	164.0
165.	24.212	1.054	-0.915	96.03	31.54	53.11	1236.5	73.19	159.0
170.	23.848	1.038	-0.649	97.61	31.33	53.26	1206.3	69.03	154.1

METHANE ISOBAR AT P = 35.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
175.	23.481	1.024	-0.383	99.16	31.14	53.43	1176.8	65.28	149.3
180.	23.112	1.012	-0.115	100.67	30.96	53.60	1147.9	61.89	144.7
185.	22.739	1.001	0.153	102.14	30.79	53.77	1119.7	58.80	140.3
190.	22.365	0.991	0.423	103.57	30.64	53.96	1092.2	55.98	136.0
195.	21.988	0.982	0.693	104.98	30.50	54.14	1065.5	53.39	131.9
200.	21.609	0.974	0.964	106.35	30.37	54.33	1039.6	51.01	127.9
205.	21.228	0.967	1.236	107.70	30.25	54.52	1014.4	48.81	124.1
210.	20.846	0.962	1.509	109.01	30.15	54.70	990.1	46.78	120.5
215.	20.463	0.957	1.783	110.30	30.06	54.87	966.7	44.90	117.0
220.	20.079	0.953	2.058	111.56	29.98	55.04	944.2	43.15	113.8
225.	19.695	0.950	2.334	112.80	29.91	55.19	922.5	41.53	110.6
230.	19.312	0.948	2.610	114.02	29.86	55.33	901.9	40.02	107.7
235.	18.930	0.946	2.887	115.21	29.82	55.45	882.2	38.61	104.9
240.	18.549	0.946	3.164	116.38	29.79	55.55	863.5	37.31	102.3
245.	18.171	0.946	3.442	117.52	29.77	55.63	845.8	36.09	99.8
250.	17.796	0.946	3.721	118.65	29.76	55.68	829.0	34.96	97.5
255.	17.425	0.947	3.999	119.75	29.77	55.71	813.3	33.91	95.3
260.	17.058	0.949	4.278	120.83	29.79	55.70	798.6	32.93	93.3
265.	16.697	0.951	4.556	121.89	29.81	55.67	784.9	32.02	91.5
270.	16.342	0.954	4.834	122.93	29.85	55.61	772.1	31.17	89.7
275.	15.993	0.957	5.112	123.95	29.90	55.52	760.3	30.39	88.1
280.	15.651	0.961	5.389	124.95	29.96	55.40	749.4	29.67	86.7
285.	15.317	0.964	5.666	125.93	30.03	55.26	739.4	29.00	85.4
290.	14.991	0.968	5.942	126.89	30.10	55.10	730.2	28.38	84.1
295.	14.673	0.972	6.217	127.83	30.19	54.92	721.8	27.81	83.0
300.	14.364	0.977	6.491	128.75	30.29	54.73	714.2	27.28	82.0
310.	13.773	0.986	7.036	130.54	30.52	54.30	701.0	26.35	80.3
320.	13.218	0.995	7.577	132.26	30.78	53.85	690.5	25.57	79.0
330.	12.699	1.004	8.113	133.91	31.07	53.41	682.1	24.91	77.9
340.	12.215	1.014	8.645	135.50	31.40	52.99	675.7	24.37	77.2
350.	11.764	1.022	9.173	137.03	31.76	52.61	670.9	23.92	76.7
360.	11.345	1.031	9.698	138.50	32.15	52.28	667.4	23.55	76.4
370.	10.954	1.039	10.219	139.93	32.56	52.01	665.1	23.24	76.3
380.	10.591	1.046	10.738	141.32	32.99	51.80	663.8	23.00	76.4
390.	10.251	1.053	11.255	142.66	33.45	51.65	663.3	22.81	76.6
400.	9.935	1.059	11.771	143.97	33.92	51.56	663.5	22.66	77.0
410.	9.639	1.065	12.287	145.24	34.40	51.52	664.2		77.6
420.	9.361	1.071	12.802	146.48	34.90	51.53	665.4		78.2
430.	9.101	1.076	13.317	147.69	35.40	51.59	667.0		79.0
440.	8.856	1.080	13.834	148.88	35.92	51.69	669.0		79.9

METHANE ISOBAR AT P = 35.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
450.	8.626	1.084	14.351	150.04	36.44	51.82	671.2		80.8
460.	8.408	1.088	14.870	151.18	36.97	51.99	673.7		81.9
470.	8.203	1.092	15.391	152.30	37.49	52.19	676.4		83.0
480.	8.009	1.095	15.914	153.40	38.03	52.41	679.2		84.2
490.	7.824	1.098	16.439	154.49	38.56	52.65	682.3		85.4
500.	7.650	1.101	16.967	155.55	39.09	52.92	685.4		86.7
520.	7.325	1.105	18.031	157.64	40.14	53.49	692.0		89.4
540.	7.030	1.109	19.107	159.67	41.19	54.12	698.9		92.4
560.	6.760	1.112	20.196	161.65	42.22	54.77	706.1		95.4
580.	6.513	1.114	21.298	163.58	43.23	55.45	713.4		98.5
600.	6.285	1.116	22.414	165.48	44.21	56.15	720.8		101.8

METHANE ISOBAR AT P = 40.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
105.	28.556	1.604	-3.938	71.86	35.36	52.06	1667.9	216.24	228.8
110.	28.229	1.549	-3.678	74.28	35.06	52.13	1632.3	193.30	223.5
115.	27.900	1.499	-3.417	76.60	34.71	52.14	1597.4	173.48	218.0
120.	27.571	1.454	-3.156	78.82	34.35	52.12	1563.2	156.46	212.5
125.	27.240	1.413	-2.896	80.94	33.99	52.10	1529.6	141.85	206.9
130.	26.908	1.375	-2.635	82.99	33.65	52.09	1496.4	129.30	201.3
135.	26.575	1.341	-2.375	84.95	33.33	52.10	1463.7	118.51	195.8
140.	26.240	1.310	-2.114	86.85	33.03	52.11	1431.5	109.18	190.3
145.	25.903	1.281	-1.854	88.68	32.74	52.15	1399.9	101.08	184.9
150.	25.565	1.255	-1.593	90.45	32.47	52.20	1368.8	94.01	179.6
155.	25.225	1.230	-1.332	92.16	32.22	52.26	1338.3	87.80	174.4
160.	24.884	1.208	-1.070	93.82	31.98	52.33	1308.5	82.31	169.3
165.	24.540	1.188	-0.808	95.43	31.76	52.42	1279.2	77.42	164.4
170.	24.195	1.170	-0.546	97.00	31.55	52.51	1250.5	73.05	159.6
175.	23.848	1.153	-0.283	98.52	31.36	52.62	1222.5	69.13	154.9
180.	23.500	1.137	-0.020	100.00	31.18	52.73	1195.2	65.58	150.4
185.	23.150	1.123	0.244	101.45	31.01	52.84	1168.5	62.35	146.0
190.	22.799	1.111	0.509	102.86	30.85	52.96	1142.6	59.41	141.9
195.	22.446	1.099	0.774	104.24	30.71	53.08	1117.3	56.73	137.8
200.	22.092	1.089	1.039	105.58	30.57	53.20	1092.8	54.26	133.9

METHANE ISOBAR AT P = 40.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
205.	21.738	1.080	1.306	106.90	30.45	53.32	1069.1	51.98	130.2
210.	21.383	1.071	1.573	108.18	30.35	53.43	1046.1	49.88	126.6
215.	21.028	1.064	1.840	109.44	30.25	53.54	1023.9	47.94	123.2
220.	20.673	1.058	2.108	110.68	30.17	53.65	1002.4	46.14	119.9
225.	20.319	1.052	2.377	111.88	30.10	53.75	981.9	44.46	116.8
230.	19.966	1.048	2.645	113.06	30.04	53.84	962.1	42.91	113.9
235.	19.613	1.044	2.915	114.22	29.99	53.92	943.2	41.46	111.1
240.	19.263	1.041	3.185	115.36	29.96	53.99	925.1	40.11	108.5
245.	18.915	1.038	3.455	116.47	29.94	54.04	907.9	38.86	106.0
250.	18.570	1.036	3.725	117.57	29.93	54.08	891.5	37.68	103.7
255.	18.228	1.035	3.996	118.64	29.93	54.11	876.0	36.59	101.5
260.	17.890	1.034	4.266	119.69	29.94	54.12	861.3	35.58	99.4
265.	17.556	1.034	4.537	120.72	29.96	54.11	847.5	34.63	97.5
270.	17.227	1.034	4.807	121.73	30.00	54.08	834.5	33.74	95.8
275.	16.903	1.035	5.077	122.72	30.05	54.04	822.3	32.92	94.1
280.	16.584	1.036	5.348	123.69	30.10	53.99	810.9	32.15	92.6
285.	16.271	1.037	5.617	124.65	30.17	53.92	800.2	31.44	91.2
290.	15.965	1.039	5.887	125.59	30.25	53.83	790.3	30.78	89.9
295.	15.665	1.041	6.156	126.51	30.34	53.74	781.1	30.16	88.7
300.	15.371	1.043	6.424	127.41	30.43	53.63	772.6	29.59	87.6
310.	14.806	1.048	6.959	129.16	30.66	53.39	757.5	28.56	85.8
320.	14.269	1.054	7.492	130.85	30.92	53.14	744.8	27.69	84.2
330.	13.761	1.059	8.022	132.49	31.22	52.88	734.3	26.94	83.0
340.	13.282	1.065	8.549	134.06	31.54	52.62	725.6	26.30	82.1
350.	12.831	1.071	9.074	135.58	31.90	52.39	718.5	25.75	81.4
360.	12.407	1.077	9.597	137.06	32.28	52.19	713.0	25.30	81.0
370.	12.009	1.083	10.118	138.48	32.69	52.03	708.7	24.91	80.8
380.	11.635	1.088	10.638	139.87	33.12	51.90	705.4	24.59	80.7
390.	11.284	1.093	11.157	141.22	33.57	51.82	703.2	24.33	80.8
400.	10.953	1.098	11.675	142.53	34.04	51.79	701.7	24.11	81.1
410.	10.643	1.103	12.193	143.81	34.52	51.79	700.9		81.5
420.	10.350	1.107	12.711	145.05	35.01	51.84	700.7		82.0
430.	10.074	1.111	13.229	146.28	35.52	51.92	701.0		82.7
440.	9.814	1.114	13.749	147.47	36.03	52.04	701.8		83.4
450.	9.568	1.117	14.270	148.64	36.54	52.18	702.9		84.3
460.	9.335	1.120	14.793	149.79	37.07	52.36	704.4		85.2
470.	9.114	1.123	15.317	150.92	37.59	52.56	706.1		86.2
480.	8.904	1.126	15.844	152.03	38.12	52.79	708.1		87.3
490.	8.705	1.128	16.373	153.12	38.65	53.03	710.4		88.5
500.	8.516	1.130	16.905	154.19	39.17	53.29	712.8		89.7

METHANE ISOBAR AT P = 40.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
520.	8.163	1.133	17.976	156.29	40.23	53.86	718.0		92.2
540.	7.841	1.136	19.060	158.34	41.27	54.47	723.8		95.0
560.	7.547	1.138	20.155	160.33	42.29	55.12	730.0		97.9
580.	7.276	1.140	21.265	162.28	43.29	55.79	736.4		100.9
600.	7.026	1.141	22.387	164.18	44.27	56.47	743.0		104.0

METHANE ISOBAR AT P = 45.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
105.	28.718	1.795	-3.805	71.46	35.54	51.86	1693.8	228.89	232.8
110.	28.399	1.733	-3.545	73.88	35.25	51.91	1659.1	204.77	227.6
115.	28.079	1.676	-3.286	76.18	34.91	51.90	1625.2	183.84	222.2
120.	27.760	1.625	-3.027	78.39	34.55	51.86	1592.0	165.79	216.8
125.	27.439	1.578	-2.767	80.51	34.20	51.81	1559.4	150.26	211.3
130.	27.118	1.535	-2.508	82.54	33.86	51.77	1527.3	136.91	205.9
135.	26.796	1.496	-2.250	84.49	33.54	51.74	1495.8	125.42	200.4
140.	26.473	1.460	-1.991	86.37	33.24	51.73	1464.8	115.49	195.0
145.	26.149	1.427	-1.732	88.19	32.95	51.73	1434.4	106.87	189.7
150.	25.824	1.397	-1.474	89.94	32.69	51.74	1404.6	99.36	184.5
155.	25.498	1.369	-1.215	91.64	32.43	51.77	1375.4	92.76	179.4
160.	25.171	1.344	-0.956	93.28	32.20	51.81	1346.8	86.95	174.4
165.	24.843	1.320	-0.697	94.88	31.97	51.85	1318.8	81.78	169.6
170.	24.513	1.299	-0.437	96.43	31.76	51.90	1291.5	77.17	164.8
175.	24.183	1.279	-0.178	97.93	31.57	51.96	1264.8	73.04	160.2
180.	23.852	1.261	0.082	99.40	31.38	52.03	1238.7	69.31	155.8
185.	23.520	1.244	0.343	100.82	31.21	52.09	1213.4	65.93	151.5
190.	23.188	1.228	0.603	102.21	31.05	52.17	1188.6	62.85	147.4
195.	22.855	1.214	0.864	103.57	30.91	52.24	1164.6	60.04	143.4
200.	22.522	1.202	1.126	104.89	30.77	52.31	1141.3	57.47	139.5
205.	22.189	1.190	1.387	106.19	30.65	52.39	1118.6	55.10	135.8
210.	21.855	1.179	1.649	107.45	30.54	52.46	1096.7	52.91	132.3
215.	21.522	1.170	1.912	108.68	30.44	52.53	1075.5	50.89	128.9
220.	21.190	1.161	2.175	109.89	30.35	52.60	1055.0	49.03	125.7
225.	20.859	1.153	2.438	111.08	30.28	52.66	1035.3	47.29	122.6

METHANE ISOBAR AT P = 45.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
230.	20.529	1.146	2.701	112.23	30.22	52.72	1016.3	45.68	119.7
235.	20.200	1.140	2.965	113.37	30.17	52.77	998.1	44.18	116.9
240.	19.873	1.135	3.229	114.48	30.13	52.81	980.6	42.78	114.2
245.	19.549	1.130	3.493	115.57	30.10	52.85	963.8	41.48	111.7
250.	19.227	1.126	3.757	116.64	30.09	52.88	947.8	40.26	109.4
255.	18.908	1.123	4.022	117.68	30.09	52.90	932.6	39.13	107.2
260.	18.592	1.120	4.286	118.71	30.10	52.91	918.1	38.07	105.1
265.	18.280	1.117	4.551	119.72	30.12	52.92	904.3	37.08	103.2
270.	17.972	1.115	4.816	120.71	30.15	52.91	891.2	36.15	101.3
275.	17.668	1.114	5.080	121.68	30.19	52.90	878.9	35.29	99.6
280.	17.368	1.113	5.345	122.63	30.25	52.87	867.2	34.48	98.1
285.	17.073	1.112	5.609	123.57	30.31	52.84	856.2	33.73	96.6
290.	16.784	1.112	5.873	124.49	30.39	52.80	845.9	33.02	95.2
295.	16.499	1.112	6.137	125.39	30.48	52.75	836.2	32.37	94.0
300.	16.221	1.112	6.400	126.28	30.57	52.70	827.1	31.75	92.8
310.	15.680	1.113	6.927	128.00	30.80	52.58	810.7	30.65	90.8
320.	15.163	1.115	7.452	129.67	31.05	52.44	796.6	29.69	89.2
330.	14.670	1.118	7.976	131.28	31.35	52.31	784.4	28.86	87.8
340.	14.202	1.121	8.498	132.84	31.67	52.18	774.0	28.14	86.7
350.	13.757	1.124	9.019	134.35	32.03	52.06	765.3	27.52	85.9
360.	13.336	1.127	9.539	135.82	32.41	51.96	758.0	26.99	85.4
370.	12.937	1.131	10.059	137.24	32.81	51.89	752.0	26.53	85.0
380.	12.560	1.134	10.577	138.62	33.24	51.85	747.2	26.14	84.8
390.	12.203	1.137	11.096	139.97	33.69	51.84	743.3	25.81	84.8
400.	11.865	1.140	11.614	141.28	34.15	51.86	740.4	25.54	85.0
410.	11.546	1.143	12.133	142.56	34.63	51.91	738.2		85.3
420.	11.244	1.146	12.653	143.81	35.12	51.99	736.7		85.7
430.	10.958	1.149	13.173	145.04	35.61	52.11	735.8		86.2
440.	10.687	1.151	13.695	146.24	36.12	52.25	735.4		86.9
450.	10.430	1.153	14.218	147.41	36.64	52.42	735.5		87.6
460.	10.185	1.155	14.743	148.57	37.16	52.61	736.0		88.5
470.	9.953	1.157	15.270	149.70	37.68	52.82	736.8		89.4
480.	9.732	1.159	15.800	150.82	38.20	53.05	738.0		90.4
490.	9.521	1.160	16.331	151.91	38.73	53.31	739.4		91.5
500.	9.320	1.161	16.866	152.99	39.25	53.57	741.1		92.6
520.	8.945	1.164	17.943	155.10	40.30	54.14	745.0		95.0
540.	8.601	1.165	19.032	157.16	41.33	54.76	749.6		97.6
560.	8.286	1.166	20.133	159.16	42.35	55.40	754.7		100.4
580.	7.995	1.167	21.248	161.12	43.35	56.06	760.2		103.3
600.	7.726	1.168	22.376	163.03	44.33	56.74	766.0		106.3

METHANE ISOBAR AT P = 50.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
105.	28.873	1.984	-3.671	71.08	35.72	51.68	1718.6	242.56	236.6
110.	28.562	1.914	-3.413	73.49	35.44	51.72	1684.7	217.19	231.5
115.	28.251	1.851	-3.154	75.79	35.10	51.68	1651.8	195.05	226.3
120.	27.940	1.794	-2.896	77.99	34.75	51.62	1619.5	175.88	221.0
125.	27.629	1.741	-2.638	80.09	34.40	51.55	1587.8	159.34	215.6
130.	27.317	1.693	-2.380	82.11	34.06	51.49	1556.8	145.09	210.3
135.	27.005	1.650	-2.123	84.05	33.74	51.44	1526.3	132.82	204.9
140.	26.693	1.609	-1.866	85.92	33.44	51.40	1496.4	122.21	199.6
145.	26.380	1.572	-1.609	87.73	33.16	51.37	1467.1	113.02	194.4
150.	26.066	1.538	-1.352	89.47	32.89	51.36	1438.4	105.00	189.3
155.	25.752	1.507	-1.095	91.15	32.64	51.35	1410.3	97.98	184.2
160.	25.438	1.478	-0.839	92.78	32.40	51.36	1382.8	91.80	179.3
165.	25.123	1.451	-0.582	94.36	32.18	51.37	1356.0	86.32	174.5
170.	24.807	1.426	-0.325	95.90	31.97	51.39	1329.7	81.43	169.9
175.	24.492	1.403	-0.068	97.39	31.77	51.42	1304.2	77.06	165.3
180.	24.175	1.382	0.189	98.84	31.58	51.45	1279.2	73.13	160.9
185.	23.859	1.362	0.447	100.25	31.41	51.48	1254.9	69.57	156.7
190.	23.542	1.344	0.704	101.62	31.25	51.52	1231.3	66.33	152.6
195.	23.226	1.328	0.962	102.96	31.10	51.56	1208.3	63.38	148.6
200.	22.909	1.312	1.220	104.26	30.96	51.60	1185.9	60.68	144.8
205.	22.593	1.298	1.478	105.54	30.83	51.64	1164.2	58.21	141.2
210.	22.278	1.285	1.736	106.78	30.72	51.68	1143.2	55.92	137.7
215.	21.963	1.274	1.995	108.00	30.62	51.73	1122.9	53.82	134.3
220.	21.649	1.263	2.254	109.19	30.53	51.76	1103.2	51.87	131.1
225.	21.336	1.253	2.512	110.35	30.45	51.80	1084.2	50.06	128.0
230.	21.025	1.244	2.772	111.49	30.39	51.84	1065.9	48.38	125.1
235.	20.715	1.235	3.031	112.61	30.33	51.87	1048.2	46.82	122.3
240.	20.407	1.228	3.290	113.70	30.29	51.90	1031.2	45.36	119.7
245.	20.101	1.221	3.550	114.77	30.26	51.92	1014.9	44.01	117.2
250.	19.798	1.215	3.809	115.82	30.25	51.95	999.3	42.74	114.8
255.	19.497	1.210	4.069	116.85	30.24	51.96	984.3	41.56	112.5
260.	19.200	1.205	4.329	117.86	30.25	51.98	970.0	40.45	110.4
265.	18.905	1.200	4.589	118.85	30.27	51.98	956.3	39.42	108.5
270.	18.614	1.197	4.849	119.82	30.30	51.99	943.3	38.45	106.6
275.	18.327	1.193	5.109	120.77	30.34	51.98	930.9	37.54	104.8
280.	18.044	1.190	5.369	121.71	30.39	51.98	919.2	36.70	103.2
285.	17.764	1.188	5.629	122.63	30.45	51.97	908.0	35.90	101.7
290.	17.489	1.186	5.888	123.53	30.53	51.96	897.5	35.16	100.3
295.	17.219	1.184	6.148	124.42	30.61	51.94	887.5	34.46	99.0
300.	16.953	1.182	6.408	125.30	30.71	51.92	878.0	33.81	97.8

METHANE ISOBAR AT P = 50.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
310.	16.435	1.180	6.927	127.00	30.93	51.87	860.8	32.63	95.6
320.	15.938	1.179	7.445	128.64	31.18	51.82	845.5	31.60	93.8
330.	15.461	1.179	7.963	130.24	31.47	51.77	832.2	30.70	92.3
340.	15.005	1.179	8.481	131.78	31.79	51.73	820.5	29.91	91.1
350.	14.569	1.179	8.998	133.28	32.14	51.69	810.5	29.22	90.2
360.	14.154	1.180	9.515	134.74	32.52	51.68	801.8	28.62	89.5
370.	13.759	1.181	10.031	136.15	32.92	51.68	794.5	28.10	89.0
380.	13.382	1.183	10.548	137.53	33.35	51.70	788.3	27.65	88.7
390.	13.025	1.184	11.066	138.87	33.79	51.75	783.2	27.26	88.6
400.	12.685	1.185	11.583	140.19	34.25	51.82	778.9	26.93	88.7
410.	12.361	1.187	12.102	141.47	34.72	51.92	775.5		88.9
420.	12.054	1.188	12.622	142.72	35.21	52.04	772.9		89.2
430.	11.762	1.189	13.143	143.95	35.71	52.19	770.9		89.6
440.	11.483	1.190	13.666	145.15	36.21	52.36	769.5		90.2
450.	11.219	1.191	14.190	146.33	36.72	52.55	768.6		90.9
460.	10.966	1.192	14.717	147.48	37.24	52.76	768.1		91.6
470.	10.725	1.193	15.246	148.62	37.76	52.99	768.1		92.5
480.	10.495	1.194	15.777	149.74	38.28	53.24	768.4		93.4
490.	10.276	1.194	16.311	150.84	38.80	53.50	769.0		94.4
500.	10.066	1.195	16.847	151.92	39.32	53.78	770.0		95.4
520.	9.673	1.196	17.928	154.04	40.36	54.36	772.6		97.7
540.	9.312	1.196	19.021	156.11	41.40	54.98	776.0		100.2
560.	8.979	1.196	20.127	158.12	42.41	55.62	780.1		102.8
580.	8.672	1.196	21.246	160.08	43.41	56.28	784.6		105.6
600.	8.386	1.195	22.379	162.00	44.38	56.96	789.6		108.5

METHANE ISOBAR AT P = 55.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
105.	29.023	2.171	-3.537	70.72	35.89	51.52	1742.5	257.43	240.4
110.	28.720	2.094	-3.279	73.11	35.62	51.54	1709.4	230.72	235.4
115.	28.416	2.024	-3.022	75.40	35.29	51.50	1677.3	207.27	230.3
120.	28.113	1.961	-2.764	77.59	34.94	51.42	1645.8	186.85	225.1
125.	27.810	1.903	-2.507	79.69	34.59	51.33	1615.1	169.19	219.8

METHANE ISOBAR AT P = 55.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
130.	27.507	1.850	-2.251	81.70	34.26	51.25	1584.9	153.94	214.5
135.	27.204	1.801	-1.995	83.64	33.94	51.18	1555.4	140.79	209.3
140.	26.901	1.756	-1.739	85.50	33.64	51.11	1526.4	129.43	204.1
145.	26.598	1.715	-1.484	87.29	33.35	51.06	1498.1	119.58	198.9
150.	26.295	1.677	-1.229	89.02	33.09	51.03	1470.4	111.00	193.9
155.	25.992	1.642	-0.974	90.69	32.83	51.00	1443.3	103.50	188.9
160.	25.688	1.609	-0.719	92.31	32.59	50.98	1416.8	96.90	184.1
165.	25.385	1.579	-0.464	93.88	32.37	50.97	1391.0	91.06	179.3
170.	25.081	1.551	-0.209	95.40	32.16	50.96	1365.8	85.87	174.7
175.	24.778	1.526	0.046	96.88	31.96	50.96	1341.2	81.23	170.2
180.	24.474	1.502	0.301	98.31	31.77	50.97	1317.2	77.07	165.9
185.	24.171	1.479	0.556	99.71	31.59	50.98	1293.9	73.30	161.7
190.	23.868	1.459	0.810	101.07	31.43	50.99	1271.1	69.89	157.6
195.	23.565	1.440	1.065	102.39	31.28	51.00	1249.0	66.78	153.7
200.	23.263	1.422	1.320	103.69	31.14	51.02	1227.5	63.94	149.9
205.	22.961	1.405	1.576	104.95	31.01	51.04	1206.7	61.34	146.3
210.	22.661	1.390	1.831	106.18	30.89	51.05	1186.4	58.95	142.8
215.	22.361	1.376	2.086	107.38	30.79	51.07	1166.8	56.74	139.4
220.	22.062	1.363	2.342	108.55	30.69	51.09	1147.8	54.70	136.2
225.	21.765	1.351	2.597	109.70	30.61	51.11	1129.5	52.81	133.2
230.	21.469	1.340	2.853	110.82	30.55	51.13	1111.7	51.05	130.2
235.	21.175	1.329	3.108	111.92	30.49	51.15	1094.6	49.42	127.5
240.	20.882	1.320	3.364	113.00	30.45	51.16	1078.1	47.90	124.8
245.	20.592	1.311	3.620	114.06	30.41	51.18	1062.2	46.49	122.3
250.	20.304	1.303	3.876	115.09	30.40	51.20	1046.9	45.16	119.9
255.	20.019	1.296	4.132	116.10	30.39	51.21	1032.2	43.93	117.6
260.	19.736	1.289	4.388	117.10	30.39	51.22	1018.1	42.77	115.5
265.	19.457	1.283	4.644	118.07	30.41	51.23	1004.6	41.69	113.5
270.	19.180	1.277	4.900	119.03	30.44	51.24	991.7	40.68	111.6
275.	18.907	1.272	5.157	119.97	30.47	51.25	979.3	39.73	109.8
280.	18.637	1.268	5.413	120.89	30.53	51.25	967.5	38.84	108.1
285.	18.371	1.263	5.669	121.80	30.59	51.26	956.3	38.00	106.5
290.	18.108	1.260	5.925	122.69	30.66	51.26	945.6	37.22	105.1
295.	17.850	1.256	6.182	123.57	30.74	51.26	935.4	36.48	103.7
300.	17.595	1.253	6.438	124.43	30.83	51.26	925.8	35.80	102.4
310.	17.099	1.248	6.951	126.11	31.05	51.27	907.9	34.54	100.2
320.	16.620	1.244	7.463	127.74	31.30	51.27	891.9	33.44	98.3
330.	16.158	1.241	7.976	129.32	31.59	51.28	877.7	32.47	96.7
340.	15.715	1.238	8.489	130.85	31.91	51.30	865.1	31.61	95.4
350.	15.289	1.236	9.002	132.34	32.25	51.33	854.0	30.86	94.3

METHANE ISOBAR AT P = 55.0 MPa (continued)

T	ρ	Z	H	S	C _v	C _p	W	η	λ
K	mol·dm ⁻³		kJ/mol	J/(mol·K)	J/(mol·K)	J/(mol·K)	m·s ⁻¹	μPa·s	mW/(m·K)
360.	14.882	1.235	9.516	133.78	32.63	51.38	844.3	30.20	93.5
370.	14.492	1.234	10.030	135.19	33.03	51.44	835.8	29.62	92.9
380.	14.120	1.233	10.545	136.56	33.45	51.52	828.5	29.11	92.5
390.	13.764	1.232	11.060	137.90	33.89	51.61	822.3	28.67	92.3
400.	13.424	1.232	11.577	139.21	34.34	51.73	817.0	28.29	92.2
410.	13.100	1.232	12.095	140.49	34.81	51.87	812.5		92.3
420.	12.790	1.231	12.614	141.74	35.30	52.03	808.8		92.6
430.	12.494	1.231	13.136	142.97	35.79	52.21	805.8		92.9
440.	12.212	1.231	13.659	144.17	36.29	52.41	803.5		93.4
450.	11.942	1.231	14.184	145.35	36.80	52.62	801.7		94.0
460.	11.684	1.231	14.711	146.51	37.31	52.85	800.4		94.7
470.	11.438	1.231	15.241	147.65	37.83	53.10	799.5		95.4
480.	11.202	1.230	15.773	148.77	38.35	53.36	799.0		96.3
490.	10.976	1.230	16.308	149.87	38.87	53.63	799.0		97.2
500.	10.759	1.230	16.846	150.96	39.39	53.92	799.2		98.2
520.	10.352	1.229	17.930	153.09	40.43	54.52	800.5		100.3
540.	9.977	1.228	19.027	155.16	41.45	55.15	802.8		102.7
560.	9.630	1.227	20.136	157.17	42.46	55.80	805.8		105.2
580.	9.309	1.225	21.259	159.14	43.46	56.46	809.5		107.9
600.	9.010	1.224	22.395	161.07	44.43	57.14	813.6		110.8

METHANE ISOBAR AT P = 60.0 MPa

T	ρ	Z	H	S	C _v	C _p	W	η	λ
K	mol·dm ⁻³		kJ/mol	J/(mol·K)	J/(mol·K)	J/(mol·K)	m·s ⁻¹	μPa·s	mW/(m·K)
110.	28.871	2.272	-3.145	72.75	35.79	51.39	1733.2		239.3
115.	28.575	2.196	-2.889	75.03	35.47	51.33	1701.8		234.3
120.	28.279	2.127	-2.632	77.22	35.12	51.23	1671.2		229.1
125.	27.983	2.063	-2.376	79.31	34.78	51.13	1641.2		223.9
130.	27.688	2.005	-2.121	81.31	34.45	51.03	1611.9		218.7
135.	27.394	1.951	-1.866	83.23	34.13	50.94	1583.2		213.6
140.	27.099	1.902	-1.611	85.09	33.83	50.86	1555.2		208.4
145.	26.805	1.857	-1.357	86.87	33.54	50.80	1527.7		203.4
150.	26.511	1.815	-1.103	88.59	33.27	50.74	1500.9		198.4
155.	26.218	1.776	-0.850	90.25	33.02	50.69	1474.7		193.5

METHANE ISOBAR AT P = 60.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
160.	25.924	1.740	-0.597	91.86	32.78	50.65	1449.2		188.7
165.	25.631	1.706	-0.343	93.42	32.55	50.62	1424.2		184.0
170.	25.338	1.675	-0.090	94.93	32.34	50.59	1399.9		179.4
175.	25.045	1.646	0.163	96.40	32.13	50.57	1376.2		175.0
180.	24.753	1.620	0.415	97.82	31.94	50.56	1353.1		170.7
185.	24.461	1.595	0.668	99.21	31.77	50.55	1330.6		166.5
190.	24.170	1.571	0.921	100.55	31.60	50.54	1308.6		162.5
195.	23.879	1.550	1.174	101.87	31.45	50.53	1287.3		158.6
200.	23.589	1.530	1.426	103.15	31.30	50.53	1266.6		154.8
205.	23.300	1.511	1.679	104.39	31.17	50.53	1246.5		151.2
210.	23.011	1.493	1.931	105.61	31.05	50.53	1226.9		147.7
215.	22.724	1.477	2.184	106.80	30.95	50.53	1208.0		144.4
220.	22.439	1.462	2.437	107.96	30.85	50.54	1189.6		141.2
225.	22.154	1.448	2.689	109.10	30.77	50.54	1171.8		138.1
230.	21.872	1.435	2.942	110.21	30.70	50.55	1154.6		135.2
235.	21.591	1.422	3.195	111.30	30.64	50.55	1137.9		132.4
240.	21.312	1.411	3.448	112.36	30.59	50.56	1121.8		129.7
245.	21.035	1.400	3.701	113.40	30.56	50.57	1106.3		127.2
250.	20.760	1.390	3.953	114.43	30.54	50.58	1091.3		124.8
255.	20.487	1.381	4.206	115.43	30.53	50.59	1076.9		122.5
260.	20.217	1.373	4.459	116.41	30.53	50.60	1063.0		120.3
265.	19.950	1.365	4.712	117.37	30.54	50.61	1049.7		118.3
270.	19.686	1.358	4.965	118.32	30.57	50.62	1036.9		116.3
275.	19.425	1.351	5.219	119.25	30.61	50.64	1024.6		114.5
280.	19.166	1.345	5.472	120.16	30.65	50.65	1012.9		112.8
285.	18.911	1.339	5.725	121.06	30.71	50.66	1001.6		111.2
290.	18.660	1.334	5.978	121.94	30.78	50.68	990.8		109.7
295.	18.412	1.329	6.232	122.81	30.86	50.69	980.6		108.2
300.	18.167	1.324	6.485	123.66	30.95	50.71	970.7		106.9
310.	17.689	1.316	6.993	125.32	31.16	50.75	952.5		104.6
320.	17.227	1.309	7.500	126.93	31.41	50.79	936.0		102.5
330.	16.780	1.303	8.009	128.50	31.70	50.85	921.1		100.8
340.	16.349	1.298	8.517	130.02	32.01	50.91	907.7		99.4
350.	15.934	1.294	9.027	131.49	32.36	50.99	895.8		98.2
360.	15.536	1.290	9.537	132.93	32.73	51.08	885.2		97.3
370.	15.153	1.287	10.049	134.33	33.12	51.19	875.9		96.6
380.	14.785	1.284	10.561	135.70	33.54	51.31	867.7		96.1
390.	14.433	1.282	11.075	137.03	33.98	51.45	860.5		95.8
400.	14.095	1.280	11.590	138.34	34.43	51.61	854.2		95.7
410.	13.771	1.278	12.107	139.61	34.90	51.78	848.9		95.7

METHANE ISOBAR AT P = 60.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
420.	13.462	1.276	12.626	140.86	35.38	51.97	844.3		95.8
430.	13.165	1.275	13.147	142.09	35.87	52.18	840.4		96.1
440.	12.880	1.273	13.670	143.29	36.37	52.40	837.2		96.5
450.	12.608	1.272	14.195	144.47	36.87	52.64	834.6		97.0
460.	12.347	1.271	14.722	145.63	37.38	52.89	832.5		97.6
470.	12.096	1.269	15.253	146.77	37.90	53.16	830.9		98.3
480.	11.856	1.268	15.786	147.89	38.41	53.43	829.7		99.1
490.	11.625	1.267	16.321	149.00	38.93	53.72	828.9		100.0
500.	11.404	1.266	16.860	150.09	39.45	54.02	828.5		100.9
520.	10.986	1.263	17.946	152.22	40.48	54.63	828.6		102.9
540.	10.600	1.261	19.045	154.29	41.50	55.28	829.8		105.2
560.	10.242	1.258	20.158	156.31	42.51	55.93	831.8		107.6
580.	9.909	1.256	21.283	158.29	43.50	56.61	834.5		110.2
600.	9.598	1.253	22.422	160.22	44.47	57.28	837.9		112.9

METHANE ISOBAR AT P = 65.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
110.	29.018	2.449	-3.011	72.40	35.96	51.25	1756.1		243.0
115.	28.728	2.366	-2.755	74.68	35.64	51.18	1725.5		238.1
120.	28.439	2.291	-2.499	76.85	35.30	51.07	1695.6		233.1
125.	28.150	2.222	-2.244	78.94	34.96	50.96	1666.4		228.0
130.	27.863	2.158	-1.990	80.93	34.63	50.84	1637.9		222.9
135.	27.575	2.100	-1.736	82.85	34.31	50.74	1610.0		217.8
140.	27.289	2.046	-1.482	84.69	34.01	50.64	1582.7		212.7
145.	27.003	1.997	-1.229	86.47	33.72	50.56	1556.1		207.7
150.	26.717	1.951	-0.977	88.18	33.45	50.49	1530.1		202.8
155.	26.432	1.908	-0.725	89.84	33.19	50.42	1504.8		197.9
160.	26.147	1.869	-0.473	91.44	32.95	50.36	1480.0		193.2
165.	25.863	1.832	-0.221	92.99	32.72	50.32	1455.9		188.5
170.	25.580	1.798	0.031	94.49	32.51	50.27	1432.4		184.0
175.	25.296	1.766	0.282	95.94	32.30	50.24	1409.5		179.6
180.	25.014	1.736	0.533	97.36	32.11	50.20	1387.1		175.3
185.	24.732	1.709	0.784	98.73	31.93	50.18	1365.4		171.2
190.	24.451	1.683	1.035	100.07	31.76	50.15	1344.2		167.2
195.	24.171	1.659	1.285	101.37	31.61	50.13	1323.6		163.3
200.	23.891	1.636	1.536	102.64	31.46	50.11	1303.5		159.6
205.	23.613	1.615	1.787	103.88	31.33	50.10	1284.0		155.9

METHANE ISOBAR AT P = 65.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
210.	23.336	1.595	2.037	105.09	31.21	50.09	1265.1		152.5
215.	23.060	1.577	2.287	106.27	31.10	50.08	1246.7		149.1
220.	22.785	1.560	2.538	107.42	31.00	50.07	1228.9		145.9
225.	22.512	1.543	2.788	108.54	30.92	50.06	1211.6		142.9
230.	22.241	1.528	3.038	109.64	30.84	50.06	1194.9		139.9
235.	21.971	1.514	3.289	110.72	30.78	50.06	1178.6		137.1
240.	21.703	1.501	3.539	111.77	30.73	50.06	1162.9		134.4
245.	21.438	1.488	3.789	112.80	30.70	50.06	1147.8		131.9
250.	21.174	1.477	4.040	113.82	30.67	50.07	1133.1		129.4
255.	20.913	1.466	4.290	114.81	30.66	50.07	1119.0		127.1
260.	20.654	1.456	4.540	115.78	30.66	50.08	1105.3		124.9
265.	20.397	1.446	4.791	116.73	30.67	50.09	1092.2		122.9
270.	20.144	1.437	5.041	117.67	30.69	50.11	1079.5		120.9
275.	19.893	1.429	5.292	118.59	30.73	50.12	1067.3		119.0
280.	19.645	1.421	5.542	119.49	30.77	50.14	1055.6		117.3
285.	19.399	1.414	5.793	120.38	30.83	50.16	1044.4		115.6
290.	19.157	1.407	6.044	121.25	30.90	50.19	1033.6		114.1
295.	18.918	1.401	6.295	122.11	30.98	50.21	1023.2		112.6
300.	18.683	1.395	6.546	122.96	31.07	50.24	1013.3		111.2
310.	18.222	1.384	7.049	124.60	31.27	50.30	994.8		108.8
320.	17.774	1.374	7.552	126.20	31.52	50.38	977.9		106.7
330.	17.341	1.366	8.056	127.75	31.80	50.46	962.5		104.8
340.	16.922	1.359	8.562	129.26	32.11	50.56	948.6		103.3
350.	16.517	1.352	9.068	130.73	32.45	50.68	936.0		102.1
360.	16.127	1.347	9.575	132.16	32.82	50.81	924.7		101.0
370.	15.751	1.341	10.084	133.55	33.21	50.95	914.6		100.2
380.	15.390	1.337	10.594	134.91	33.63	51.11	905.6		99.6
390.	15.042	1.333	11.106	136.24	34.06	51.28	897.7		99.2
400.	14.707	1.329	11.620	137.54	34.51	51.47	890.6		99.0
410.	14.386	1.325	12.136	138.82	34.97	51.67	884.5		98.9
420.	14.077	1.322	12.653	140.06	35.45	51.89	879.1		99.0
430.	13.781	1.319	13.173	141.29	35.94	52.12	874.5		99.2
440.	13.496	1.317	13.696	142.49	36.44	52.37	870.5		99.5
450.	13.222	1.314	14.221	143.67	36.94	52.63	867.1		100.0
460.	12.959	1.311	14.748	144.83	37.45	52.90	864.3		100.5
470.	12.706	1.309	15.279	145.97	37.96	53.18	862.0		101.1
480.	12.463	1.307	15.812	147.09	38.47	53.47	860.2		101.8
490.	12.229	1.305	16.348	148.20	38.99	53.77	858.8		102.6
500.	12.004	1.302	16.887	149.29	39.50	54.08	857.7		103.5
520.	11.579	1.298	17.975	151.42	40.53	54.71	856.7		105.4

METHANE ISOBAR AT P = 65.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
540.	11.184	1.294	19.076	153.50	41.55	55.37	856.8		107.6
560.	10.817	1.291	20.190	155.52	42.56	56.04	857.9		109.9
580.	10.474	1.287	21.318	157.50	43.54	56.72	859.7		112.4
600.	10.154	1.283	22.459	159.44	44.51	57.40	862.3		115.1

METHANE ISOBAR AT P = 70.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
110.	29.159	2.625	-2.877	72.06	36.13	51.13	1778.4		246.7
115.	28.876	2.535	-2.621	74.33	35.81	51.05	1748.4		241.9
120.	28.593	2.454	-2.366	76.50	35.47	50.93	1719.2		237.0
125.	28.311	2.379	-2.112	78.58	35.13	50.80	1690.7		231.9
130.	28.030	2.310	-1.858	80.57	34.80	50.68	1662.9		226.9
135.	27.750	2.247	-1.605	82.48	34.48	50.56	1635.8		221.9
140.	27.470	2.189	-1.353	84.32	34.18	50.45	1609.3		216.9
145.	27.192	2.135	-1.101	86.09	33.89	50.35	1583.4		211.9
150.	26.914	2.085	-0.849	87.79	33.62	50.26	1558.2		207.0
155.	26.636	2.039	-0.598	89.44	33.36	50.18	1533.6		202.2
160.	26.360	1.996	-0.347	91.03	33.12	50.11	1509.6		197.5
165.	26.084	1.956	-0.097	92.57	32.89	50.05	1486.2		192.9
170.	25.808	1.919	0.153	94.06	32.67	49.99	1463.4		188.5
175.	25.534	1.884	0.403	95.51	32.46	49.94	1441.2		184.1
180.	25.260	1.852	0.653	96.92	32.27	49.90	1419.6		179.8
185.	24.987	1.821	0.902	98.29	32.09	49.86	1398.5		175.7
190.	24.715	1.793	1.151	99.61	31.92	49.82	1378.0		171.7
195.	24.444	1.766	1.400	100.91	31.76	49.79	1358.0		167.9
200.	24.174	1.741	1.649	102.17	31.61	49.76	1338.6		164.1
205.	23.905	1.718	1.898	103.40	31.48	49.73	1319.7		160.5
210.	23.638	1.696	2.146	104.59	31.35	49.71	1301.4		157.1
215.	23.372	1.675	2.395	105.76	31.24	49.69	1283.5		153.7
220.	23.107	1.656	2.643	106.91	31.14	49.67	1266.2		150.5
225.	22.843	1.638	2.892	108.02	31.05	49.65	1249.4		147.5
230.	22.582	1.621	3.140	109.11	30.98	49.64	1233.0		144.5
235.	22.322	1.605	3.388	110.18	30.91	49.64	1217.2		141.7
240.	22.064	1.590	3.636	111.23	30.86	49.63	1201.9		139.0
245.	21.808	1.576	3.884	112.25	30.82	49.63	1187.0		136.4
250.	21.554	1.562	4.132	113.25	30.80	49.63	1172.6		134.0
255.	21.303	1.550	4.381	114.23	30.78	49.64	1158.7		131.6

METHANE ISOBAR AT P = 70.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
260.	21.053	1.538	4.629	115.20	30.78	49.64	1145.3		129.4
265.	20.806	1.527	4.877	116.14	30.79	49.66	1132.3		127.3
270.	20.562	1.516	5.125	117.07	30.81	49.67	1119.8		125.3
275.	20.320	1.507	5.374	117.98	30.84	49.69	1107.7		123.4
280.	20.081	1.497	5.622	118.88	30.89	49.71	1096.1		121.6
285.	19.844	1.489	5.871	119.76	30.94	49.74	1084.9		119.9
290.	19.610	1.480	6.120	120.62	31.01	49.76	1074.1		118.3
295.	19.380	1.473	6.369	121.48	31.09	49.80	1063.8		116.8
300.	19.152	1.465	6.618	122.31	31.17	49.83	1053.8		115.4
310.	18.706	1.452	7.116	123.95	31.38	49.92	1035.1		112.9
320.	18.272	1.440	7.616	125.53	31.62	50.01	1017.9		110.6
330.	17.851	1.429	8.117	127.08	31.89	50.12	1002.1		108.7
340.	17.443	1.420	8.619	128.57	32.20	50.25	987.7		107.1
350.	17.048	1.411	9.122	130.03	32.54	50.39	974.7		105.8
360.	16.667	1.403	9.626	131.45	32.91	50.55	962.8		104.6
370.	16.298	1.396	10.133	132.84	33.29	50.72	952.1		103.8
380.	15.943	1.390	10.641	134.20	33.71	50.91	942.5		103.1
390.	15.600	1.384	11.151	135.52	34.14	51.11	933.8		102.6
400.	15.269	1.378	11.663	136.82	34.58	51.32	926.1		102.3
410.	14.951	1.373	12.177	138.09	35.05	51.55	919.2		102.1
420.	14.644	1.369	12.694	139.33	35.52	51.79	913.2		102.1
430.	14.349	1.364	13.213	140.55	36.01	52.05	907.9		102.2
440.	14.065	1.360	13.735	141.75	36.50	52.32	903.2		102.5
450.	13.791	1.357	14.260	142.93	37.00	52.59	899.2		102.8
460.	13.527	1.353	14.787	144.09	37.51	52.88	895.7		103.3
470.	13.273	1.350	15.317	145.23	38.02	53.18	892.8		103.9
480.	13.028	1.346	15.851	146.36	38.53	53.48	890.4		104.5
490.	12.792	1.343	16.387	147.46	39.04	53.80	888.4		105.3
500.	12.565	1.340	16.927	148.55	39.56	54.12	886.8		106.1
520.	12.134	1.334	18.015	150.69	40.58	54.77	884.6		107.9
540.	11.733	1.329	19.117	152.77	41.60	55.44	883.8		109.9
560.	11.358	1.324	20.233	154.79	42.60	56.12	883.9		112.2
580.	11.008	1.319	21.362	156.78	43.58	56.81	885.0		114.6
600.	10.680	1.314	22.506	158.71	44.54	57.50	886.7		117.2

METHANE ISOBAR AT P = 75.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
110.	29.297	2.799	-2.742	71.73	36.29	51.02	1799.9		250.4
115.	29.019	2.703	-2.487	74.00	35.98	50.93	1770.6		245.6
120.	28.742	2.615	-2.233	76.16	35.64	50.80	1742.0		240.8
125.	28.466	2.535	-1.979	78.23	35.30	50.66	1714.2		235.8
130.	28.191	2.461	-1.726	80.22	34.97	50.53	1687.1		230.9
135.	27.917	2.393	-1.474	82.12	34.65	50.40	1660.7		225.9
140.	27.644	2.331	-1.222	83.95	34.35	50.27	1634.9		220.9
145.	27.372	2.273	-0.971	85.72	34.06	50.17	1609.7		216.1
150.	27.101	2.219	-0.720	87.41	33.78	50.07	1585.2		211.2
155.	26.831	2.169	-0.470	89.05	33.52	49.97	1561.3		206.5
160.	26.562	2.123	-0.221	90.64	33.28	49.89	1538.0		201.8
165.	26.293	2.079	0.029	92.17	33.05	49.82	1515.3		197.3
170.	26.025	2.039	0.278	93.66	32.82	49.75	1493.2		192.8
175.	25.759	2.001	0.526	95.10	32.62	49.69	1471.7		188.5
180.	25.493	1.966	0.774	96.50	32.42	49.63	1450.7		184.2
185.	25.228	1.933	1.022	97.86	32.24	49.58	1430.3		180.1
190.	24.964	1.902	1.270	99.18	32.06	49.53	1410.3		176.2
195.	24.701	1.873	1.518	100.47	31.90	49.49	1391.0		172.3
200.	24.440	1.845	1.765	101.72	31.75	49.45	1372.1		168.6
205.	24.179	1.820	2.012	102.94	31.61	49.41	1353.8		165.0
210.	23.920	1.796	2.259	104.13	31.49	49.38	1335.9		161.5
215.	23.663	1.773	2.506	105.29	31.37	49.35	1318.5		158.2
220.	23.407	1.752	2.753	106.43	31.27	49.32	1301.7		155.0
225.	23.152	1.732	2.999	107.53	31.18	49.30	1285.3		151.9
230.	22.899	1.713	3.246	108.62	31.11	49.29	1269.3		149.0
235.	22.648	1.695	3.492	109.68	31.04	49.27	1253.9		146.1
240.	22.399	1.678	3.738	110.71	30.99	49.26	1238.9		143.4
245.	22.151	1.662	3.985	111.73	30.95	49.26	1224.3		140.8
250.	21.906	1.647	4.231	112.73	30.92	49.26	1210.2		138.3
255.	21.663	1.633	4.477	113.70	30.90	49.26	1196.6		136.0
260.	21.422	1.620	4.724	114.66	30.90	49.27	1183.4		133.7
265.	21.183	1.607	4.970	115.60	30.90	49.28	1170.6		131.6
270.	20.947	1.595	5.216	116.52	30.92	49.29	1158.2		129.6
275.	20.713	1.584	5.463	117.42	30.95	49.32	1146.2		127.6
280.	20.481	1.573	5.710	118.31	31.00	49.34	1134.7		125.8
285.	20.253	1.563	5.956	119.18	31.05	49.37	1123.5		124.1
290.	20.027	1.553	6.203	120.04	31.11	49.40	1112.8		122.4
295.	19.803	1.544	6.450	120.89	31.19	49.44	1102.4		120.9
300.	19.582	1.535	6.698	121.72	31.27	49.48	1092.4		119.5
310.	19.149	1.520	7.193	123.34	31.47	49.58	1073.6		116.8

METHANE ISOBAR AT P = 75.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
320.	18.728	1.505	7.689	124.92	31.71	49.69	1056.2		114.5
330.	18.319	1.492	8.187	126.45	31.98	49.82	1040.1		112.5
340.	17.921	1.480	8.686	127.94	32.29	49.97	1025.4		110.8
350.	17.536	1.470	9.186	129.39	32.62	50.13	1011.9		109.4
360.	17.162	1.460	9.688	130.81	32.99	50.31	999.6		108.2
370.	16.801	1.451	10.193	132.19	33.37	50.51	988.3		107.2
380.	16.452	1.443	10.699	133.54	33.78	50.72	978.1		106.4
390.	16.114	1.435	11.207	134.86	34.21	50.94	968.9		105.8
400.	15.788	1.428	11.718	136.15	34.65	51.18	960.6		105.4
410.	15.473	1.422	12.231	137.42	35.11	51.43	953.2		105.2
420.	15.169	1.416	12.746	138.66	35.59	51.69	946.5		105.1
430.	14.876	1.410	13.264	139.88	36.07	51.97	940.6		105.2
440.	14.593	1.405	13.786	141.08	36.56	52.25	935.3		105.3
450.	14.319	1.400	14.309	142.25	37.06	52.54	930.7		105.6
460.	14.056	1.395	14.836	143.41	37.56	52.85	926.7		106.1
470.	13.801	1.391	15.366	144.55	38.07	53.16	923.2		106.6
480.	13.556	1.386	15.900	145.67	38.58	53.48	920.2		107.2
490.	13.319	1.382	16.436	146.78	39.09	53.80	917.6		107.8
500.	13.090	1.378	16.976	147.87	39.60	54.13	915.5		108.6
520.	12.655	1.371	18.065	150.01	40.62	54.81	912.4		110.3
540.	12.249	1.364	19.168	152.09	41.64	55.49	910.6		112.3
560.	11.869	1.357	20.285	154.12	42.64	56.19	909.9		114.4
580.	11.513	1.351	21.415	156.10	43.62	56.88	910.1		116.8
600.	11.178	1.345	22.560	158.04	44.58	57.58	911.1		119.2

METHANE ISOBAR AT P = 80.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
110.	29.430	2.972	-2.607	71.41	36.45	50.92	1820.8		254.0
115.	29.157	2.870	-2.352	73.67	36.14	50.82	1792.1		249.3
120.	28.886	2.776	-2.099	75.83	35.80	50.68	1764.2		244.5
125.	28.615	2.690	-1.846	77.90	35.46	50.54	1737.0		239.7
130.	28.346	2.611	-1.593	79.88	35.13	50.39	1710.5		234.8
135.	28.079	2.538	-1.342	81.78	34.81	50.25	1684.8		229.8
140.	27.812	2.471	-1.091	83.60	34.51	50.12	1659.6		225.0
145.	27.546	2.409	-0.840	85.36	34.22	50.00	1635.2		220.1
150.	27.281	2.351	-0.591	87.05	33.94	49.89	1611.3		215.3
155.	27.018	2.298	-0.342	88.69	33.68	49.79	1588.1		210.6

METHANE ISOBAR AT P = 80.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
160.	26.755	2.248	-0.093	90.27	33.43	49.70	1565.4		206.0
165.	26.493	2.201	0.155	91.79	33.20	49.61	1543.4		201.5
170.	26.232	2.158	0.403	93.27	32.97	49.53	1521.9		197.1
175.	25.973	2.117	0.651	94.71	32.76	49.46	1501.0		192.7
180.	25.714	2.079	0.898	96.10	32.56	49.39	1480.6		188.5
185.	25.456	2.043	1.145	97.45	32.38	49.33	1460.7		184.5
190.	25.200	2.010	1.391	98.77	32.20	49.27	1441.4		180.5
195.	24.944	1.978	1.637	100.05	32.04	49.22	1422.5		176.7
200.	24.690	1.948	1.883	101.29	31.89	49.17	1404.2		173.0
205.	24.438	1.921	2.129	102.51	31.75	49.13	1386.3		169.4
210.	24.186	1.894	2.375	103.69	31.62	49.09	1369.0		165.9
215.	23.936	1.870	2.620	104.85	31.50	49.05	1352.0		162.6
220.	23.688	1.846	2.865	105.97	31.40	49.02	1335.6		159.3
225.	23.441	1.824	3.110	107.07	31.31	49.00	1319.6		156.3
230.	23.196	1.803	3.355	108.15	31.23	48.97	1304.0		153.3
235.	22.952	1.784	3.600	109.20	31.16	48.96	1288.9		150.4
240.	22.711	1.765	3.845	110.23	31.10	48.94	1274.2		147.7
245.	22.471	1.748	4.090	111.24	31.06	48.94	1260.0		145.1
250.	22.234	1.731	4.334	112.23	31.03	48.93	1246.1		142.6
255.	21.998	1.715	4.579	113.20	31.01	48.93	1232.7		140.2
260.	21.764	1.700	4.824	114.15	31.00	48.94	1219.7		137.9
265.	21.533	1.686	5.068	115.08	31.01	48.95	1207.1		135.8
270.	21.304	1.673	5.313	116.00	31.03	48.97	1194.8		133.7
275.	21.077	1.660	5.558	116.90	31.06	48.99	1183.0		131.7
280.	20.853	1.648	5.803	117.78	31.10	49.02	1171.6		129.9
285.	20.631	1.636	6.048	118.65	31.15	49.05	1160.5		128.1
290.	20.411	1.625	6.293	119.50	31.21	49.09	1149.8		126.4
295.	20.194	1.615	6.539	120.34	31.28	49.13	1139.4		124.9
300.	19.980	1.605	6.785	121.17	31.37	49.17	1129.4		123.4
310.	19.559	1.587	7.277	122.78	31.56	49.28	1110.5		120.7
320.	19.149	1.570	7.770	124.35	31.80	49.41	1093.0		118.3
330.	18.750	1.555	8.265	125.87	32.07	49.55	1076.7		116.2
340.	18.363	1.541	8.762	127.35	32.37	49.72	1061.6		114.4
350.	17.986	1.528	9.260	128.80	32.70	49.90	1047.8		112.9
360.	17.620	1.517	9.760	130.20	33.06	50.10	1035.1		111.6
370.	17.266	1.506	10.262	131.58	33.45	50.31	1023.4		110.5
380.	16.923	1.496	10.766	132.92	33.85	50.54	1012.8		109.7
390.	16.590	1.487	11.272	134.24	34.28	50.78	1003.0		109.0
400.	16.269	1.479	11.782	135.53	34.72	51.04	994.2		108.5
410.	15.958	1.471	12.293	136.79	35.18	51.31	986.3		108.2

METHANE ISOBAR AT P = 80.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
420.	15.657	1.463	12.808	138.03	35.65	51.59	979.1		108.1
430.	15.366	1.456	13.325	139.25	36.13	51.88	972.6		108.1
440.	15.084	1.450	13.845	140.45	36.62	52.18	966.8		108.2
450.	14.812	1.443	14.369	141.62	37.11	52.49	961.7		108.4
460.	14.550	1.438	14.895	142.78	37.61	52.80	957.1		108.7
470.	14.296	1.432	15.425	143.92	38.12	53.13	953.1		109.2
480.	14.050	1.427	15.958	145.04	38.63	53.46	949.6		109.7
490.	13.812	1.422	16.494	146.15	39.14	53.79	946.5		110.3
500.	13.583	1.417	17.034	147.24	39.65	54.13	943.9		111.0
520.	13.145	1.408	18.123	149.37	40.67	54.83	939.9		112.7
540.	12.735	1.399	19.227	151.45	41.67	55.53	937.2		114.5
560.	12.351	1.391	20.344	153.49	42.67	56.23	935.7		116.6
580.	11.990	1.384	21.476	155.47	43.65	56.94	935.2		118.9
600.	11.651	1.376	22.622	157.41	44.61	57.64	935.5		121.3

METHANE ISOBAR AT P = 85.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
115.	29.292	3.035	-2.218	73.36	36.29	50.72	1813.0		252.9
120.	29.025	2.935	-1.964	75.51	35.96	50.58	1785.7		248.2
125.	28.760	2.844	-1.712	77.58	35.62	50.42	1759.1		243.4
130.	28.497	2.760	-1.460	79.55	35.29	50.27	1733.3		238.6
135.	28.234	2.682	-1.209	81.44	34.97	50.12	1708.1		233.7
140.	27.973	2.610	-0.959	83.26	34.66	49.98	1683.6		228.9
145.	27.713	2.544	-0.709	85.02	34.37	49.85	1659.8		224.1
150.	27.454	2.482	-0.460	86.70	34.09	49.73	1636.5		219.4
155.	27.197	2.425	-0.212	88.33	33.83	49.62	1613.9		214.7
160.	26.940	2.372	0.036	89.91	33.58	49.52	1591.9		210.1
165.	26.685	2.322	0.283	91.43	33.34	49.42	1570.4		205.6
170.	26.430	2.275	0.530	92.90	33.11	49.34	1549.5		201.2
175.	26.177	2.232	0.777	94.33	32.90	49.26	1529.2		196.9
180.	25.924	2.191	1.023	95.72	32.70	49.18	1509.3		192.8
185.	25.673	2.152	1.268	97.07	32.51	49.11	1490.0		188.7
190.	25.424	2.116	1.514	98.37	32.33	49.05	1471.2		184.7
195.	25.175	2.082	1.759	99.65	32.17	48.99	1452.9		180.9
200.	24.928	2.051	2.004	100.89	32.01	48.93	1435.0		177.2
205.	24.682	2.020	2.248	102.09	31.87	48.88	1417.6		173.6
210.	24.437	1.992	2.493	103.27	31.74	48.84	1400.7		170.1

METHANE ISOBAR AT P = 85.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
215.	24.194	1.965	2.737	104.42	31.62	48.80	1384.2		166.8
220.	23.953	1.940	2.981	105.54	31.52	48.76	1368.1		163.6
225.	23.713	1.916	3.224	106.64	31.42	48.73	1352.5		160.5
230.	23.475	1.893	3.468	107.71	31.34	48.70	1337.3		157.5
235.	23.238	1.872	3.711	108.76	31.27	48.68	1322.5		154.6
240.	23.004	1.852	3.955	109.78	31.21	48.67	1308.1		151.9
245.	22.771	1.832	4.198	110.78	31.17	48.65	1294.1		149.3
250.	22.540	1.814	4.441	111.77	31.14	48.65	1280.5		146.7
255.	22.311	1.797	4.684	112.73	31.12	48.65	1267.3		144.3
260.	22.084	1.780	4.928	113.67	31.11	48.66	1254.5		142.0
265.	21.860	1.765	5.171	114.60	31.11	48.67	1242.1		139.8
270.	21.637	1.750	5.414	115.51	31.13	48.68	1230.0		137.7
275.	21.417	1.736	5.658	116.40	31.15	48.71	1218.3		135.7
280.	21.199	1.722	5.901	117.28	31.19	48.73	1206.9		133.8
285.	20.983	1.710	6.145	118.15	31.24	48.77	1195.9		132.1
290.	20.769	1.697	6.389	118.99	31.30	48.81	1185.3		130.4
295.	20.558	1.686	6.633	119.83	31.37	48.85	1175.0		128.7
300.	20.350	1.675	6.878	120.65	31.45	48.90	1165.0		127.2
310.	19.940	1.654	7.367	122.26	31.65	49.02	1146.0		124.4
320.	19.540	1.635	7.858	123.81	31.88	49.16	1128.3		122.0
330.	19.151	1.618	8.350	125.33	32.15	49.32	1111.9		119.8
340.	18.772	1.602	8.844	126.80	32.45	49.49	1096.6		117.9
350.	18.404	1.587	9.340	128.24	32.78	49.69	1082.5		116.3
360.	18.046	1.574	9.838	129.64	33.13	49.90	1069.4		114.9
370.	17.698	1.561	10.338	131.01	33.51	50.13	1057.4		113.8
380.	17.361	1.550	10.841	132.35	33.92	50.37	1046.4		112.9
390.	17.033	1.539	11.346	133.67	34.34	50.63	1036.2		112.1
400.	16.716	1.529	11.854	134.95	34.78	50.91	1027.0		111.6
410.	16.409	1.520	12.364	136.21	35.24	51.19	1018.5		111.2
420.	16.111	1.511	12.877	137.45	35.70	51.48	1010.9		111.0
430.	15.823	1.503	13.394	138.66	36.18	51.79	1003.9		110.9
440.	15.544	1.495	13.913	139.86	36.67	52.10	997.7		110.9
450.	15.274	1.487	14.436	141.03	37.16	52.43	992.0		111.1
460.	15.012	1.480	14.962	142.19	37.66	52.75	987.0		111.4
470.	14.759	1.474	15.491	143.33	38.17	53.09	982.5		111.8
480.	14.514	1.467	16.024	144.45	38.67	53.43	978.5		112.2
490.	14.276	1.461	16.560	145.55	39.18	53.78	975.0		112.8
500.	14.046	1.456	17.099	146.64	39.69	54.13	972.0		113.5
520.	13.607	1.445	18.189	148.78	40.70	54.83	967.1		115.0
540.	13.195	1.435	19.293	150.86	41.71	55.55	963.6		116.8

METHANE ISOBAR AT P = 85.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
560.	12.808	1.425	20.411	152.90	42.70	56.26	961.3		118.8
580.	12.443	1.417	21.543	154.88	43.68	56.98	960.0		120.9
600.	12.099	1.408	22.690	156.83	44.63	57.69	959.7		123.3

METHANE ISOBAR AT P = 90.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
115.	29.422	3.199	-2.083	73.05	36.45	50.64	1833.4		256.5
120.	29.161	3.093	-1.830	75.20	36.11	50.49	1806.6		251.9
125.	28.901	2.996	-1.578	77.26	35.77	50.32	1780.6		247.1
130.	28.642	2.907	-1.327	79.23	35.44	50.16	1755.4		242.4
135.	28.385	2.825	-1.076	81.12	35.12	50.00	1730.8		237.6
140.	28.129	2.749	-0.827	82.94	34.81	49.85	1706.9		232.8
145.	27.874	2.678	-0.578	84.68	34.51	49.72	1683.6		228.0
150.	27.621	2.613	-0.329	86.37	34.23	49.59	1661.0		223.3
155.	27.369	2.552	-0.082	87.99	33.97	49.47	1639.0		218.7
160.	27.118	2.495	0.165	89.56	33.71	49.36	1617.5		214.2
165.	26.868	2.442	0.412	91.08	33.47	49.26	1596.6		209.7
170.	26.619	2.392	0.658	92.55	33.25	49.16	1576.3		205.3
175.	26.372	2.345	0.904	93.97	33.03	49.08	1556.4		201.0
180.	26.126	2.302	1.149	95.35	32.83	48.99	1537.1		196.9
185.	25.881	2.261	1.394	96.69	32.64	48.92	1518.3		192.8
190.	25.637	2.222	1.638	98.00	32.46	48.85	1500.0		188.9
195.	25.395	2.186	1.882	99.26	32.29	48.78	1482.1		185.1
200.	25.153	2.152	2.126	100.50	32.13	48.72	1464.7		181.4
205.	24.914	2.119	2.369	101.70	31.99	48.66	1447.8		177.8
210.	24.676	2.089	2.612	102.87	31.86	48.61	1431.2		174.3
215.	24.439	2.060	2.855	104.02	31.74	48.57	1415.1		171.0
220.	24.204	2.033	3.098	105.13	31.63	48.53	1399.5		167.7
225.	23.970	2.007	3.341	106.22	31.53	48.49	1384.2		164.6
230.	23.738	1.983	3.583	107.29	31.45	48.46	1369.3		161.6
235.	23.508	1.959	3.825	108.33	31.38	48.44	1354.8		158.7
240.	23.280	1.937	4.067	109.35	31.32	48.42	1340.7		156.0
245.	23.053	1.917	4.309	110.35	31.27	48.41	1327.0		153.3
250.	22.828	1.897	4.551	111.33	31.24	48.40	1313.6		150.8
255.	22.605	1.878	4.793	112.28	31.21	48.40	1300.6		148.3
260.	22.385	1.860	5.035	113.22	31.20	48.40	1288.0		146.0

METHANE ISOBAR AT P = 90.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
265.	22.166	1.843	5.277	114.15	31.21	48.41	1275.7		143.8
270.	21.949	1.827	5.520	115.05	31.22	48.43	1263.8		141.7
275.	21.735	1.811	5.762	115.94	31.24	48.46	1252.2		139.7
280.	21.522	1.796	6.004	116.81	31.28	48.48	1240.9		137.7
285.	21.312	1.782	6.247	117.67	31.33	48.52	1230.0		135.9
290.	21.104	1.769	6.489	118.52	31.39	48.56	1219.4		134.2
295.	20.899	1.756	6.732	119.35	31.46	48.61	1209.2		132.5
300.	20.695	1.743	6.975	120.16	31.54	48.66	1199.2		131.0
310.	20.296	1.720	7.463	121.76	31.73	48.79	1180.2		128.1
320.	19.906	1.699	7.951	123.31	31.96	48.93	1162.5		125.6
330.	19.525	1.680	8.441	124.82	32.22	49.10	1145.9		123.3
340.	19.154	1.662	8.933	126.29	32.52	49.29	1130.5		121.4
350.	18.794	1.646	9.427	127.72	32.85	49.50	1116.1		119.7
360.	18.442	1.630	9.923	129.12	33.20	49.72	1102.8		118.2
370.	18.101	1.616	10.422	130.48	33.58	49.96	1090.4		117.0
380.	17.770	1.603	10.923	131.82	33.98	50.22	1079.0		116.0
390.	17.448	1.591	11.426	133.13	34.40	50.49	1068.5		115.2
400.	17.135	1.579	11.933	134.41	34.84	50.78	1058.9		114.6
410.	16.832	1.569	12.442	135.67	35.29	51.08	1050.0		114.1
420.	16.537	1.558	12.954	136.90	35.76	51.38	1041.9		113.8
430.	16.252	1.549	13.470	138.12	36.23	51.70	1034.6		113.7
440.	15.975	1.540	13.988	139.31	36.72	52.03	1027.9		113.6
450.	15.707	1.531	14.510	140.48	37.21	52.36	1021.8		113.8
460.	15.447	1.523	15.035	141.64	37.71	52.70	1016.3		114.0
470.	15.195	1.516	15.564	142.77	38.21	53.05	1011.4		114.3
480.	14.950	1.508	16.096	143.89	38.71	53.40	1007.0		114.7
490.	14.713	1.501	16.632	145.00	39.22	53.75	1003.1		115.2
500.	14.483	1.495	17.172	146.09	39.73	54.11	999.6		115.8
520.	14.044	1.482	18.261	148.22	40.74	54.83	993.9		117.3
540.	13.630	1.471	19.365	150.31	41.74	55.56	989.6		119.0
560.	13.241	1.460	20.483	152.34	42.73	56.29	986.6		120.9
580.	12.873	1.450	21.616	154.33	43.71	57.01	984.7		123.0
600.	12.526	1.440	22.764	156.27	44.66	57.73	983.7		125.2

METHANE ISOBAR AT P = 95.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
115.	29.549	3.362	-1.947	72.75	36.59	50.56	1853.2		260.1
120.	29.292	3.251	-1.695	74.90	36.26	50.40	1827.0		255.5
125.	29.037	3.148	-1.443	76.95	35.92	50.23	1801.6		250.8
130.	28.783	3.054	-1.193	78.92	35.59	50.06	1776.9		246.1
135.	28.531	2.966	-0.943	80.81	35.26	49.90	1752.9		241.4
140.	28.280	2.886	-0.694	82.62	34.95	49.74	1729.5		236.6
145.	28.030	2.811	-0.445	84.36	34.65	49.60	1706.8		231.9
150.	27.782	2.742	-0.198	86.04	34.37	49.46	1684.7		227.2
155.	27.535	2.677	0.049	87.66	34.10	49.33	1663.2		222.6
160.	27.289	2.617	0.296	89.23	33.85	49.22	1642.3		218.1
165.	27.045	2.560	0.541	90.74	33.60	49.11	1622.0		213.7
170.	26.801	2.508	0.787	92.20	33.37	49.01	1602.1		209.3
175.	26.559	2.458	1.032	93.62	33.16	48.91	1582.8		205.1
180.	26.318	2.412	1.276	95.00	32.95	48.82	1564.0		200.9
185.	26.079	2.368	1.520	96.34	32.76	48.74	1545.7		196.9
190.	25.841	2.327	1.763	97.63	32.57	48.66	1527.8		193.0
195.	25.604	2.288	2.006	98.90	32.40	48.59	1510.4		189.1
200.	25.369	2.252	2.249	100.13	32.25	48.53	1493.4		185.4
205.	25.135	2.217	2.492	101.32	32.10	48.47	1476.9		181.8
210.	24.902	2.185	2.734	102.49	31.97	48.41	1460.7		178.4
215.	24.671	2.154	2.976	103.63	31.84	48.36	1445.0		175.0
220.	24.442	2.125	3.218	104.74	31.73	48.32	1429.7		171.8
225.	24.214	2.097	3.459	105.83	31.64	48.28	1414.7		168.7
230.	23.988	2.071	3.700	106.89	31.55	48.25	1400.2		165.6
235.	23.763	2.046	3.941	107.92	31.48	48.22	1386.0		162.7
240.	23.540	2.022	4.183	108.94	31.42	48.20	1372.1		160.0
245.	23.320	2.000	4.424	109.93	31.37	48.19	1358.6		157.3
250.	23.100	1.978	4.664	110.91	31.33	48.18	1345.5		154.7
255.	22.883	1.958	4.905	111.86	31.31	48.18	1332.7		152.3
260.	22.668	1.939	5.146	112.80	31.29	48.18	1320.3		149.9
265.	22.455	1.920	5.387	113.71	31.30	48.19	1308.1		147.7
270.	22.243	1.902	5.628	114.62	31.31	48.21	1296.4		145.5
275.	22.034	1.886	5.869	115.50	31.33	48.23	1284.9		143.5
280.	21.827	1.870	6.110	116.37	31.37	48.26	1273.7		141.5
285.	21.622	1.854	6.352	117.22	31.41	48.30	1262.9		139.7
290.	21.419	1.839	6.593	118.06	31.47	48.34	1252.4		137.9
295.	21.218	1.825	6.835	118.89	31.54	48.39	1242.2		136.2
300.	21.020	1.812	7.077	119.71	31.62	48.45	1232.3		134.6
310.	20.629	1.787	7.563	121.30	31.80	48.58	1213.3		131.7
320.	20.248	1.763	8.049	122.84	32.03	48.73	1195.5		129.1

METHANE ISOBAR AT P = 95.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
330.	19.876	1.742	8.537	124.34	32.29	48.91	1178.8		126.8
340.	19.513	1.722	9.027	125.81	32.59	49.11	1163.2		124.7
350.	19.159	1.704	9.519	127.23	32.91	49.32	1148.7		123.0
360.	18.814	1.687	10.014	128.62	33.26	49.56	1135.1		121.4
370.	18.479	1.671	10.511	129.99	33.64	49.81	1122.5		120.2
380.	18.153	1.656	11.010	131.32	34.04	50.08	1110.8		119.1
390.	17.836	1.643	11.512	132.62	34.46	50.36	1099.9		118.2
400.	17.528	1.630	12.017	133.90	34.89	50.66	1089.9		117.5
410.	17.228	1.618	12.526	135.16	35.34	50.97	1080.7		117.0
420.	16.938	1.606	13.037	136.39	35.81	51.29	1072.3		116.6
430.	16.655	1.595	13.551	137.60	36.28	51.62	1064.5		116.4
440.	16.381	1.585	14.069	138.79	36.76	51.95	1057.5		116.3
450.	16.115	1.576	14.590	139.96	37.25	52.30	1051.0		116.4
460.	15.857	1.566	15.115	141.11	37.75	52.65	1045.1		116.5
470.	15.606	1.558	15.643	142.25	38.25	53.00	1039.8		116.8
480.	15.362	1.549	16.175	143.37	38.75	53.36	1035.0		117.2
490.	15.126	1.542	16.711	144.47	39.26	53.72	1030.7		117.6
500.	14.896	1.534	17.250	145.56	39.76	54.09	1026.9		118.2
520.	14.457	1.520	18.339	147.70	40.77	54.83	1020.4		119.5
540.	14.043	1.507	19.443	149.78	41.77	55.57	1015.4		121.1
560.	13.652	1.495	20.561	151.82	42.76	56.30	1011.7		123.0
580.	13.282	1.483	21.695	153.80	43.73	57.04	1009.2		125.0
600.	12.932	1.473	22.843	155.75	44.68	57.76	1007.6		127.2

METHANE ISOBAR AT P = 100.0 MPa

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
115.	29.673	3.525	-1.812	72.46	36.74	50.49	1872.6		263.6
120.	29.420	3.407	-1.560	74.61	36.40	50.32	1846.9		259.0
125.	29.169	3.299	-1.309	76.66	36.06	50.15	1822.0		254.4
130.	28.920	3.199	-1.059	78.62	35.73	49.97	1797.8		249.8
135.	28.672	3.107	-0.809	80.50	35.40	49.80	1774.4		245.1
140.	28.426	3.022	-0.561	82.31	35.09	49.64	1751.6		240.4
145.	28.181	2.943	-0.313	84.05	34.79	49.49	1729.4		235.7
150.	27.937	2.870	-0.066	85.73	34.50	49.34	1707.8		231.1
155.	27.695	2.802	0.181	87.34	34.23	49.21	1686.9		226.5
160.	27.454	2.738	0.426	88.90	33.97	49.09	1666.5		222.0

METHANE ISOBAR AT P = 100.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
165.	27.215	2.678	0.672	90.41	33.73	48.97	1646.6		217.6
170.	26.976	2.623	0.916	91.87	33.50	48.87	1627.3		213.3
175.	26.739	2.570	1.160	93.29	33.28	48.77	1608.4		209.0
180.	26.504	2.521	1.404	94.66	33.07	48.67	1590.1		204.9
185.	26.269	2.475	1.647	95.99	32.87	48.58	1572.2		200.9
190.	26.036	2.431	1.890	97.29	32.69	48.50	1554.8		196.9
195.	25.805	2.390	2.132	98.54	32.51	48.43	1537.8		193.1
200.	25.574	2.351	2.374	99.77	32.35	48.36	1521.2		189.4
205.	25.346	2.315	2.616	100.96	32.21	48.29	1505.0		185.8
210.	25.118	2.280	2.857	102.13	32.07	48.23	1489.3		182.4
215.	24.893	2.247	3.098	103.26	31.95	48.18	1473.9		179.0
220.	24.668	2.216	3.339	104.37	31.83	48.13	1458.9		175.8
225.	24.446	2.187	3.579	105.45	31.73	48.09	1444.3		172.6
230.	24.225	2.159	3.820	106.50	31.65	48.06	1430.0		169.6
235.	24.006	2.132	4.060	107.54	31.57	48.03	1416.0		166.7
240.	23.788	2.107	4.300	108.55	31.51	48.00	1402.5		163.9
245.	23.572	2.083	4.540	109.54	31.46	47.99	1389.2		161.2
250.	23.358	2.060	4.780	110.51	31.42	47.98	1376.3		158.6
255.	23.146	2.038	5.020	111.46	31.39	47.98	1363.7		156.1
260.	22.936	2.017	5.260	112.39	31.38	47.98	1351.4		153.7
265.	22.727	1.997	5.499	113.30	31.38	47.99	1339.5		151.5
270.	22.521	1.978	5.739	114.20	31.39	48.01	1327.8		149.3
275.	22.317	1.960	5.980	115.08	31.41	48.03	1316.5		147.2
280.	22.114	1.942	6.220	115.95	31.45	48.07	1305.5		145.2
285.	21.914	1.926	6.460	116.80	31.49	48.10	1294.7		143.4
290.	21.715	1.910	6.701	117.64	31.55	48.15	1284.3		141.6
295.	21.519	1.895	6.942	118.46	31.61	48.20	1274.1		139.8
300.	21.325	1.880	7.183	119.27	31.69	48.26	1264.2		138.2
310.	20.943	1.853	7.666	120.85	31.88	48.39	1245.3		135.2
320.	20.570	1.827	8.151	122.39	32.10	48.55	1227.5		132.5
330.	20.205	1.804	8.637	123.89	32.36	48.74	1210.7		130.2
340.	19.849	1.782	9.126	125.35	32.65	48.94	1195.0		128.0
350.	19.502	1.762	9.616	126.77	32.97	49.17	1180.3		126.2
360.	19.164	1.743	10.109	128.16	33.32	49.41	1166.5		124.6
370.	18.835	1.726	10.604	129.52	33.70	49.67	1153.6		123.2
380.	18.514	1.710	11.102	130.84	34.09	49.95	1141.7		122.1
390.	18.201	1.694	11.603	132.14	34.51	50.24	1130.6		121.2
400.	17.898	1.680	12.107	133.42	34.94	50.55	1120.3		120.4
410.	17.602	1.667	12.614	134.67	35.39	50.87	1110.8		119.8
420.	17.315	1.654	13.125	135.90	35.85	51.20	1102.0		119.4

METHANE ISOBAR AT P = 100.0 MPa (continued)

T	ρ	Z	H	S	C_v	C_p	W	η	λ
K	$\text{mol} \cdot \text{dm}^{-3}$		kJ/mol	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{J}/(\text{mol} \cdot \text{K})$	$\text{m} \cdot \text{s}^{-1}$	$\mu\text{Pa} \cdot \text{s}$	$\text{mW}/(\text{m} \cdot \text{K})$
430.	17.035	1.642	13.638	137.11	36.33	51.53	1093.9		119.1
440.	16.764	1.631	14.156	138.30	36.81	51.88	1086.4		119.0
450.	16.500	1.620	14.676	139.47	37.30	52.23	1079.6		118.9
460.	16.244	1.610	15.200	140.62	37.79	52.59	1073.4		119.1
470.	15.994	1.600	15.728	141.76	38.29	52.95	1067.7		119.3
480.	15.752	1.591	16.259	142.88	38.79	53.32	1062.6		119.6
490.	15.517	1.582	16.794	143.98	39.29	53.69	1057.9		120.0
500.	15.288	1.573	17.333	145.07	39.80	54.06	1053.7		120.5
520.	14.850	1.558	18.422	147.20	40.81	54.81	1046.5		121.7
540.	14.435	1.543	19.526	149.28	41.80	55.56	1040.9		123.3
560.	14.043	1.529	20.645	151.32	42.79	56.31	1036.6		125.0
580.	13.672	1.517	21.778	153.31	43.76	57.06	1033.4		127.0
600.	13.320	1.505	22.927	155.25	44.71	57.79	1031.2		129.1

TABLE B4

PROPERTIES IN THE SINGLE-PHASE REGION ALONG ISOTHERMS

Notes for Table B4. Values of the pressure, isothermal density derivative of the pressure, isochoric temperature derivative of the pressure, isochoric specific heat capacity, speed of sound, viscosity, and thermal conductivity in the single-phase region of the methane fluid. The independent variables were chosen to be temperature and density. The quantities P , $dP/d\rho|_T$, $dP/dT|_\rho$, C_v , and W were evaluated directly from the expressions in Table 7. The viscosity and thermal conductivity are from eqs (7) and (8) [with the terms evaluated from eqs (10-23)].

METHANE ISOTHERM AT $T = 95. \text{ K}$

Second Virial Coefficient is $-446.4 \text{ cm}^3/\text{mol}$

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm^3	MPa	$\text{MPa}\cdot\text{dm}^3/\text{mol}$	MPa/K	$\text{J}/(\text{mol}\cdot\text{K})$	m/s	$\mu\text{Pa}\cdot\text{s}$	$\text{mW}/(\text{m}\cdot\text{K})$
27.8	0.3399	22.8777	1.91608	34.00	1501.16	180.25	206.4
27.9	2.6635	23.5946	1.93770	34.08	1519.51	184.81	208.5
28.0	5.0591	24.3186	1.95897	34.16	1537.64	189.59	210.6
28.1	7.5274	25.0497	1.97990	34.25	1555.56	194.60	212.8
28.2	10.0693	25.7882	2.00053	34.34	1573.28	199.86	215.0
28.3	12.6853	26.5343	2.02085	34.44	1590.83	205.38	217.3
28.4	15.3764	27.2882	2.04090	34.54	1608.21	211.19	219.5

METHANE ISOTHERM AT $T = 100. \text{ K}$

Second Virial Coefficient is $-403.3 \text{ cm}^3/\text{mol}$

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm^3	MPa	$\text{MPa}\cdot\text{dm}^3/\text{mol}$	MPa/K	$\text{J}/(\text{mol}\cdot\text{K})$	m/s	$\mu\text{Pa}\cdot\text{s}$	$\text{mW}/(\text{m}\cdot\text{K})$
27.4	0.8262	21.1787	1.80290	34.11	1453.06	158.77	200.5
27.5	2.9777	21.8514	1.82354	34.18	1471.06	162.65	202.6
27.6	5.1968	22.5312	1.84390	34.25	1488.85	166.70	204.7
27.7	7.4842	23.2183	1.86400	34.33	1506.45	170.94	206.8
27.8	9.8407	23.9130	1.88384	34.42	1523.88	175.38	209.0
27.9	12.2670	24.6152	1.90343	34.51	1541.15	180.05	211.1
28.0	14.7640	25.3253	1.92281	34.60	1558.27	184.95	213.3
28.1	17.3324	26.0434	1.94196	34.69	1575.26	190.11	215.6
28.2	19.9729	26.7696	1.96092	34.79	1592.13	195.56	217.8
28.3	22.6865	27.5040	1.97968	34.89	1608.90	201.30	220.1

METHANE ISOTHERM AT T = 100. K (continued)

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	μPa·s	mW/(m·K)
28.4	25.4740	28.2468	1.99826	35.00	1625.56	207.39	222.4
28.5	28.3362	28.9982	2.01667	35.10	1642.14	213.84	224.8
28.6	31.2739	29.7583	2.03493	35.21	1658.64	220.69	227.1
28.7	34.2881	30.5272	2.05303	35.32	1675.06	227.98	229.5
28.8	37.3797	31.3050	2.07098	35.43	1691.43	235.77	231.9

METHANE ISOTHERM AT T = 105. K

Second Virial Coefficient is -365.9 cm³/mol

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	μPa·s	mW/(m·K)
27.0	1.4235	19.5999	1.69794	33.90	1408.97	140.83	194.5
27.1	3.4150	20.2310	1.71757	33.97	1426.53	144.12	196.5
27.2	5.4699	20.8692	1.73698	34.04	1443.91	147.55	198.6
27.3	7.5891	21.5149	1.75617	34.12	1461.13	151.13	200.6
27.4	9.7731	22.1680	1.77515	34.20	1478.19	154.89	202.7
27.5	12.0229	22.8289	1.79394	34.28	1495.11	158.82	204.9
27.6	14.3392	23.4975	1.81255	34.37	1511.90	162.94	207.0
27.7	16.7227	24.1740	1.83098	34.47	1528.58	167.28	209.2
27.8	19.1743	24.8587	1.84925	34.56	1545.14	171.84	211.4
27.9	21.6947	25.5515	1.86737	34.66	1561.61	176.65	213.6
28.0	24.2848	26.2527	1.88533	34.76	1578.00	181.73	215.8
28.1	26.9455	26.9623	1.90317	34.86	1594.31	187.11	218.1
28.2	29.6776	27.6806	1.92087	34.97	1610.54	192.81	220.4
28.3	32.4819	28.4076	1.93846	35.07	1626.72	198.86	222.8
28.4	35.3594	29.1434	1.95593	35.18	1642.84	205.30	225.1
28.5	38.3109	29.8882	1.97329	35.29	1658.91	212.18	227.5
28.6	41.3373	30.6420	1.99055	35.41	1674.95	219.53	229.9
28.7	44.4396	31.4050	2.00773	35.52	1690.94	227.42	232.3
28.8	47.6186	32.1773	2.02481	35.63	1706.91	235.91	234.8
28.9	50.8754	32.9589	2.04181	35.75	1722.86	245.07	237.3
29.0	54.2107	33.7500	2.05873	35.87	1738.78	254.99	239.8
29.1	57.6257	34.5506	2.07558	35.98	1754.69	265.78	242.4

METHANE ISOTHERM AT T = 110. K

Second Virial Coefficient is -333.6 cm³/mol

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	μPa·s	mW/(m·K)
26.5	0.3377	17.5472	1.58053	33.50	1349.77	123.15	186.5
26.6	2.1216	18.1320	1.59939	33.56	1367.06	125.84	188.5
26.7	3.9643	18.7238	1.61806	33.63	1384.18	128.63	190.4
26.8	5.8666	19.3228	1.63655	33.70	1401.14	131.54	192.4
26.9	7.8291	19.9292	1.65486	33.77	1417.95	134.58	194.4
27.0	9.8526	20.5431	1.67300	33.85	1434.63	137.75	196.5
27.1	11.9380	21.1646	1.69098	33.93	1451.18	141.07	198.5
27.2	14.0858	21.7938	1.70882	34.02	1467.62	144.55	200.6
27.3	16.2970	22.4309	1.72652	34.11	1483.95	148.19	202.7
27.4	18.5722	23.0759	1.74409	34.20	1500.20	152.02	204.8
27.5	20.9124	23.7291	1.76153	34.30	1516.35	156.04	207.0
27.6	23.3184	24.3906	1.77885	34.40	1532.43	160.28	209.2
27.7	25.7908	25.0604	1.79607	34.50	1548.45	164.76	211.4
27.8	28.3307	25.7387	1.81319	34.60	1564.40	169.49	213.6
27.9	30.9388	26.4256	1.83021	34.70	1580.30	174.50	215.9
28.0	33.6161	27.1212	1.84714	34.81	1596.16	179.81	218.2
28.1	36.3634	27.8256	1.86399	34.92	1611.97	185.47	220.5
28.2	39.1815	28.5390	1.88077	35.03	1627.75	191.50	222.8
28.3	42.0715	29.2614	1.89747	35.14	1643.51	197.94	225.2
28.4	45.0341	29.9929	1.91410	35.25	1659.24	204.85	227.6
28.5	48.0704	30.7337	1.93068	35.36	1674.95	212.27	230.0
28.6	51.1812	31.4838	1.94720	35.48	1690.65	220.28	232.5
28.7	54.3674	32.2434	1.96366	35.59	1706.33	228.94	235.0
28.8	57.6301	33.0124	1.98008	35.71	1722.02	238.34	237.5
28.9	60.9702	33.7910	1.99645	35.83	1737.70	248.59	240.0
29.0	64.3887	34.5792	2.01278	35.94	1753.37	259.81	242.6
29.1	67.8864	35.3771	2.02907	36.06	1769.06	272.16	245.2
29.2	71.4644	36.1848	2.04532	36.18	1784.74	285.81	247.8
29.3	75.1237	37.0022	2.06155	36.30	1800.44	300.99	250.5
29.4	78.8652	37.8296	2.07774	36.42	1816.14	317.99	253.2

METHANE ISOTHERM AT T = 115. K

Second Virial Coefficient is -305.4 cm³/mol

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	μPa·s	mW/(m·K)
0.1	0.0927	0.8977	0.00086	26.03	276.21	4.54	11.8
26.1	1.2578	16.2212	1.48854	33.11	1309.70	110.98	180.6
26.2	2.9072	16.7688	1.50646	33.17	1326.53	113.28	182.5
26.3	4.6118	17.3235	1.52423	33.24	1343.22	115.67	184.4
26.4	6.3721	17.8854	1.54184	33.31	1359.76	118.15	186.3
26.5	8.1891	18.4545	1.55932	33.38	1376.17	120.74	188.2
26.6	10.0633	19.0311	1.57666	33.46	1392.47	123.43	190.2
26.7	11.9956	19.6152	1.59388	33.54	1408.65	126.24	192.2
26.8	13.9866	20.2070	1.61098	33.62	1424.74	129.18	194.2
26.9	16.0372	20.8065	1.62797	33.71	1440.74	132.25	196.3
27.0	18.1482	21.4139	1.64485	33.80	1456.65	135.47	198.3
27.1	20.3202	22.0292	1.66163	33.89	1472.49	138.85	200.4
27.2	22.5543	22.6527	1.67833	33.99	1488.26	142.40	202.5
27.3	24.8511	23.2844	1.69493	34.09	1503.98	146.13	204.7
27.4	27.2114	23.9245	1.71146	34.19	1519.65	150.06	206.8
27.5	29.6362	24.5730	1.72792	34.29	1535.27	154.22	209.0
27.6	32.1263	25.2300	1.74430	34.39	1550.85	158.61	211.2
27.7	34.6825	25.8958	1.76062	34.50	1566.40	163.27	213.5
27.8	37.3058	26.5703	1.77689	34.60	1581.92	168.21	215.7
27.9	39.9969	27.2537	1.79310	34.71	1597.42	173.48	218.0
28.0	42.7568	27.9460	1.80927	34.82	1612.91	179.10	220.4
28.1	45.5864	28.6475	1.82539	34.93	1628.38	185.11	222.7
28.2	48.4866	29.3581	1.84147	35.04	1643.84	191.56	225.1
28.3	51.4583	30.0780	1.85751	35.15	1659.30	198.50	227.5
28.4	54.5025	30.8072	1.87353	35.27	1674.76	206.00	229.9
28.5	57.6201	31.5459	1.88951	35.38	1690.23	214.12	232.4
28.6	60.8120	32.2941	1.90547	35.50	1705.70	222.95	234.9
28.7	64.0792	33.0519	1.92141	35.61	1721.17	232.60	237.4
28.8	67.4227	33.8193	1.93733	35.73	1736.66	243.19	240.0
28.9	70.8434	34.5965	1.95323	35.84	1752.16	254.86	242.5
29.0	74.3423	35.3834	1.96911	35.96	1767.68	267.79	245.2
29.1	77.9204	36.1801	1.98499	36.07	1783.21	282.23	247.8
29.2	81.5787	36.9867	2.00085	36.19	1798.76	298.44	250.5
29.3	85.3181	37.8033	2.01671	36.30	1814.33	316.80	253.2
29.4	89.1397	38.6297	2.03256	36.42	1829.92	337.76	255.9
29.5	93.0444	39.4662	2.04841	36.54	1845.53	361.94	258.7
29.6	97.0332	40.3126	2.06425	36.65	1861.16	390.15	261.5

METHANE ISOTHERM AT T = 120. K

Second Virial Coefficient is -280.9 cm³/mol

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	μPa·s	mW/(m·K)
0.1	0.0970	0.9418	0.00085	25.66	282.86	4.73	12.4
0.2	0.1884	0.8864	0.00176	26.61	277.46	4.76	12.7
25.6	0.7676	14.4874	1.38452	32.66	1254.12	98.83	172.9
25.7	2.2416	14.9930	1.40170	32.72	1270.66	100.74	174.7
25.8	3.7665	15.5056	1.41875	32.78	1287.05	102.72	176.5
25.9	5.3430	16.0251	1.43567	32.84	1303.31	104.78	178.4
26.0	6.9717	16.5517	1.45248	32.91	1319.45	106.91	180.2
26.1	8.6535	17.0856	1.46917	32.99	1335.48	109.12	182.1
26.2	10.3891	17.6267	1.48576	33.06	1351.40	111.42	184.0
26.3	12.1791	18.1753	1.50225	33.14	1367.23	113.82	185.9
26.4	14.0244	18.7313	1.51865	33.22	1382.97	116.31	187.9
26.5	15.9256	19.2950	1.53496	33.31	1398.63	118.92	189.9
26.6	17.8837	19.8664	1.55119	33.39	1414.22	121.64	191.8
26.7	19.8992	20.4457	1.56734	33.48	1429.75	124.49	193.9
26.8	21.9731	21.0329	1.58342	33.58	1445.22	127.47	195.9
26.9	24.1061	21.6282	1.59943	33.67	1460.64	130.60	198.0
27.0	26.2990	22.2317	1.61539	33.77	1476.02	133.89	200.1
27.1	28.5527	22.8434	1.63129	33.87	1491.36	137.35	202.2
27.2	30.8679	23.4635	1.64713	33.97	1506.68	141.00	204.3
27.3	33.2457	24.0921	1.66294	34.07	1521.96	144.85	206.5
27.4	35.6867	24.7293	1.67870	34.17	1537.22	148.92	208.7
27.5	38.1918	25.3752	1.69442	34.28	1552.47	153.24	210.9
27.6	40.7620	26.0299	1.71011	34.38	1567.71	157.83	213.2
27.7	43.3981	26.6935	1.72577	34.49	1582.94	162.72	215.4
27.8	46.1010	27.3660	1.74140	34.60	1598.17	167.94	217.7
27.9	48.8716	28.0477	1.75702	34.70	1613.40	173.53	220.1
28.0	51.7108	28.7386	1.77261	34.81	1628.63	179.53	222.4
28.1	54.6196	29.4387	1.78819	34.92	1643.87	185.98	224.8
28.2	57.5989	30.1481	1.80376	35.03	1659.12	192.96	227.2
28.3	60.6495	30.8670	1.81931	35.15	1674.39	200.52	229.6
28.4	63.7726	31.5954	1.83487	35.26	1689.67	208.76	232.1
28.5	66.9689	32.3334	1.85042	35.37	1704.97	217.76	234.6
28.6	70.2396	33.0810	1.86596	35.48	1720.29	227.64	237.1
28.7	73.5855	33.8383	1.88151	35.59	1735.63	238.55	239.7
28.8	77.0076	34.6054	1.89706	35.71	1750.99	250.67	242.3

METHANE ISOTHERM AT T = 120. K (continued)

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	$\mu\text{Pa}\cdot\text{s}$	mW/(m·K)
28.9	80.5069	35.3824	1.91262	35.82	1766.38	264.20	244.9
29.0	84.0844	36.1692	1.92818	35.93	1781.80	279.43	247.6
29.1	87.7410	36.9659	1.94376	36.04	1797.24	296.71	250.2
29.2	91.4779	37.7726	1.95934	36.16	1812.71	316.49	253.0
29.3	95.2959	38.5893	1.97494	36.27	1828.21	339.36	255.7
29.4	99.1961	39.4160	1.99055	36.38	1843.74	366.14	258.5

METHANE ISOTHERM AT T = 130. K

Second Virial Coefficient is -240.4 cm³/mol

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	$\mu\text{Pa}\cdot\text{s}$	mW/(m·K)
0.1	0.1055	1.0291	0.00085	25.42	295.28	5.12	13.6
0.2	0.2058	0.9780	0.00174	25.84	290.85	5.14	13.8
0.3	0.3011	0.9271	0.00266	26.30	286.38	5.17	14.1
24.6	0.7020	11.5089	1.19572	31.87	1148.06	80.46	158.4
24.7	1.8742	11.9369	1.21142	31.92	1163.96	81.83	160.0
24.8	3.0896	12.3714	1.22704	31.96	1179.73	83.24	161.7
24.9	4.3487	12.8126	1.24258	32.02	1195.39	84.69	163.3
25.0	5.6523	13.2604	1.25805	32.07	1210.94	86.19	165.0
25.1	7.0010	13.7151	1.27344	32.13	1226.39	87.74	166.7
25.2	8.3956	14.1765	1.28877	32.19	1241.76	89.34	168.5
25.3	9.8366	14.6450	1.30403	32.26	1257.04	91.00	170.2
25.4	11.3248	15.1204	1.31924	32.33	1272.24	92.72	172.0
25.5	12.8609	15.6030	1.33438	32.40	1287.38	94.49	173.8
25.6	14.4456	16.0927	1.34948	32.48	1302.45	96.34	175.6
25.7	16.0797	16.5898	1.36452	32.56	1317.46	98.25	177.4
25.8	17.7638	17.0943	1.37952	32.64	1332.42	100.24	179.2
25.9	19.4988	17.6062	1.39448	32.72	1347.34	102.31	181.1
26.0	21.2853	18.1257	1.40940	32.81	1362.22	104.47	183.0
26.1	23.1242	18.6529	1.42429	32.89	1377.06	106.72	184.9
26.2	25.0162	19.1879	1.43915	32.98	1391.88	109.07	186.9
26.3	26.9620	19.7307	1.45398	33.07	1406.67	111.52	188.8
26.4	28.9626	20.2815	1.46879	33.16	1421.44	114.09	190.8
26.5	31.0186	20.8404	1.48358	33.26	1436.20	116.79	192.9
26.6	33.1309	21.4075	1.49835	33.35	1450.95	119.61	194.9
26.7	35.3004	21.9828	1.51311	33.45	1465.69	122.59	197.0

METHANE ISOTHERM AT T = 130. K (continued)

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	μPa·s	mW/(m·K)
26.8	37.5278	22.5665	1.52786	33.55	1480.44	125.72	199.0
26.9	39.8140	23.1587	1.54260	33.65	1495.18	129.03	201.2
27.0	42.1598	23.7594	1.55734	33.74	1509.93	132.53	203.3
27.1	44.5661	24.3688	1.57209	33.84	1524.69	136.23	205.5
27.2	47.0338	24.9869	1.58683	33.95	1539.46	140.17	207.7
27.3	49.5638	25.6139	1.60158	34.05	1554.25	144.36	209.9
27.4	52.1569	26.2498	1.61633	34.15	1569.06	148.82	212.1
27.5	54.8141	26.8947	1.63110	34.25	1583.89	153.60	214.4
27.6	57.5362	27.5488	1.64588	34.35	1598.74	158.73	216.7
27.7	60.3241	28.2120	1.66068	34.46	1613.62	164.24	219.0
27.8	63.1789	28.8845	1.67550	34.56	1628.52	170.20	221.4
27.9	66.1013	29.5664	1.69033	34.67	1643.46	176.65	223.8
28.0	69.0925	30.2578	1.70519	34.77	1658.42	183.67	226.2
28.1	72.1532	30.9586	1.72007	34.87	1673.42	191.34	228.6
28.2	75.2845	31.6691	1.73498	34.98	1688.46	199.76	231.1
28.3	78.4873	32.3892	1.74992	35.08	1703.53	209.04	233.6
28.4	81.7627	33.1190	1.76489	35.19	1718.64	219.34	236.1
28.5	85.1115	33.8586	1.77988	35.29	1733.79	230.83	238.7
28.6	88.5347	34.6080	1.79492	35.40	1748.97	243.76	241.3
28.7	92.0334	35.3674	1.80998	35.50	1764.20	258.40	243.9
28.8	95.6085	36.1367	1.82509	35.60	1779.46	275.15	246.5
28.9	99.2611	36.9159	1.84023	35.71	1794.77	294.50	249.2

METHANE ISOTHERM AT T = 140. K

Second Virial Coefficient is -208.5 cm³/mol

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	μPa·s	mW/(m·K)
0.1	0.1140	1.1157	0.00085	25.32	307.06	5.50	14.7
0.2	0.2232	1.0678	0.00173	25.66	303.13	5.53	14.9
0.3	0.3276	1.0204	0.00263	25.96	299.21	5.56	15.2
0.4	0.4272	0.9734	0.00357	26.27	295.30	5.59	15.5
0.5	0.5222	0.9263	0.00455	26.66	291.35	5.62	15.8
0.6	0.6125	0.8786	0.00559	27.22	287.31	5.65	16.1
23.5	0.6559	8.7615	1.01661	31.22	1034.01	66.46	143.6
23.6	1.5496	9.1140	1.03088	31.25	1049.26	67.46	145.1
23.7	2.4789	9.4726	1.04512	31.28	1064.42	68.48	146.6
23.8	3.4443	9.8374	1.05931	31.31	1079.49	69.53	148.0

METHANE ISOTHERM AT T = 140. K (continued)

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	$\mu\text{Pa}\cdot\text{s}$	mW/(m·K)
23.9	4.4466	10.2084	1.07346	31.35	1094.46	70.61	149.5
24.0	5.4862	10.5856	1.08758	31.39	1109.35	71.72	151.1
24.1	6.5639	10.9692	1.10166	31.44	1124.16	72.86	152.6
24.2	7.6803	11.3591	1.11571	31.49	1138.91	74.03	154.1
24.3	8.8359	11.7556	1.12972	31.54	1153.58	75.24	155.7
24.4	10.0316	12.1585	1.14371	31.60	1168.19	76.48	157.3
24.5	11.2679	12.5680	1.15767	31.66	1182.74	77.76	158.9
24.6	12.5454	12.9843	1.17160	31.72	1197.24	79.08	160.6
24.7	13.8649	13.4072	1.18551	31.78	1211.69	80.44	162.2
24.8	15.2271	13.8370	1.19940	31.85	1226.10	81.84	163.9
24.9	16.6326	14.2737	1.21327	31.92	1240.47	83.30	165.6
25.0	18.0821	14.7174	1.22712	31.99	1254.81	84.80	167.3
25.1	19.5763	15.1682	1.24096	32.07	1269.12	86.36	169.0
25.2	21.1159	15.6261	1.25479	32.14	1283.41	87.97	170.8
25.3	22.7017	16.0913	1.26861	32.22	1297.68	89.64	172.5
25.4	24.3344	16.5638	1.28242	32.30	1311.93	91.38	174.3
25.5	26.0148	17.0437	1.29623	32.38	1326.17	93.18	176.1
25.6	27.7434	17.5312	1.31003	32.47	1340.40	95.06	178.0
25.7	29.5212	18.0262	1.32384	32.55	1354.62	97.01	179.9
25.8	31.3489	18.5290	1.33766	32.64	1368.85	99.05	181.7
25.9	33.2273	19.0395	1.35147	32.72	1383.08	101.18	183.6
26.0	35.1571	19.5579	1.36530	32.81	1397.32	103.40	185.6
26.1	37.1392	20.0843	1.37914	32.90	1411.57	105.73	187.5
26.2	39.1742	20.6188	1.39299	32.99	1425.83	108.18	189.5
26.3	41.2632	21.1614	1.40686	33.08	1440.11	110.74	191.5
26.4	43.4068	21.7123	1.42075	33.17	1454.40	113.44	193.5
26.5	45.6059	22.2716	1.43465	33.26	1468.72	116.28	195.6
26.6	47.8614	22.8393	1.44858	33.36	1483.07	119.28	197.7
26.7	50.1741	23.4155	1.46254	33.45	1497.44	122.46	199.8
26.8	52.5448	24.0003	1.47652	33.54	1511.84	125.82	201.9
26.9	54.9744	24.5939	1.49053	33.64	1526.27	129.39	204.1
27.0	57.4639	25.1963	1.50457	33.73	1540.74	133.19	206.2
27.1	60.0140	25.8076	1.51865	33.83	1555.24	137.25	208.4
27.2	62.6257	26.4279	1.53276	33.92	1569.78	141.60	210.7
27.3	65.2999	27.0572	1.54691	34.02	1584.35	146.26	212.9
27.4	68.0374	27.6957	1.56110	34.11	1598.97	151.28	215.2
27.5	70.8393	28.3434	1.57533	34.21	1613.63	156.71	217.6
27.6	73.7064	29.0005	1.58960	34.30	1628.34	162.59	219.9
27.7	76.6397	29.6669	1.60391	34.40	1643.09	169.00	222.3
27.8	79.6401	30.3429	1.61828	34.50	1657.88	176.00	224.7

METHANE ISOTHERM AT T = 140. K (continued)

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	$\mu\text{Pa}\cdot\text{s}$	mW/(m·K)
27.9	82.7086	31.0283	1.63269	34.59	1672.72	183.70	227.1
28.0	85.8461	31.7234	1.64715	34.69	1687.61	192.20	229.6
28.1	89.0536	32.4282	1.66166	34.78	1702.55	201.64	232.1
28.2	92.3321	33.1428	1.67622	34.88	1717.53	212.20	234.6
28.3	95.6825	33.8671	1.69084	34.97	1732.57	224.10	237.1
28.4	99.1058	34.6013	1.70551	35.06	1747.66	237.61	239.7

METHANE ISOTHERM AT T = 150. K

Second Virial Coefficient is -182.8 cm³/mol

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	$\mu\text{Pa}\cdot\text{s}$	mW/(m·K)
0.2	0.2404	1.1568	0.00172	25.54	314.82	5.92	16.1
0.4	0.4628	1.0681	0.00354	26.06	307.80	5.98	16.6
0.6	0.6677	0.9810	0.00548	26.58	300.82	6.04	17.1
0.8	0.8553	0.8945	0.00755	27.26	293.81	6.10	17.7
1.0	1.0254	0.8069	0.00983	28.38	286.57	6.17	18.4
22.4	1.6116	6.6435	0.86253	30.77	929.89	56.32	130.4
22.6	2.9977	7.2213	0.88808	30.79	958.69	57.87	133.0
22.8	4.5016	7.8218	0.91361	30.82	987.23	59.48	135.7
23.0	6.1279	8.4452	0.93913	30.87	1015.53	61.17	138.4
23.2	7.8813	9.0921	0.96463	30.94	1043.61	62.94	141.2
23.4	9.7664	9.7628	0.99011	31.02	1071.51	64.80	144.0
23.6	11.7880	10.4578	1.01559	31.12	1099.25	66.76	146.9
23.8	13.9511	11.1776	1.04108	31.22	1126.85	68.82	149.9
24.0	16.2607	11.9228	1.06657	31.33	1154.34	71.00	152.9
24.2	18.7220	12.6939	1.09208	31.46	1181.76	73.31	156.1
24.4	21.3401	13.4916	1.11763	31.59	1209.12	75.76	159.3
24.6	24.1204	14.3163	1.14322	31.73	1236.46	78.38	162.6
24.8	27.0685	15.1689	1.16886	31.87	1263.80	81.17	165.9
25.0	30.1899	16.0499	1.19458	32.02	1291.16	84.17	169.4
25.2	33.4904	16.9600	1.22038	32.18	1318.57	87.41	172.9
25.4	36.9759	17.9000	1.24628	32.34	1346.05	90.90	176.5
25.6	40.6524	18.8705	1.27230	32.50	1373.62	94.69	180.3
25.8	44.5261	19.8723	1.29844	32.67	1401.31	98.84	184.1
26.0	48.6034	20.9060	1.32473	32.83	1429.11	103.39	188.0
26.2	52.8907	21.9726	1.35117	33.00	1457.07	108.42	192.0

METHANE ISOTHERM AT T = 150. K (continued)

26.4	57.3947	23.0726	1.37778	33.18	1485.18	114.02	196.0
26.6	62.1220	24.2067	1.40458	33.35	1513.47	120.31	200.2
26.8	67.0797	25.3758	1.43158	33.52	1541.94	127.42	204.5
27.0	72.2747	26.5805	1.45879	33.70	1570.61	135.56	208.9
27.2	77.7143	27.8215	1.48623	33.87	1599.49	144.98	213.5
27.4	83.4058	29.0994	1.51390	34.04	1628.58	156.04	218.1
27.6	89.3566	30.4149	1.54181	34.22	1657.89	169.25	222.8
27.8	95.5743	31.7686	1.56999	34.39	1687.42	185.32	227.7

METHANE ISOTHERM AT T = 160. K

Second Virial Coefficient is -161.7 cm³/mol

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	$\mu\text{Pa}\cdot\text{s}$	mW/(m·K)
0.2	0.2575	1.2451	0.00171	25.46	326.03	6.30	17.3
0.4	0.4981	1.1615	0.00352	25.90	319.70	6.36	17.7
0.6	0.7222	1.0796	0.00542	26.34	313.44	6.43	18.2
0.8	0.9301	0.9993	0.00743	26.78	307.23	6.50	18.7
1.0	1.1220	0.9203	0.00954	27.29	301.07	6.57	19.2
1.2	1.2983	0.8421	0.01179	27.93	294.88	6.65	19.9
1.4	1.4589	0.7643	0.01421	28.81	288.61	6.73	20.6
21.0	1.7596	4.3943	0.69792	30.53	796.71	46.92	115.4
21.2	2.6814	4.8266	0.72026	30.49	823.69	48.08	117.6
21.4	3.6916	5.2790	0.74273	30.46	850.53	49.28	119.9
21.6	4.7944	5.7517	0.76530	30.46	877.25	50.53	122.2
21.8	5.9937	6.2450	0.78797	30.47	903.84	51.82	124.6
22.0	7.2938	6.7594	0.81074	30.49	930.32	53.17	127.0
22.2	8.6989	7.2951	0.83360	30.53	956.70	54.58	129.5
22.4	10.2133	7.8527	0.85655	30.59	982.99	56.04	132.0
22.6	11.8414	8.4324	0.87958	30.65	1009.20	57.58	134.6
22.8	13.5877	9.0347	0.90270	30.73	1035.34	59.18	137.3
23.0	15.4568	9.6601	0.92590	30.81	1061.45	60.86	140.0
23.2	17.4533	10.3091	0.94920	30.91	1087.53	62.62	142.8
23.4	19.5821	10.9822	0.97259	31.01	1113.59	64.48	145.7
23.6	21.8479	11.6800	0.99608	31.13	1139.67	66.44	148.6
23.8	24.2557	12.4029	1.01968	31.24	1165.77	68.51	151.6
24.0	26.8108	13.1517	1.04339	31.37	1191.92	70.71	154.7
24.2	29.5182	13.9268	1.06723	31.50	1218.13	73.04	157.9
24.4	32.3833	14.7290	1.09120	31.64	1244.42	75.53	161.1

METHANE ISOTHERM AT T = 160. K (continued)

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	$\mu\text{Pa}\cdot\text{s}$	mW/(m·K)
24.6	35.4116	15.5590	1.11532	31.78	1270.81	78.19	164.5
24.8	38.6088	16.4172	1.13959	31.92	1297.31	81.04	167.9
25.0	41.9805	17.3046	1.16402	32.07	1323.95	84.12	171.4
25.2	45.5326	18.2217	1.18863	32.22	1350.74	87.45	174.9
25.4	49.2712	19.1693	1.21343	32.37	1377.68	91.07	178.6
25.6	53.2024	20.1481	1.23842	32.52	1404.80	95.03	182.4
25.8	57.3326	21.1588	1.26363	32.68	1432.11	99.38	186.2
26.0	61.6681	22.2022	1.28906	32.84	1459.62	104.20	190.2
26.2	66.2157	23.2789	1.31473	32.99	1487.34	109.57	194.2
26.4	70.9820	24.3897	1.34063	33.15	1515.28	115.60	198.4
26.6	75.9739	25.5354	1.36680	33.31	1543.45	122.44	202.6
26.8	81.1985	26.7165	1.39323	33.47	1571.85	130.29	207.0
27.0	86.6629	27.9338	1.41994	33.62	1600.49	139.39	211.5
27.2	92.3745	29.1880	1.44695	33.78	1629.38	150.11	216.0
27.4	98.3406	30.4796	1.47425	33.93	1658.53	162.95	220.7

METHANE ISOTHERM AT T = 170. K

Second Virial Coefficient is -144.1 cm³/mol

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	$\mu\text{Pa}\cdot\text{s}$	mW/(m·K)
0.2	0.2746	1.3328	0.00171	25.40	336.81	6.68	18.5
0.4	0.5332	1.2538	0.00350	25.78	331.10	6.74	18.9
0.6	0.7762	1.1765	0.00538	26.15	325.45	6.81	19.3
0.8	1.0040	1.1009	0.00735	26.52	319.89	6.88	19.8
1.0	1.2167	1.0270	0.00940	26.90	314.40	6.96	20.3
1.2	1.4149	0.9546	0.01155	27.30	308.99	7.04	20.8
1.4	1.5987	0.8838	0.01380	27.75	303.64	7.12	21.4
1.6	1.7685	0.8143	0.01616	28.26	298.33	7.21	22.0
1.8	1.9245	0.7460	0.01864	28.87	293.04	7.30	22.7
2.0	2.0670	0.6789	0.02127	29.62	287.73	7.39	23.5
2.2	2.1961	0.6127	0.02407	30.54	282.37	7.49	24.3
2.4	2.3121	0.5473	0.02707	31.67	276.92	7.59	25.2
19.4	2.4699	2.5986	0.54533	30.64	659.74	38.99	101.0
19.6	3.0189	2.8938	0.56393	30.53	683.91	39.87	102.8
19.8	3.6286	3.2060	0.58278	30.43	708.15	40.78	104.7

METHANE ISOTHERM AT T = 170. K (continued)

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	$\mu\text{Pa}\cdot\text{s}$	mW/(m·K)
20.0	4.3024	3.5353	0.60186	30.36	732.43	41.72	106.6
20.2	5.0439	3.8823	0.62116	30.30	756.76	42.69	108.5
20.4	5.8566	4.2472	0.64068	30.26	781.12	43.69	110.5
20.6	6.7440	4.6302	0.66040	30.23	805.51	44.72	112.6
20.8	7.7099	5.0318	0.68031	30.22	829.92	45.79	114.7
21.0	8.7580	5.4524	0.70040	30.22	854.34	46.90	116.8
21.2	9.8921	5.8921	0.72066	30.24	878.77	48.05	119.1
21.4	11.1161	6.3515	0.74109	30.26	903.22	49.24	121.3
21.6	12.4340	6.8308	0.76168	30.30	927.69	50.48	123.6
21.8	13.8498	7.3306	0.78242	30.35	952.18	51.77	126.0
22.0	15.3677	7.8512	0.80332	30.41	976.69	53.11	128.5
22.2	16.9917	8.3930	0.82437	30.48	1001.25	54.51	131.0
22.4	18.7263	8.9566	0.84557	30.56	1025.85	55.97	133.5
22.6	20.5758	9.5423	0.86693	30.65	1050.50	57.50	136.2
22.8	22.5448	10.1508	0.88843	30.74	1075.22	59.11	138.8
23.0	24.6377	10.7825	0.91010	30.84	1100.02	60.79	141.6
23.2	26.8594	11.4381	0.93192	30.95	1124.91	62.56	144.4
23.4	29.2146	12.1179	0.95392	31.06	1149.90	64.43	147.3
23.6	31.7082	12.8228	0.97608	31.18	1175.00	66.41	150.3
23.8	34.3454	13.5532	0.99842	31.30	1200.24	68.51	153.3
24.0	37.1312	14.3098	1.02095	31.43	1225.61	70.74	156.5
24.2	40.0711	15.0932	1.04367	31.56	1251.14	73.11	159.7
24.4	43.1703	15.9041	1.06659	31.69	1276.84	75.65	162.9
24.6	46.4346	16.7432	1.08973	31.82	1302.71	78.38	166.3
24.8	49.8695	17.6112	1.11308	31.96	1328.78	81.32	169.7
25.0	53.4810	18.5088	1.13667	32.10	1355.04	84.50	173.3
25.2	57.2751	19.4366	1.16049	32.24	1381.52	87.97	176.9
25.4	61.2578	20.3955	1.18456	32.38	1408.21	91.75	180.6
25.6	65.4354	21.3861	1.20889	32.52	1435.14	95.91	184.4
25.8	69.8144	22.4092	1.23349	32.66	1462.31	100.52	188.3
26.0	74.4013	23.4654	1.25837	32.81	1489.72	105.66	192.3
26.2	79.2028	24.5555	1.28353	32.95	1517.38	111.43	196.4
26.4	84.2258	25.6803	1.30900	33.09	1545.31	117.98	200.6
26.6	89.4773	26.8404	1.33478	33.23	1573.50	125.50	204.9
26.8	94.9644	28.0365	1.36087	33.37	1601.96	134.23	209.3

METHANE ISOTHERM AT T = 180. K

Second Virial Coefficient is -129.2 cm³/mol

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	μPa·s	mW/(m·K)
0.5	0.7008	1.3085	0.00440	25.85	339.48	7.16	20.3
1.0	1.3102	1.1309	0.00930	26.63	327.03	7.35	21.4
1.5	1.8335	0.9640	0.01470	27.46	315.15	7.56	22.7
2.0	2.2760	0.8075	0.02062	28.40	303.84	7.79	24.2
2.5	2.6428	0.6612	0.02712	29.57	293.01	8.04	26.1
3.0	2.9388	0.5246	0.03429	31.12	282.50	8.32	28.3
3.5	3.1690	0.3978	0.04225	33.21	272.09	8.63	31.1
17.5	3.6359	1.3001	0.40692	31.24	524.61	31.97	87.4
18.0	4.3957	1.7522	0.44286	30.80	574.20	33.68	91.0
18.5	5.4019	2.2872	0.48087	30.48	625.55	35.51	94.8
19.0	6.6978	2.9121	0.52085	30.24	678.47	37.47	98.9
19.5	8.3299	3.6327	0.56263	30.10	732.65	39.58	103.2
20.0	10.3473	4.4543	0.60602	30.03	787.82	41.85	107.9
20.5	12.8020	5.3824	0.65086	30.04	843.79	44.31	112.9
21.0	15.7485	6.4228	0.69704	30.11	900.46	46.99	118.2
21.5	19.2445	7.5818	0.74447	30.25	957.79	49.93	123.9
22.0	23.3512	8.8662	0.79312	30.43	1015.84	53.18	129.9
22.5	28.1329	10.2836	0.84299	30.65	1074.67	56.81	136.3
23.0	33.6583	11.8422	0.89410	30.90	1134.42	60.90	143.1
23.5	40.0002	13.5511	0.94654	31.18	1195.21	65.58	150.4
24.0	47.2361	15.4199	1.00037	31.47	1257.19	71.00	158.1
24.5	55.4485	17.4590	1.05572	31.78	1320.50	77.43	166.3
25.0	64.7252	19.6791	1.11272	32.10	1385.29	85.21	175.1
25.5	75.1596	22.0914	1.17149	32.42	1451.66	94.95	184.4
26.0	86.8505	24.7074	1.23219	32.75	1519.74	107.63	194.3
26.5	99.9028	27.5383	1.29496	33.07	1589.59	125.03	204.8

METHANE ISOTHERM AT T = 190. K

Second Virial Coefficient is -116.4 cm³/mol

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	μPa·s	mW/(m·K)
0.5	0.7448	1.4011	0.00439	25.78	350.25	7.54	21.5
1.0	1.4029	1.2330	0.00922	26.44	339.06	7.73	22.6
1.5	1.9795	1.0755	0.01451	27.12	328.48	7.94	23.9
2.0	2.4802	0.9288	0.02024	27.84	318.57	8.18	25.4
2.5	2.9102	0.7929	0.02643	28.61	309.34	8.44	27.2

METHANE ISOTHERM AT T = 190. K (continued)

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	$\mu\text{Pa}\cdot\text{s}$	mW/(m·K)
3.0	3.2748	0.6676	0.03307	29.46	300.77	8.72	29.3
3.5	3.5795	0.5530	0.04017	30.42	292.81	9.03	31.8
4.0	3.8296	0.4491	0.04772	31.53	285.40	9.36	34.8
4.5	4.0304	0.3562	0.05571	32.80	278.47	9.72	38.5
5.0	4.1876	0.2743	0.06412	34.26	271.92	10.11	43.1
5.5	4.3066	0.2036	0.07286	35.89	265.70	10.52	48.8
6.0	4.3930	0.1441	0.08183	37.66	259.75	10.96	56.0
6.5	4.4525	0.0958	0.09088	39.53	254.04	11.43	65.3
7.0	4.4907	0.0584	0.09982	41.41	248.59	11.93	78.1
7.5	4.5127	0.0311	0.10844	43.20	243.41	12.46	97.1
12.5	4.5192	0.0270	0.18683	38.80	264.32	19.75	100.3
13.0	4.5413	0.0646	0.20194	37.08	284.79	20.72	85.1
13.5	4.5875	0.1242	0.21921	35.58	309.04	21.74	80.0
14.0	4.6699	0.2103	0.23833	34.34	336.24	22.81	78.0
14.5	4.8029	0.3272	0.25905	33.35	365.72	23.94	77.6
15.0	5.0030	0.4793	0.28125	32.56	397.16	25.13	78.2
15.5	5.2889	0.6715	0.30499	31.94	430.62	26.39	79.5
16.0	5.6822	0.9098	0.33045	31.43	466.31	27.73	81.3
16.5	6.2076	1.2012	0.35783	31.01	504.49	29.14	83.6
17.0	6.8935	1.5530	0.38728	30.66	545.26	30.64	86.3
17.5	7.7719	1.9725	0.41885	30.37	588.52	32.23	89.4
18.0	8.8784	2.4665	0.45250	30.15	634.03	33.93	92.7
18.5	10.2518	3.0412	0.48810	29.99	681.50	35.74	96.4
19.0	11.9340	3.7025	0.52552	29.90	730.62	37.68	100.4
19.5	13.9697	4.4563	0.56461	29.87	781.14	39.77	104.8
20.0	16.4066	5.3083	0.60526	29.90	832.87	42.03	109.4
20.5	19.2954	6.2646	0.64739	29.98	885.71	44.48	114.4
21.0	22.6897	7.3318	0.69092	30.10	939.61	47.15	119.7
21.5	26.6469	8.5169	0.73583	30.27	994.55	50.10	125.3
22.0	31.2276	9.8274	0.78212	30.47	1050.60	53.36	131.4
22.5	36.4965	11.2714	0.82982	30.70	1107.82	57.01	137.8
23.0	42.5227	12.8579	0.87897	30.95	1166.30	61.15	144.7
23.5	49.3797	14.5963	0.92966	31.22	1226.15	65.90	152.0
24.0	57.1460	16.4966	0.98198	31.50	1287.49	71.45	159.7
24.5	65.9051	18.5695	1.03604	31.79	1350.42	78.07	168.0
25.0	75.7461	20.8261	1.09197	32.08	1415.05	86.18	176.8
25.5	86.7637	23.2777	1.14988	32.38	1481.48	96.44	186.2
26.0	99.0582	25.9357	1.20993	32.67	1549.76	110.01	196.2

METHANE ISOTHERM AT T = 200. K

Second Virial Coefficient is -105.2 cm³/mol

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	μPa·s	mW/(m·K)
0.5	0.7886	1.4930	0.00437	25.75	360.61	7.91	22.6
1.0	1.4948	1.3336	0.00916	26.31	350.54	8.10	23.6
1.5	2.1239	1.1847	0.01436	26.89	341.12	8.32	24.7
2.0	2.6812	1.0465	0.01997	27.47	332.40	8.56	25.9
2.5	3.1721	0.9189	0.02598	28.07	324.41	8.83	27.3
3.0	3.6018	0.8018	0.03238	28.69	317.17	9.12	28.9
3.5	3.9757	0.6952	0.03915	29.33	310.66	9.43	30.7
4.0	4.2988	0.5990	0.04627	29.99	304.89	9.77	32.8
4.5	4.5764	0.5131	0.05372	30.68	299.84	10.13	35.1
5.0	4.8136	0.4374	0.06146	31.37	295.47	10.52	37.7
5.5	5.0154	0.3716	0.06945	32.08	291.76	10.93	40.6
6.0	5.1868	0.3154	0.07764	32.78	288.68	11.37	43.7
6.5	5.3323	0.2684	0.08598	33.46	286.22	11.85	47.1
7.0	5.4566	0.2300	0.09442	34.09	284.39	12.35	50.5
7.5	5.5637	0.1997	0.10292	34.64	283.21	12.88	54.0
12.5	6.4856	0.3070	0.20302	33.19	343.82	20.14	69.2
13.0	6.6563	0.3789	0.21779	32.68	361.51	21.10	70.0
13.5	6.8680	0.4716	0.23401	32.21	381.70	22.10	71.1
14.0	7.1322	0.5898	0.25173	31.79	404.44	23.17	72.5
14.5	7.4629	0.7386	0.27105	31.41	429.82	24.29	74.1
15.0	7.8768	0.9237	0.29204	31.06	457.92	25.47	76.0
15.5	8.3937	1.1514	0.31480	30.76	488.82	26.72	78.3
16.0	9.0363	1.4278	0.33942	30.49	522.50	28.04	80.7
16.5	9.8306	1.7591	0.36594	30.25	558.87	29.44	83.5
17.0	10.8056	2.1514	0.39437	30.06	597.75	30.93	86.5
17.5	11.9932	2.6105	0.42469	29.91	638.91	32.51	89.8
18.0	13.4282	3.1424	0.45682	29.80	682.12	34.19	93.4
18.5	15.1486	3.7528	0.49069	29.75	727.13	35.99	97.3
19.0	17.1951	4.4476	0.52621	29.74	773.77	37.92	101.4
19.5	19.6114	5.2330	0.56332	29.78	821.88	40.00	105.8
20.0	22.4442	6.1151	0.60195	29.87	871.37	42.25	110.5
20.5	25.7437	7.1006	0.64207	29.99	922.18	44.70	115.6
21.0	29.5632	8.1964	0.68366	30.14	974.29	47.37	120.9
21.5	33.9597	9.4101	0.72672	30.33	1027.73	50.32	126.6
22.0	38.9942	10.7497	0.77129	30.53	1082.54	53.61	132.7

METHANE ISOTHERM AT T = 200. K (continued)

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	$\mu\text{Pa}\cdot\text{s}$	mW/(m·K)
22.5	44.7318	12.2239	0.81740	30.76	1138.78	57.29	139.2
23.0	51.2421	13.8419	0.86512	31.00	1196.53	61.49	146.1
23.5	58.5993	15.6135	0.91454	31.26	1255.89	66.33	153.5
24.0	66.8830	17.5493	0.96576	31.52	1316.95	72.02	161.3
24.5	76.1777	19.6600	1.01889	31.78	1379.78	78.87	169.6
25.0	86.5740	21.9569	1.07405	32.05	1444.49	87.33	178.5
25.5	98.1676	24.4515	1.13137	32.32	1511.13	98.16	188.0

METHANE ISOTHERM AT T = 210. K

Second Virial Coefficient is -95.5 cm³/mol

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	$\mu\text{Pa}\cdot\text{s}$	mW/(m·K)
0.5	0.8322	1.5844	0.00436	25.77	370.59	8.28	23.7
1.0	1.5861	1.4330	0.00911	26.25	361.53	8.48	24.7
1.5	2.2669	1.2920	0.01425	26.73	353.14	8.70	25.7
2.0	2.8799	1.1615	0.01976	27.22	345.48	8.94	26.9
2.5	3.4302	1.0415	0.02565	27.72	338.56	9.21	28.2
3.0	3.9231	0.9317	0.03189	28.21	332.41	9.50	29.6
3.5	4.3636	0.8321	0.03847	28.71	327.04	9.82	31.2
4.0	4.7568	0.7424	0.04538	29.20	322.45	10.16	33.0
4.5	5.1076	0.6625	0.05260	29.69	318.63	10.52	34.9
5.0	5.4208	0.5920	0.06009	30.16	315.59	10.92	37.0
5.5	5.7012	0.5308	0.06784	30.60	313.30	11.33	39.3
6.0	5.9532	0.4786	0.07582	31.02	311.78	11.78	41.7
6.5	6.1812	0.4349	0.08401	31.40	311.03	12.25	44.1
7.0	6.3895	0.3995	0.09240	31.74	311.06	12.75	46.6
7.5	6.5820	0.3718	0.10099	32.02	311.92	13.28	49.1
12.5	8.5466	0.5920	0.20845	31.51	390.43	20.52	66.7
13.0	8.8662	0.6897	0.22348	31.26	408.35	21.47	68.2
13.5	9.2402	0.8106	0.23981	31.01	428.63	22.47	69.9
14.0	9.6814	0.9590	0.25755	30.77	451.38	23.52	71.8
14.5	10.2047	1.1400	0.27680	30.54	476.70	24.64	73.9
15.0	10.8277	1.3590	0.29766	30.33	504.65	25.81	76.1
15.5	11.5709	1.6218	0.32019	30.14	535.20	27.05	78.6
16.0	12.4578	1.9341	0.34441	29.97	568.27	28.36	81.3
16.5	13.5143	2.3016	0.37033	29.83	603.72	29.75	84.2
17.0	14.7694	2.7295	0.39794	29.73	641.39	31.23	87.4

METHANE ISOTHERM AT T = 210. K (continued)

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	$\mu\text{Pa}\cdot\text{s}$	mW/(m·K)
17.5	16.2548	3.2235	0.42722	29.67	681.10	32.79	90.8
18.0	18.0049	3.7892	0.45813	29.64	722.69	34.47	94.4
18.5	20.0569	4.4322	0.49063	29.65	766.02	36.26	98.3
19.0	22.4510	5.1586	0.52469	29.70	810.98	38.18	102.5
19.5	25.2304	5.9746	0.56028	29.78	857.49	40.26	107.0
20.0	28.4416	6.8868	0.59738	29.89	905.50	42.50	111.7
20.5	32.1343	7.9021	0.63599	30.04	954.99	44.95	116.8
21.0	36.3621	9.0279	0.67612	30.20	1005.97	47.63	122.2
21.5	41.1820	10.2722	0.71780	30.39	1058.46	50.60	128.0
22.0	46.6554	11.6432	0.76107	30.60	1112.52	53.91	134.1
22.5	52.8479	13.1501	0.80599	30.82	1168.21	57.64	140.6
23.0	59.8297	14.8025	0.85264	31.05	1225.59	61.91	147.6
23.5	67.6762	16.6104	0.90112	31.29	1284.74	66.85	155.0
24.0	76.4678	18.5845	0.95152	31.53	1345.75	72.70	162.8
24.5	86.2903	20.7360	1.00397	31.77	1408.68	79.78	171.2
25.0	97.2352	23.0763	1.05859	32.01	1473.62	88.62	180.2

METHANE ISOTHERM AT T = 220. K

Second Virial Coefficient is -86.8 cm³/mol

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	$\mu\text{Pa}\cdot\text{s}$	mW/(m·K)
0.5	0.8757	1.6753	0.00435	25.83	380.20	8.64	24.9
1.0	1.6770	1.5315	0.00907	26.24	372.06	8.84	25.9
1.5	2.4089	1.3979	0.01415	26.65	364.61	9.07	26.9
2.0	3.0766	1.2747	0.01959	27.07	357.89	9.32	28.0
2.5	3.6853	1.1617	0.02538	27.48	351.93	9.59	29.2
3.0	4.2400	1.0587	0.03151	27.89	346.74	9.88	30.6
3.5	4.7457	0.9657	0.03796	28.30	342.35	10.20	32.0
4.0	5.2072	0.8822	0.04473	28.70	338.75	10.55	33.6
4.5	5.6294	0.8081	0.05180	29.08	335.94	10.91	35.4
5.0	6.0168	0.7431	0.05916	29.45	333.93	11.31	37.3
5.5	6.3740	0.6870	0.06678	29.79	332.72	11.73	39.2
6.0	6.7053	0.6396	0.07467	30.10	332.31	12.17	41.3
6.5	7.0150	0.6005	0.08282	30.38	332.73	12.65	43.5
7.0	7.3072	0.5697	0.09122	30.62	334.00	13.15	45.6
7.5	7.5860	0.5469	0.09988	30.82	336.16	13.68	47.8

METHANE ISOTHERM AT T = 220. K (continued)

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	$\mu\text{Pa}\cdot\text{s}$	mW/(m·K)
12.5	10.6465	0.8844	0.21129	30.66	427.69	20.89	66.2
13.0	11.1181	1.0058	0.22665	30.50	446.50	21.83	68.0
13.5	11.6566	1.1528	0.24321	30.34	467.52	22.83	70.0
14.0	12.2759	1.3296	0.26109	30.18	490.84	23.87	72.1
14.5	12.9919	1.5406	0.28037	30.02	516.51	24.98	74.3
15.0	13.8230	1.7909	0.30111	29.89	544.54	26.15	76.7
15.5	14.7902	2.0858	0.32337	29.77	574.90	27.38	79.3
16.0	15.9171	2.4304	0.34715	29.67	607.49	28.68	82.1
16.5	17.2298	2.8301	0.37248	29.61	642.22	30.06	85.1
17.0	18.7572	3.2901	0.39934	29.57	678.97	31.53	88.3
17.5	20.5308	3.8157	0.42773	29.56	717.62	33.09	91.8
18.0	22.5848	4.4125	0.45763	29.58	758.06	34.76	95.5
18.5	24.9562	5.0862	0.48904	29.64	800.23	36.54	99.5
19.0	27.6849	5.8430	0.52195	29.72	844.06	38.46	103.7
19.5	30.8141	6.6892	0.55636	29.83	889.51	40.53	108.2
20.0	34.3901	7.6316	0.59229	29.96	936.56	42.78	113.0
20.5	38.4629	8.6775	0.62974	30.11	985.21	45.23	118.1
21.0	43.0861	9.8345	0.66875	30.28	1035.49	47.93	123.5
21.5	48.3173	11.1107	0.70936	30.47	1087.42	50.91	129.3
22.0	54.2182	12.5150	0.75164	30.67	1141.06	54.26	135.4
22.5	60.8552	14.0566	0.79566	30.88	1196.47	58.04	142.0
23.0	68.2994	15.7454	0.84150	31.09	1253.72	62.37	149.0
23.5	76.6269	17.5919	0.88926	31.31	1312.87	67.43	156.4
24.0	85.9193	19.6068	0.93906	31.54	1373.99	73.45	164.3
24.5	96.2637	21.8015	0.99100	31.76	1437.15	80.79	172.8

METHANE ISOTHERM AT T = 240. K

Second Virial Coefficient is -72.3 cm³/mol

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	$\mu\text{Pa}\cdot\text{s}$	mW/(m·K)
0.5	0.9625	1.8560	0.00433	26.07	398.45	9.35	27.3
1.0	1.8577	1.7263	0.00900	26.38	391.90	9.56	28.2
1.5	2.6904	1.6065	0.01401	26.69	386.06	9.80	29.2
2.0	3.4659	1.4968	0.01935	27.00	380.97	10.05	30.3
2.5	4.1889	1.3969	0.02500	27.30	376.64	10.33	31.4

METHANE ISOTHERM AT T = 240. K (continued)

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	$\mu\text{Pa}\cdot\text{s}$	mW/(m·K)
3.0	4.8644	1.3068	0.03097	27.60	373.11	10.63	32.7
3.5	5.4972	1.2262	0.03724	27.89	370.37	10.95	34.0
4.0	6.0921	1.1549	0.04382	28.16	368.44	11.30	35.5
4.5	6.6537	1.0927	0.05071	28.43	367.32	11.67	37.0
5.0	7.1863	1.0393	0.05789	28.68	367.02	12.07	38.7
5.5	7.6944	0.9946	0.06537	28.91	367.55	12.49	40.4
6.0	8.1823	0.9585	0.07315	29.12	368.93	12.94	42.2
6.5	8.6543	0.9310	0.08124	29.31	371.19	13.41	44.1
7.0	9.1147	0.9122	0.08966	29.47	374.35	13.92	46.0
7.5	9.5679	0.9022	0.09842	29.61	378.47	14.45	47.9
12.5	14.9054	1.4863	0.21412	29.76	490.03	21.61	67.0
13.0	15.6885	1.6508	0.22984	29.70	510.24	22.54	69.0
13.5	16.5610	1.8448	0.24663	29.64	532.38	23.53	71.2
14.0	17.5387	2.0717	0.26454	29.59	556.49	24.56	73.5
14.5	18.6389	2.3356	0.28365	29.54	582.57	25.66	75.9
15.0	19.8812	2.6408	0.30400	29.51	610.62	26.81	78.5
15.5	21.2873	2.9917	0.32563	29.49	640.62	28.03	81.2
16.0	22.8813	3.3931	0.34858	29.49	672.53	29.32	84.1
16.5	24.6897	3.8500	0.37286	29.51	706.31	30.69	87.2
17.0	26.7415	4.3675	0.39849	29.55	741.92	32.14	90.5
17.5	29.0682	4.9509	0.42550	29.60	779.32	33.69	94.1
18.0	31.7042	5.6057	0.45391	29.68	818.48	35.35	97.8
18.5	34.6868	6.3379	0.48373	29.78	859.37	37.13	101.8
19.0	38.0560	7.1537	0.51499	29.89	901.98	39.04	106.1
19.5	41.8555	8.0598	0.54773	30.02	946.32	41.11	110.7
20.0	46.1321	9.0634	0.58198	30.17	992.41	43.37	115.5
20.5	50.9364	10.1720	0.61781	30.32	1040.27	45.84	120.6
21.0	56.3229	11.3937	0.65525	30.49	1089.93	48.57	126.1
21.5	62.3504	12.7373	0.69439	30.66	1141.45	51.61	132.0
22.0	69.0821	14.2120	0.73529	30.84	1194.88	55.02	138.2
22.5	76.5859	15.8275	0.77806	31.02	1250.27	58.92	144.8
23.0	84.9348	17.5942	0.82279	31.21	1307.69	63.42	151.8
23.5	94.2071	19.5229	0.86958	31.40	1367.21	68.71	159.3

METHANE ISOTHERM AT T = 260. K

Second Virial Coefficient is -60.4 cm³/mol

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	μPa·s	mW/(m·K)
0.5	1.0490	2.0357	0.00432	26.45	415.48	10.05	29.8
1.0	2.0373	1.9190	0.00896	26.71	410.29	10.26	30.7
1.5	2.9696	1.8120	0.01391	26.96	405.80	10.50	31.7
2.0	3.8510	1.7148	0.01917	27.20	402.06	10.76	32.7
2.5	4.6861	1.6273	0.02474	27.43	399.10	11.04	33.8
3.0	5.4798	1.5494	0.03060	27.66	396.92	11.35	35.0
3.5	6.2370	1.4809	0.03676	27.87	395.55	11.67	36.3
4.0	6.9623	1.4217	0.04323	28.08	394.99	12.02	37.7
4.5	7.6602	1.3715	0.04999	28.27	395.26	12.40	39.1
5.0	8.3353	1.3303	0.05706	28.46	396.36	12.80	40.7
5.5	8.9920	1.2981	0.06445	28.63	398.32	13.22	42.3
6.0	9.6348	1.2748	0.07217	28.78	401.14	13.67	44.0
6.5	10.2683	1.2606	0.08022	28.92	404.88	14.15	45.7
7.0	10.8970	1.2559	0.08863	29.04	409.55	14.65	47.5
7.5	11.5258	1.2610	0.09742	29.15	415.21	15.18	49.3
12.5	19.1971	2.0979	0.21481	29.50	541.30	22.30	68.6
13.0	20.2956	2.3013	0.23059	29.50	562.39	23.23	70.8
13.5	21.5037	2.5367	0.24732	29.50	585.22	24.20	73.1
14.0	22.8382	2.8075	0.26507	29.51	609.80	25.23	75.4
14.5	24.3177	3.1173	0.28389	29.53	636.15	26.31	77.9
15.0	25.9627	3.4701	0.30381	29.55	664.27	27.46	80.6
15.5	27.7957	3.8702	0.32488	29.59	694.16	28.67	83.4
16.0	29.8415	4.3221	0.34715	29.64	725.81	29.95	86.4
16.5	32.1272	4.8306	0.37064	29.70	759.23	31.31	89.5
17.0	34.6824	5.4007	0.39539	29.78	794.40	32.75	92.9
17.5	37.5391	6.0379	0.42144	29.86	831.32	34.30	96.5
18.0	40.7324	6.7477	0.44882	29.96	869.99	35.95	100.3
18.5	44.3000	7.5363	0.47758	30.07	910.42	37.72	104.3
19.0	48.2829	8.4102	0.50775	30.20	952.64	39.64	108.6
19.5	52.7255	9.3761	0.53939	30.33	996.66	41.72	113.2
20.0	57.6756	10.4417	0.57257	30.47	1042.51	43.99	118.1
20.5	63.1851	11.6148	0.60734	30.61	1090.25	46.49	123.3
21.0	69.3098	12.9040	0.64378	30.76	1139.92	49.26	128.8
21.5	76.1099	14.3182	0.68197	30.92	1191.56	52.35	134.7
22.0	83.6504	15.8671	0.72201	31.08	1245.25	55.85	140.9
22.5	92.0011	17.5608	0.76399	31.24	1301.04	59.86	147.6

METHANE ISOTHERM AT T = 280. K

Second Virial Coefficient is $-50.6 \text{ cm}^3/\text{mol}$

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm^3	MPa	$\text{MPa}\cdot\text{dm}^3/\text{mol}$	MPa/K	$\text{J}/(\text{mol}\cdot\text{K})$	m/s	$\mu\text{Pa}\cdot\text{s}$	$\text{mW}/(\text{m}\cdot\text{K})$
0.5	1.1353	2.2146	0.00431	26.98	431.42	10.72	32.4
1.0	2.2161	2.1103	0.00893	27.20	427.39	10.94	33.3
1.5	3.2471	2.0154	0.01384	27.40	424.07	11.19	34.2
2.0	4.2331	1.9301	0.01905	27.60	421.49	11.45	35.3
2.5	5.1788	1.8544	0.02455	27.79	419.68	11.73	36.3
3.0	6.0891	1.7883	0.03034	27.97	418.65	12.04	37.5
3.5	6.9687	1.7317	0.03642	28.15	418.44	12.37	38.7
4.0	7.8223	1.6845	0.04280	28.31	419.04	12.73	40.1
4.5	8.6547	1.6466	0.04949	28.46	420.47	13.10	41.5
5.0	9.4705	1.6180	0.05648	28.61	422.74	13.50	43.0
5.5	10.2742	1.5987	0.06381	28.74	425.88	13.93	44.5
6.0	11.0708	1.5890	0.07146	28.87	429.91	14.38	46.1
6.5	11.8649	1.5892	0.07948	28.98	434.86	14.86	47.8
7.0	12.6617	1.5996	0.08787	29.08	440.77	15.36	49.5
7.5	13.4663	1.6209	0.09666	29.17	447.69	15.89	51.3
12.5	23.4903	2.7098	0.21439	29.65	584.85	22.97	70.7
13.0	24.9037	2.9490	0.23008	29.69	606.61	23.89	72.9
13.5	26.4450	3.2224	0.24666	29.72	629.98	24.86	75.3
14.0	28.1323	3.5331	0.26418	29.77	654.99	25.88	77.7
14.5	29.9850	3.8848	0.28269	29.82	681.65	26.95	80.2
15.0	32.0246	4.2813	0.30224	29.87	709.98	28.09	82.9
15.5	34.2744	4.7266	0.32286	29.94	739.98	29.29	85.8
16.0	36.7601	5.2254	0.34460	30.01	771.69	30.56	88.8
16.5	39.5094	5.7823	0.36750	30.09	805.10	31.92	92.0
17.0	42.5529	6.4024	0.39161	30.18	840.23	33.36	95.4
17.5	45.9233	7.0913	0.41697	30.28	877.10	34.90	99.0
18.0	49.6565	7.8546	0.44363	30.38	915.73	36.55	102.9
18.5	53.7914	8.6987	0.47165	30.49	956.15	38.32	106.9
19.0	58.3698	9.6302	0.50107	30.61	998.40	40.25	111.3
19.5	63.4374	10.6564	0.53196	30.74	1042.50	42.34	115.9
20.0	69.0432	11.7848	0.56440	30.87	1088.52	44.63	120.8
20.5	75.2406	13.0238	0.59847	31.00	1136.50	47.15	126.0
21.0	82.0869	14.3822	0.63423	31.14	1186.49	49.96	131.5
21.5	89.6442	15.8693	0.67180	31.28	1238.56	53.12	137.5
22.0	97.9794	17.4952	0.71126	31.41	1292.76	56.70	143.7

METHANE ISOTHERM AT T = 300. K

Second Virial Coefficient is $-42.4 \text{ cm}^3/\text{mol}$

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	μPa·s	mW/(m·K)
0.5	1.2214	2.3929	0.00430	27.65	446.40	11.38	35.1
1.0	2.3944	2.3003	0.00890	27.83	443.39	11.61	36.0
1.5	3.5233	2.2170	0.01378	28.01	441.08	11.85	36.9
2.0	4.6130	2.1433	0.01895	28.18	439.50	12.12	37.9
2.5	5.6682	2.0791	0.02440	28.34	438.69	12.41	39.0
3.0	6.6937	2.0246	0.03013	28.49	438.66	12.72	40.2
3.5	7.6944	1.9797	0.03616	28.64	439.43	13.05	41.4
4.0	8.6750	1.9445	0.04248	28.77	441.03	13.41	42.7
4.5	9.6405	1.9189	0.04911	28.90	443.45	13.79	44.0
5.0	10.5956	1.9031	0.05605	29.02	446.73	14.19	45.5
5.5	11.5452	1.8972	0.06331	29.14	450.89	14.62	47.0
6.0	12.4945	1.9015	0.07092	29.24	455.94	15.07	48.6
6.5	13.4485	1.9164	0.07890	29.34	461.92	15.55	50.2
7.0	14.4128	1.9426	0.08726	29.43	468.87	16.05	51.9
7.5	15.3931	1.9807	0.09603	29.51	476.82	16.58	53.6
12.5	27.7692	3.3176	0.21345	30.07	622.98	23.62	73.1
13.0	29.4950	3.5909	0.22900	30.13	645.31	24.54	75.3
13.5	31.3662	3.9001	0.24540	30.18	669.18	25.50	77.7
14.0	33.4016	4.2485	0.26269	30.24	694.63	26.51	80.2
14.5	35.6218	4.6396	0.28093	30.31	721.66	27.58	82.8
15.0	38.0489	5.0772	0.30015	30.38	750.30	28.71	85.5
15.5	40.7074	5.5655	0.32041	30.45	780.57	29.90	88.4
16.0	43.6236	6.1090	0.34174	30.54	812.50	31.17	91.4
16.5	46.8264	6.7125	0.36420	30.62	846.11	32.52	94.7
17.0	50.3470	7.3811	0.38783	30.72	881.44	33.95	98.1
17.5	54.2193	8.1205	0.41268	30.81	918.50	35.49	101.7
18.0	58.4802	8.9366	0.43882	30.92	957.34	37.14	105.6
18.5	63.1697	9.8357	0.46629	31.03	998.00	38.92	109.7
19.0	68.3310	10.8249	0.49518	31.14	1040.51	40.85	114.0
19.5	74.0108	11.9115	0.52555	31.25	1084.94	42.95	118.7
20.0	80.2600	13.1036	0.55747	31.37	1131.33	45.26	123.6
20.5	87.1334	14.4096	0.59104	31.49	1179.74	47.82	128.8
21.0	94.6902	15.8387	0.62634	31.61	1230.24	50.67	134.4

METHANE ISOTHERM AT T = 320. K

Second Virial Coefficient is -35.4 cm³/mol

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	μPa·s	mW/(m·K)
0.5	1.3075	2.5707	0.00430	28.43	460.53	12.03	38.0
1.0	2.5721	2.4895	0.00888	28.60	458.41	12.25	38.9
1.5	3.7985	2.4174	0.01373	28.75	457.00	12.50	39.8
2.0	4.9911	2.3549	0.01887	28.90	456.31	12.77	40.8
2.5	6.1549	2.3020	0.02428	29.04	456.37	13.06	41.8
3.0	7.2947	2.2589	0.02997	29.17	457.22	13.37	43.0
3.5	8.4154	2.2256	0.03595	29.30	458.87	13.71	44.2
4.0	9.5220	2.2023	0.04222	29.42	461.33	14.07	45.4
4.5	10.6194	2.1891	0.04880	29.53	464.63	14.45	46.8
5.0	11.7128	2.1862	0.05569	29.64	468.79	14.85	48.2
5.5	12.8074	2.1938	0.06291	29.74	473.82	15.28	49.7
6.0	13.9084	2.2123	0.07048	29.83	479.76	15.73	51.2
6.5	15.0216	2.2423	0.07842	29.92	486.63	16.21	52.8
7.0	16.1527	2.2844	0.08674	30.00	494.46	16.71	54.5
7.5	17.3081	2.3395	0.09548	30.08	503.31	17.24	56.2
12.5	32.0270	3.9202	0.21231	30.69	657.16	24.25	75.7
13.0	34.0621	4.2262	0.22770	30.75	680.03	25.16	77.9
13.5	36.2595	4.5698	0.24392	30.81	704.39	26.12	80.3
14.0	38.6387	4.9543	0.26101	30.88	730.28	27.12	82.8
14.5	41.2212	5.3833	0.27901	30.95	757.72	28.19	85.5
15.0	44.0301	5.8606	0.29796	31.03	786.74	29.31	88.2
15.5	47.0906	6.3905	0.31792	31.11	817.37	30.50	91.1
16.0	50.4301	6.9774	0.33893	31.19	849.63	31.76	94.2
16.5	54.0783	7.6264	0.36104	31.28	883.57	33.10	97.5
17.0	58.0677	8.3426	0.38430	31.37	919.21	34.54	100.9
17.5	62.4331	9.1318	0.40877	31.46	956.61	36.07	104.6
18.0	67.2127	10.0002	0.43452	31.56	995.80	37.72	108.4
18.5	72.4476	10.9543	0.46160	31.66	1036.83	39.51	112.6
19.0	78.1825	12.0013	0.49010	31.77	1079.75	41.45	116.9
19.5	84.4656	13.1488	0.52008	31.87	1124.63	43.56	121.6
20.0	91.3494	14.4052	0.55164	31.98	1171.51	45.89	126.5
20.5	98.8904	15.7792	0.58485	32.08	1220.48	48.47	131.8

METHANE ISOTHERM AT T = 340. K

Second Virial Coefficient is -29.4 cm³/mol

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	μPa·s	mW/(m·K)
0.5	1.3934	2.7480	0.00429	29.32	473.92	12.65	41.0
1.0	2.7495	2.6778	0.00886	29.47	472.61	12.88	41.8
1.5	4.0727	2.6168	0.01369	29.61	471.99	13.13	42.8
2.0	5.3678	2.5652	0.01880	29.74	472.10	13.41	43.7
2.5	6.6395	2.5233	0.02418	29.87	472.95	13.70	44.8
3.0	7.8928	2.4915	0.02984	29.99	474.58	14.01	45.9
3.5	9.1327	2.4698	0.03578	30.10	477.00	14.35	47.1
4.0	10.3643	2.4584	0.04201	30.21	480.24	14.71	48.3
4.5	11.5928	2.4575	0.04855	30.31	484.32	15.09	49.7
5.0	12.8236	2.4675	0.05540	30.40	489.25	15.50	51.1
5.5	14.0622	2.4886	0.06258	30.49	495.07	15.92	52.5
6.0	15.3142	2.5215	0.07011	30.58	501.79	16.38	54.0
6.5	16.5857	2.5666	0.07800	30.66	509.44	16.85	55.6
7.0	17.8830	2.6248	0.08629	30.74	518.06	17.36	57.2
7.5	19.2128	2.6969	0.09499	30.81	527.69	17.89	58.9
12.5	36.2612	4.5172	0.21111	31.44	688.36	24.86	78.4
13.0	38.6027	4.8551	0.22636	31.51	711.75	25.77	80.8
13.5	41.1228	5.2322	0.24242	31.57	736.60	26.72	83.2
14.0	43.8420	5.6518	0.25932	31.64	762.95	27.72	85.7
14.5	46.7823	6.1177	0.27712	31.72	790.82	28.78	88.3
15.0	49.9680	6.6337	0.29585	31.79	820.25	29.89	91.1
15.5	53.4251	7.2042	0.31557	31.87	851.28	31.08	94.0
16.0	57.1821	7.8339	0.33631	31.95	883.94	32.34	97.1
16.5	61.2697	8.5276	0.35815	32.04	918.28	33.68	100.4
17.0	65.7213	9.2909	0.38113	32.12	954.32	35.11	103.9
17.5	70.5732	10.1297	0.40531	32.21	992.13	36.64	107.5
18.0	75.8646	11.0501	0.43076	32.30	1031.75	38.30	111.4
18.5	81.6381	12.0592	0.45755	32.40	1073.24	40.08	115.6
19.0	87.9398	13.1643	0.48575	32.49	1116.65	42.03	120.0
19.5	94.8197	14.3732	0.51545	32.58	1162.06	44.16	124.6

METHANE ISOTHERM AT $T = 360. \text{ K}$ Second Virial Coefficient is $-24.2 \text{ cm}^3/\text{mol}$

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm^3	MPa	$\text{MPa}\cdot\text{dm}^3/\text{mol}$	MPa/K	$\text{J}/(\text{mol}\cdot\text{K})$	m/s	$\mu\text{Pa}\cdot\text{s}$	$\text{mW}/(\text{m}\cdot\text{K})$
0.5	1.4792	2.9251	0.00429	30.29	486.67	13.26	44.1
1.0	2.9265	2.8655	0.00884	30.42	486.10	13.50	45.0
1.5	4.3463	2.8152	0.01366	30.55	486.21	13.75	45.9
2.0	5.7433	2.7744	0.01875	30.67	487.03	14.02	46.9
2.5	7.1223	2.7435	0.02410	30.79	488.59	14.32	47.9
3.0	8.4884	2.7227	0.02972	30.90	490.93	14.64	49.0
3.5	9.8468	2.7125	0.03563	31.00	494.06	14.97	50.2
4.0	11.2027	2.7129	0.04183	31.10	498.00	15.33	51.4
4.5	12.5615	2.7244	0.04833	31.19	502.78	15.72	52.7
5.0	13.9289	2.7472	0.05514	31.28	508.41	16.12	54.1
5.5	15.3107	2.7820	0.06228	31.37	514.93	16.55	55.5
6.0	16.7130	2.8291	0.06978	31.45	522.35	17.00	57.0
6.5	18.1420	2.8893	0.07764	31.52	530.71	17.48	58.6
7.0	19.6047	2.9636	0.08588	31.59	540.04	17.98	60.2
7.5	21.1081	3.0527	0.09454	31.66	550.36	18.51	61.9
12.5	40.4717	5.1090	0.20995	32.30	717.26	25.46	81.4
13.0	43.1168	5.4781	0.22507	32.36	741.14	26.36	83.7
13.5	45.9566	5.8880	0.24098	32.43	766.48	27.30	86.2
14.0	49.0122	6.3421	0.25772	32.50	793.29	28.30	88.7
14.5	52.3067	6.8443	0.27535	32.57	821.61	29.35	91.4
15.0	55.8652	7.3984	0.29389	32.65	851.49	30.47	94.2
15.5	59.7145	8.0090	0.31341	32.72	882.95	31.65	97.1
16.0	63.8843	8.6808	0.33395	32.80	916.05	32.90	100.2
16.5	68.4064	9.4189	0.35557	32.88	950.82	34.24	103.5
17.0	73.3152	10.2290	0.37832	32.96	987.31	35.67	107.0
17.5	78.6484	11.1171	0.40228	33.04	1025.58	37.20	110.7
18.0	84.4464	12.0897	0.42750	33.13	1065.69	38.86	114.6
18.5	90.7533	13.1539	0.45406	33.21	1107.68	40.65	118.7
19.0	97.6168	14.3172	0.48205	33.29	1151.63	42.60	123.1

METHANE ISOTHERM AT $T = 380. \text{ K}$ Second Virial Coefficient is $-19.6 \text{ cm}^3/\text{mol}$

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm^3	MPa	$\text{MPa}\cdot\text{dm}^3/\text{mol}$	MPa/K	$\text{J}/(\text{mol}\cdot\text{K})$	m/s	$\mu\text{Pa}\cdot\text{s}$	$\text{mW}/(\text{m}\cdot\text{K})$
0.5	1.5650	3.1018	0.00429	31.33	498.90	13.86	47.4
1.0	3.1032	3.0527	0.00883	31.45	499.00	14.10	48.2
1.5	4.6192	3.0128	0.01363	31.57	499.77	14.35	49.1
2.0	6.1177	2.9826	0.01870	31.68	501.24	14.63	50.1
2.5	7.6035	2.9625	0.02402	31.79	503.46	14.92	51.1
3.0	9.0819	2.9528	0.02962	31.89	506.44	15.24	52.2
3.5	10.5581	2.9539	0.03550	31.99	510.21	15.58	53.4
4.0	12.0376	2.9661	0.04167	32.08	514.80	15.94	54.6
4.5	13.5261	2.9899	0.04814	32.16	520.22	16.33	55.9
5.0	15.0295	3.0256	0.05492	32.25	526.50	16.73	57.3
5.5	16.5538	3.0738	0.06203	32.33	533.66	17.16	58.7
6.0	18.1055	3.1353	0.06948	32.40	541.72	17.61	60.2
6.5	19.6914	3.2106	0.07730	32.47	550.72	18.09	61.7
7.0	21.3186	3.3008	0.08552	32.54	560.69	18.59	63.3
7.5	22.9948	3.4069	0.09414	32.61	571.66	19.12	65.0
12.5	44.6595	5.6962	0.20885	33.23	744.33	26.04	84.5
13.0	47.6059	6.0960	0.22385	33.30	768.70	26.93	86.9
13.5	50.7626	6.5382	0.23964	33.36	794.51	27.87	89.3
14.0	54.1517	7.0263	0.25625	33.43	821.79	28.87	91.9
14.5	57.7972	7.5642	0.27373	33.50	850.57	29.92	94.5
15.0	61.7250	8.1561	0.29212	33.57	880.90	31.02	97.4
15.5	65.9630	8.8064	0.31147	33.64	912.82	32.20	100.3
16.0	70.5419	9.5200	0.33185	33.71	946.37	33.45	103.4
16.5	75.4945	10.3023	0.35329	33.79	981.61	34.79	106.7
17.0	80.8566	11.1591	0.37587	33.86	1018.58	36.22	110.2
17.5	86.6670	12.0965	0.39965	33.94	1057.34	37.75	113.9
18.0	92.9676	13.1212	0.42469	34.02	1097.96	39.41	117.8
18.5	99.8040	14.2407	0.45108	34.09	1140.49	41.20	122.0

METHANE ISOTHERM AT $T = 400. \text{ K}$ Second Virial Coefficient is $-15.5 \text{ cm}^3/\text{mol}$

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm^3	MPa	$\text{MPa}\cdot\text{dm}^3/\text{mol}$	MPa/K	$\text{J}/(\text{mol}\cdot\text{K})$	m/s	$\mu\text{Pa}\cdot\text{s}$	$\text{mW}/(\text{m}\cdot\text{K})$
0.5	1.6507	3.2783	0.00428	32.42	510.66	14.44	50.8
1.0	3.2797	3.2394	0.00882	32.53	511.38	14.68	51.6
1.5	4.8916	3.2098	0.01361	32.64	512.76	14.94	52.5
2.0	6.4912	3.1900	0.01865	32.75	514.85	15.22	53.5
2.5	8.0834	3.1805	0.02396	32.85	517.67	15.51	54.5
3.0	9.6735	3.1818	0.02954	32.94	521.24	15.83	55.6
3.5	11.2670	3.1941	0.03539	33.03	525.61	16.17	56.7
4.0	12.8696	3.2181	0.04153	33.12	530.79	16.54	58.0
4.5	14.4871	3.2541	0.04797	33.20	536.81	16.92	59.3
5.0	16.1257	3.3027	0.05472	33.28	543.68	17.33	60.6
5.5	17.7919	3.3644	0.06179	33.35	551.43	17.76	62.0
6.0	19.4925	3.4400	0.06922	33.42	560.10	18.21	63.5
6.5	21.2344	3.5304	0.07701	33.49	569.69	18.68	65.0
7.0	23.0255	3.6365	0.08518	33.56	580.25	19.18	66.6
7.5	24.8738	3.7594	0.09376	33.62	591.81	19.71	68.3
12.5	48.8263	6.2791	0.20784	34.23	769.92	26.60	87.8
13.0	52.0716	6.7094	0.22274	34.29	794.78	27.49	90.2
13.5	55.5430	7.1836	0.23842	34.35	821.06	28.43	92.6
14.0	59.2631	7.7054	0.25491	34.42	848.80	29.42	95.2
14.5	63.2569	8.2787	0.27227	34.48	878.05	30.46	97.9
15.0	67.5512	8.9080	0.29053	34.55	908.84	31.57	100.7
15.5	72.1750	9.5977	0.30975	34.62	941.23	32.74	103.6
16.0	77.1598	10.3531	0.32999	34.68	975.25	33.99	106.8
16.5	82.5399	11.1794	0.35129	34.75	1010.97	35.32	110.1
17.0	88.3521	12.0828	0.37373	34.82	1048.44	36.75	113.6
17.5	94.6366	13.0695	0.39737	34.89	1087.71	38.29	117.3

METHANE ISOTHERM AT T = 420. K

Second Virial Coefficient is $-11.9 \text{ cm}^3/\text{mol}$

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm^3	MPa	$\text{MPa}\cdot\text{dm}^3/\text{mol}$	MPa/K	$\text{J}/(\text{mol}\cdot\text{K})$	m/s	$\mu\text{Pa}\cdot\text{s}$	$\text{mW}/(\text{m}\cdot\text{K})$
0.5	1.7363	3.4545	0.00428	33.54	522.04		54.3
1.0	3.4560	3.4257	0.00881	33.65	523.33		55.1
1.5	5.1635	3.4062	0.01358	33.75	525.29		56.0
2.0	6.8638	3.3967	0.01861	33.85	527.94		57.0
2.5	8.5620	3.3978	0.02390	33.94	531.32		58.0
3.0	10.2634	3.4098	0.02946	34.03	535.46		59.1
3.5	11.9737	3.4334	0.03529	34.12	540.38		60.2
4.0	13.6988	3.4690	0.04140	34.20	546.12		61.4
4.5	15.4448	3.5172	0.04781	34.28	552.69		62.7
5.0	17.2182	3.5785	0.05453	34.35	560.11		64.1
5.5	19.0257	3.6537	0.06158	34.42	568.42		65.5
6.0	20.8744	3.7435	0.06898	34.49	577.64		66.9
6.5	22.7718	3.8489	0.07673	34.55	587.79		68.4
7.0	24.7260	3.9708	0.08487	34.62	598.91		70.0
7.5	26.7456	4.1105	0.09342	34.68	611.02		71.7
12.5	52.9736	6.8585	0.20691	35.26	794.32		91.2
13.0	56.5161	7.3188	0.22173	35.32	819.64		93.6
13.5	60.3001	7.8248	0.23731	35.38	846.39		96.0
14.0	64.3491	8.3800	0.25371	35.44	874.60		98.6
14.5	68.6890	8.9887	0.27096	35.50	904.32		101.3
15.0	73.3474	9.6551	0.28912	35.57	935.58		104.1
15.5	78.3545	10.3842	0.30823	35.63	968.43		107.1
16.0	83.7429	11.1812	0.32836	35.69	1002.94		110.2
16.5	89.5479	12.0515	0.34955	35.75	1039.15		113.6
17.0	95.8078	13.0015	0.37188	35.81	1077.13		117.1

METHANE ISOTHERM AT T = 450. K

Second Virial Coefficient is $-7.3 \text{ cm}^3/\text{mol}$

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm^3	MPa	$\text{MPa}\cdot\text{dm}^3/\text{mol}$	MPa/K	$\text{J}/(\text{mol}\cdot\text{K})$	m/s	$\mu\text{Pa}\cdot\text{s}$	$\text{mW}/(\text{m}\cdot\text{K})$
0.5	1.8646	3.7185	0.00428	35.26	538.49		59.7
1.0	3.7200	3.7043	0.00879	35.36	540.59		60.5
1.5	5.5706	3.6998	0.01355	35.46	543.33		61.4
2.0	7.4215	3.7055	0.01856	35.55	546.77		62.4
2.5	9.2779	3.7222	0.02383	35.63	550.93		63.4

METHANE ISOTHERM AT T = 450. K (continued)

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	μPa·s	mW/(m·K)
3.0	11.1456	3.7503	0.02935	35.71	555.85		64.5
3.5	13.0303	3.7906	0.03515	35.79	561.55		65.6
4.0	14.9383	3.8436	0.04123	35.87	568.05		66.8
4.5	16.8761	3.9099	0.04761	35.94	575.40		68.1
5.0	18.8506	3.9903	0.05429	36.01	583.60		69.4
5.5	20.8689	4.0856	0.06130	36.07	592.68		70.8
6.0	22.9388	4.1965	0.06866	36.14	602.68		72.3
6.5	25.0682	4.3242	0.07637	36.20	613.61		73.8
7.0	27.2660	4.4697	0.08446	36.26	625.50		75.3
7.5	29.5411	4.6343	0.09296	36.31	638.39		77.0
12.5	59.1623	7.7217	0.20569	36.86	829.08		96.5
13.0	63.1475	8.2269	0.22040	36.91	855.11		98.9
13.5	67.3972	8.7801	0.23587	36.97	882.55		101.4
14.0	71.9363	9.3852	0.25215	37.02	911.46		103.9
14.5	76.7918	10.0466	0.26928	37.08	941.87		106.6
15.0	81.9930	10.7687	0.28731	37.13	973.84		109.5
15.5	87.5715	11.5567	0.30629	37.19	1007.42		112.5
16.0	93.5616	12.4160	0.32629	37.24	1042.66		115.6

METHANE ISOTHERM AT T = 500. K

Second Virial Coefficient is -1.0 cm³/mol

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	μPa·s	mW/(m·K)
0.5	2.0783	4.1576	0.00427	38.14	564.61		69.1
1.0	4.1592	4.1672	0.00877	38.23	567.91		69.9
1.5	6.2472	4.1869	0.01351	38.31	571.84		70.8
2.0	8.3479	4.2175	0.01849	38.39	576.46		71.7
2.5	10.4666	4.2597	0.02372	38.47	581.79		72.8
3.0	12.6096	4.3143	0.02921	38.54	587.88		73.8
3.5	14.7831	4.3821	0.03497	38.61	594.75		75.0
4.0	16.9940	4.4637	0.04100	38.67	602.42		76.1
4.5	19.2493	4.5601	0.04733	38.74	610.93		77.4
5.0	21.5567	4.6720	0.05396	38.80	620.31		78.7

METHANE ISOTHERM AT T = 500. K (continued)

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	μPa·s	mW/(m·K)
5.5	23.9241	4.8004	0.06092	38.86	630.57		80.1
6.0	26.3600	4.9464	0.06821	38.91	641.74		81.5
6.5	28.8736	5.1110	0.07586	38.97	653.85		83.0
7.0	31.4743	5.2954	0.08389	39.02	666.93		84.6
7.5	34.1726	5.5012	0.09232	39.07	681.00		86.2
12.5	69.4038	9.1484	0.20404	39.55	883.30		105.8
13.0	74.1207	9.7278	0.21862	39.59	910.47		108.1
13.5	79.1403	10.3593	0.23395	39.64	939.06		110.6
14.0	84.4895	11.0473	0.25009	39.69	969.13		113.2
14.5	90.1977	11.7961	0.26708	39.73	1000.71		115.9
15.0	96.2966	12.6110	0.28497	39.77	1033.87		118.8

METHANE ISOTHERM AT T = 550. K

Second Virial Coefficient is 4.0 cm³/mol

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	μPa·s	mW/(m·K)
0.5	2.2918	4.5959	0.00427	40.93	589.48		78.8
1.0	4.5975	4.6285	0.00876	41.01	593.84		79.6
1.5	6.9221	4.6717	0.01348	41.08	598.83		80.5
2.0	9.2711	4.7266	0.01844	41.15	604.50		81.4
2.5	11.6507	4.7939	0.02364	41.22	610.89		82.4
3.0	14.0673	4.8746	0.02910	41.29	618.03		83.5
3.5	16.5277	4.9695	0.03482	41.35	625.95		84.6
4.0	19.0393	5.0795	0.04082	41.41	634.69		85.8
4.5	21.6099	5.2057	0.04710	41.46	644.26		87.1
5.0	24.2478	5.3489	0.05369	41.52	654.70		88.4
5.5	26.9618	5.5102	0.06060	41.57	666.03		89.7
6.0	29.7612	5.6908	0.06785	41.62	678.27		91.2
6.5	32.6560	5.8920	0.07545	41.67	691.46		92.6
7.0	35.6569	6.1151	0.08343	41.72	705.63		94.2
7.5	38.7751	6.3617	0.09180	41.76	720.78		95.8
12.5	79.5735	10.5644	0.20280	42.17	934.07		115.4
13.0	85.0167	11.2177	0.21729	42.21	962.36		117.7
13.5	90.8006	11.9274	0.23254	42.25	992.09		120.2
14.0	96.9543	12.6981	0.24859	42.28	1023.30		122.8

METHANE ISOTHERM AT T = 600. K

Second Virial Coefficient is 8.0 cm³/mol

ρ	P	$dP/d\rho _T$	$dP/dT _\rho$	C_v	W	η	λ
mol/dm ³	MPa	MPa·dm ³ /mol	MPa/K	J/(mol·K)	m/s	$\mu\text{Pa}\cdot\text{s}$	mW/(m·K)
0.5	2.5051	5.0334	0.00426	43.57	613.34		88.6
1.0	5.0351	5.0884	0.00875	43.64	618.66		89.4
1.5	7.5954	5.1547	0.01345	43.71	624.62		90.3
2.0	10.1919	5.2334	0.01839	43.77	631.26		91.3
2.5	12.8311	5.3254	0.02357	43.83	638.61		92.3
3.0	15.5198	5.4318	0.02900	43.89	646.71		93.3
3.5	18.2655	5.5536	0.03470	43.94	655.60		94.4
4.0	21.0761	5.6918	0.04066	44.00	665.31		95.6
4.5	23.9602	5.8475	0.04692	44.05	675.86		96.9
5.0	26.9267	6.0218	0.05347	44.10	687.28		98.2
5.5	29.9853	6.2158	0.06035	44.14	699.61		99.5
6.0	33.1460	6.4310	0.06756	44.19	712.85		100.9
6.5	36.4200	6.6686	0.07512	44.23	727.05		102.4
7.0	39.8186	6.9301	0.08305	44.27	742.22		104.0
7.5	43.3543	7.2172	0.09138	44.31	758.40		105.6
12.5	89.6893	11.9735	0.20188	44.66	982.23		125.1
13.0	95.8555	12.7008	0.21631	44.69	1011.62		127.5

APPENDIX C

LISTING OF A FORTRAN 77 PROGRAM TO CALCULATE THE THERMOPHYSICAL PROPERTIES OF METHANE

In this Appendix, we give the complete listing for a FORTRAN 77 (FORTRAN V) program to calculate the thermophysical properties of methane. Several aspects of this code must be mentioned. The program was written for a mainframe computer with very high precision; implementations for many personal computers will need to convert constants, functions, etc. to double precision. The program reflects the correlations as written in the body of the text; no systematic attempt to optimize the code was undertaken. The comments interspersed throughout the code are meant to assist a programmer; however these are not complete. The program should be used in conjunction with this manuscript and Ref. [1], to assist in judging the uncertainties of the resulting properties and the applicable ranges of the correlations.

```

PROGRAM C1PROPS
  DIMENSION IERRS(6)
  COMMON /REFDAT/ R, PC, DC, TC, ZC, G(32), PTRP, DTRP, TTRP
  *      , CMW
  DATA IERRS/6* -0/

C
  IERRS(4)=0
  CALL SYSTEMC(115,IERRS)

C
  WRITE(*,5)
5  FORMAT(
C ' *****THIS PROGRAM ALLOWS INTERACTIVE CALCULATION*****'/
C ' *****OF MANY METHANE THERMOPHYSICAL PROPERTIES*****'/
C ' *****/
C ' *IT IS BASED ON THE CORRELATIONS OF FRIEND, ELY, AND INGHAM*/
C ' *****AS SUBMITTED TO J. PHYS. CHEM. REF. DATA 1988*****'/
C ' *****UNDER THE TITLE:*****'/
C ' *****THERMOPHYSICAL PROPERTIES OF METHANE*****'/
C ' *****/
C ' ***** AND APPEARING IN THIS NBS TECHNICAL NOTE*****'/)
  WRITE(*,6)
6  FORMAT(
C ' **THIS IMPLEMENTATION WAS WRITTEN FOR A MAIN FRAME COMPUTER*/
C ' *****WITH 60 BIT WORD SIZE*****'/
C ' *****/
C ' *****THE UNITS FOR INPUT AND OUTPUT ARE:*****'/
C ' ***PRESSURE-MEGAPASCALS, DENSITY-MOLES PER CUBIC DECIMETER,*'/
C ' *****TEMPERATURE-KELVINS, ENERGY-JOULES,*****'/
C ' *****VISCOSITY-MICROPASCAL SECONDS,*****'/
C ' *****AND THERMAL CONDUCTIVITY-MILLIWATTS PER METER KELVIN*****/
C ' *****ALL NOMINALLY EXTENSIVE QUANTITIES ARE EXPRESSED *****'/
C ' *****ON A PER MOLE BASIS*****'//)
  PAUSE '*****PRESS ANY KEY TO CONTINUE*****'
  WRITE(*,7)
7  FORMAT(
C ' *****PLEASE CONSULT THE PAPER AND TEXT OF THIS TECH NOTE*****'/
C ' *****FOR FURTHER DETAILS CONCERNING THE CORRELATIONS*****'/
C ' *****'////)
10  WRITE(*,15)
15  FORMAT(' PLEASE ENTER CODE FOR THE FOLLOWING CATEGORIES'/
C ' OF THERMOPHYSICAL PROPERTIES: '/
C ' 1 ALONG THE SATURATION BOUNDARY'/
C ' 2 IN THE SINGLE PHASE GIVEN TEMPERATURE AND DENSITY'/
C ' 3 IN THE SINGLE PHASE GIVEN TEMPERATURE AND PRESSURE'/
C ' 4 OTHER STATE FUNCTIONS IN THE SINGLE PHASE'/
C ' 5 TRANSPORT PROPERTIES IN THE SINGLE PHASE'/
C ' 6 DILUTE AND IDEAL GAS PROPERTIES'/
C ' 7 TERMINATE THIS PROGRAM'/ ' ')
  READ(*,*) ICAT
  IF(ICAT.EQ.1)THEN
    WRITE(*,20)
20  FORMAT(' ENTER FUNCTION NUMBER AND STATE POINT'/
C ' 1 SATURATION BOUNDARY (PRESSURE AND DENSITIES)'/

```

```

C      '      FROM ANCILLARY EQUATIONS--GIVE T'/
C      '      2  SATURATION BOUNDARY (PRESSURE AND DENSITIES)'/
C      '      FROM MAXWELL CONSTRUCTION--GIVE T'/
C      '      3  SATURATION TEMPERATURE FROM PRESSURE--GIVE P'/
C      '      4  LIQUID HEAT CAPACITY ALONG SATURATION--GIVE T'/
C      '      5  LIQUID SOUND SPEED   ALONG SATURATION--GIVE T'/' ' '
READ(*,*)IFUNC,PROPl
IF(IFUNC.EQ.1)THEN
    ANS=PSATF(PROPl)/10.
    ANS1=DSATL(PROPl)
    ANS2=DSATV(PROPl)
END IF
IF(IFUNC.EQ.2)CALL SATF(PROPl,ANS,ANS1,ANS2)
IF(IFUNC.EQ.2)ANS=ANS/10.
IF(IFUNC.EQ.3)ANS=TSAT(PROPl*10.)
IF(IFUNC.EQ.4)ANS=CSAT(PROPl)
IF(IFUNC.EQ.5)THEN
    CALL SATF(PROPl,PPP,PROP2,PPPP)
    ANS=WSF(PROP2,PROPl)
END IF
IF(IFUNC.LE.2)WRITE(*,80)PROPl,ANS,ANS1,ANS2
IF(IFUNC.GT.2)WRITE(*,81)PROPl,ANS
END IF
IF(ICAT.EQ.2)THEN
    WRITE(*,25)
25    FORMAT('      ENTER FUNCTION NUMBER AND STATE POINT'/
C      '      1  PRESSURE--GIVE T AND RHO'/
C      '      2  ISOCHORIC HEAT CAPACITY--GIVE T AND RHO'/
C      '      3  ISOBARIC HEAT CAPACITY--GIVE T AND RHO'/
C      '      4  SOUND SPEED--GIVE T AND RHO'/
C      '      5  ISOTHERMAL DP/DRHO--GIVE T AND RHO'/
C      '      6  ISOCHORIC DP/DT--GIVE T AND RHO'/)
READ(*,*)IFUNC,PROPl,PROP2
IF(IFUNC.EQ.1)CALL PRESS(ANS,PROP2,PROPl,1)
IF(IFUNC.EQ.1)ANS=ANS/10.
IF(IFUNC.EQ.2)ANS= CVF(PROP2,PROPl)
IF(IFUNC.EQ.3)ANS=CPEE(PROP2,PROPl)
IF(IFUNC.EQ.4)ANS=WSF(PROP2,PROPl)
IF(IFUNC.EQ.5)CALL DPDD(ANS,PROP2,PROPl,1)
IF(IFUNC.EQ.5)ANS=ANS/10.
IF(IFUNC.EQ.6)CALL DPDT(ANS,PROP2,PROPl,1)
IF(IFUNC.EQ.6)ANS=ANS/10.
WRITE(*,82)PROPl,PROP2,ANS
END IF
IF(ICAT.EQ.3)THEN
    WRITE(*,30)
30    FORMAT('      ENTER FUNCTION NUMBER AND STATE POINT'/
C      '      1  DENSITY--GIVE T AND P'/
C      '      2  ISOCHORIC HEAT CAPACITY--GIVE T AND P'/
C      '      3  ISOBARIC HEAT CAPACITY--GIVE T AND P'/
C      '      4  SOUND SPEED--GIVE T AND P'/
C      '      5  ISOTHERMAL DP/DRHO--GIVE T AND P'/
C      '      6  ISOCHORIC DP/DT--GIVE T AND P'/)

```

```

      READ(*,*)IFUNC,PROP1,PROP2
      RHO = RHOF(PROP2*10.,PROP1,0.0)
      IF(IFUNC.EQ.1)ANS=RHO
      IF(IFUNC.EQ.2)ANS= CVF(RHO,PROP1)
      IF(IFUNC.EQ.3)ANS=CPEE(RHO,PROP1)
      IF(IFUNC.EQ.4)ANS=WSF(RHO,PROP1)
      IF(IFUNC.EQ.5)CALL DPDD(ANS,RHO,PROP1,1)
      IF(IFUNC.EQ.6)CALL DPDT(ANS,RHO,PROP1,1)
      IF(IFUNC.GE.5)ANS=ANS/10.
      WRITE(*,82)PROP1,PROP2,ANS
END IF
IF(ICAT.EQ.4)THEN
  WRITE(*,35)
35  FORMAT('      ENTER FUNCTION NUMBER AND STATE POINT'/
C    '      1  ENTROPY--GIVE T AND RHO'/
C    '      2  HELMHOLTZ ENERGY--GIVE T AND RHO'/
C    '      3  INTERNAL ENERGY--GIVE T AND RHO'/
C    '      4  GIBBS ENERGY--GIVE T AND RHO'/
C    '      5  ENTHALPY--GIVE T AND RHO'/)
  READ(*,*)IFUNC,PROP1,PROP2
  IF(IFUNC.EQ.1)ANS=ENTROPY(PROP2,PROP1)
  IF(IFUNC.EQ.2)ANS=HELM(PROP2,PROP1)
  IF(IFUNC.EQ.3)ANS=UNTERN(PROP2,PROP1)
  IF(IFUNC.GE.4)CALL PRESS(PPP,PROP2,PROP1,1)
  IF(IFUNC.EQ.4)ANS=GIBBS(PROP2,PROP1,PPP)
  IF(IFUNC.EQ.5)ANS=ENTHALP(PROP2,PROP1,PPP)
  WRITE(*,82)PROP1,PROP2,ANS
END IF
IF(ICAT.EQ.5)THEN
  WRITE(*,40)
40  FORMAT('      ENTER FUNCTION NUMBER AND STATE POINT'/
C    '      1  VISCOSITY--GIVE T AND RHO'/
C    '      2  THERMAL CONDUCTIVITY--GIVE T AND RHO'/
C    '      3  VISCOSITY--GIVE T AND P'/
C    '      4  THERMAL CONDUCTIVITY--GIVE T AND P'/)
  READ(*,*)IFUNC,PROP1,PROP2
  IF(IFUNC.EQ.1)ANS=VSCTY(PROP2,PROP1)
  IF(IFUNC.EQ.2)ANS=XLAMF(PROP2,PROP1)
  IF(IFUNC.GE.3) PROO=RHOF(PROP2*10.,PROP1,0.0)
  IF(IFUNC.EQ.3)ANS=VSCTY(PROO,PROP1)
  IF(IFUNC.EQ.4)ANS=XLAMF(PROO,PROP1)
  WRITE(*,82)PROP1,PROP2,ANS
END IF
IF(ICAT.EQ.6)THEN
  WRITE(*,45)
45  FORMAT('      ENTER FUNCTION NUMBER AND STATE POINT'/
C    '      1  SECOND VIRIAL COEFFICIENT--GIVE T AND 0'/
C    '      2  IDEAL GAS ISCHORIC HEAT CAPACITY--GIVE T AND 0'/
C    '      3  IDEAL GAS ISOBARIC HEAT CAPACITY--GIVE T AND 0'/
C    '      4  IDEAL GAS ENTHALPY--GIVE T AND 0'/
C    '      5  IDEAL GAS INTERNAL ENERGY--GIVE T AND 0'/

```



```

C      '      6  IDEAL GAS ENTROPY--GIVE T AND RHO' /
C      '      7  IDEAL GAS HELMHOLTZ ENGERGY--GIVE T AND RHO' /
C      '      8  IDEAL GAS ENTROPY--GIVE T AND P' /
C      '      9  IDEAL GAS HELMHOLTZ ENERGY--GIVE T AND P' /
C      '     10  DILUTE GAS VISCOSTIY--GIVE T AND O' /
C      '     11  DILUTE GAS THERMAL CONDUCTIVITY--GIVE T AND O' /)
      READ(*,*)IFUNC,PROP1,PROP2
      IF (PROP2.EQ.0.)PROP2=0.000001
      IF(IFUNC.EQ.1)ANS=BVIR(PROP1)
      IF((IFUNC.EQ.8).OR.(IFUNC.EQ.9))PROP2=10.*PROP2/(R*PROP1)
      IF((IFUNC.GT.1).AND.(IFUNC.LT.10))CALL IDEAL1(
C      PROP1,PROP2,EID,HID,HEL,SID,CVID,CPID,3)
      IF(IFUNC.EQ.2)ANS=CVID
      IF(IFUNC.EQ.3)ANS=CPID
      IF(IFUNC.GE.4)ANS=HID
      IF(IFUNC.EQ.5)ANS=EID
      IF(IFUNC.EQ.6)ANS=SID
      IF(IFUNC.EQ.7)ANS=HEL
      IF(IFUNC.EQ.8)ANS=SID
      IF(IFUNC.EQ.9)ANS=HEL
      IF(IFUNC.EQ.10)ANS=ETA0(PROP1)
      IF(IFUNC.EQ.11)ANS=TCOND0(PROP1)
      IF(IFUNC.LE.5)WRITE(*,81)PROP1,ANS
      IF((IFUNC.GT.5).AND.(IFUNC.LT.10))WRITE(*,82)PROP1,PROP2,ANS
      IF(IFUNC.GE.10)WRITE(*,81)PROP1,ANS
      END IF
      IF(ICAT.EQ.7)STOP 'FINISH C1PROPS'
      GO TO 10
80     FORMAT(1X,4F14.5)
81     FORMAT(1X,2F14.5)
82     FORMAT(1X,3F14.5)
      END

```

```

C
      FUNCTION CSAT(T)
C
C*****THIS FUNCTION CALCULATES THE HEAT CAPACITY OF THE LIQUID
C*****ALONG THE SATURATION BOUNDARY
C
      COMMON /DERIV/ DPSDT, DDSDT
      RHO=DSATL(T)
      CALL DPDT(DPD,RHO,T,1)
      CSAT=CVF(RHO,T) - 100.*T/RHO**2*DPD*DDSDT
      RETURN
      END

```

```

C
      FUNCTION BVIR(T)
C
C*****THIS FUNCION CALCULATES THE SECOND VIRIAL COEFFICIENT
C*****USING THE SCHMIDT-WAGNER EQUATION OF STATE
C
      COMMON /REFDAT/ R, PC, DC, TC, ZC, G(32), PTRP, DTRP, TTRP
      *           , CMW
C
      TA = TC / T
      T15 = TA ** 1.5
      T25 = TA ** 2.5
      T5 = TA ** 5
      T6 = TA ** 6
      B = G(1) + G(2)*T15 + G(3)*T25 + G(14)*T5+ G(15)*T6
      BVIR = B / DC
      RETURN
      END

```

```

C      SUBROUTINE SATF(TS,PS,DSL,DSV)
C      PURPOSE --- THIS ROUTINE CALCULATES THE SATURATION
C                  PRESSURE AND COEXISTING DENSITIES FROM
C                  AN EQUATION OF STATE.
C
C      VERSION 2.0  5/20/82
C
C      CODED BY -- J. F. ELY
C                  THERMOPHYSICAL PROPERTIES DIVISION
C                  NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY
C                  (FORMERLY, NATIONAL BUREAU OF STANDARDS)
C                  BOULDER, COLORADO  80303
C
C      * * * * *
C      COMMON /REFDAT/ R, PC, DC, TC, ZC, G(32), PTRP, DTRP, TTRP
C      *                  , CMW
C      LOGICAL ENTER
C      DATA TOL, FTOL, ENTER / 1.0E-4, 1.0E-6, .FALSE. /
C
C      IF(TS.LT.TC) GO TO 005
C      PS = PC
C      DSL = DC
C      DSV = DC
C      RETURN
C
C      005 IF (ENTER) GO TO 010
C          ENTER = .TRUE.
C          BV = ALOG(PTRP/PC) / (1.0/TTRP - 1.0/TC)
C          AV = ALOG(PC) - BV / TC
C
C                  INITIAL GUESS AT THE VAPOR PRESSURE
C      010 PS = EXP(AV+BV/TS)
C
C                  INITIAL GUESS AT THE VAPOR DENSITY
C      DV = PS / (R*TS)
C
C                  INITIAL GUESS AT LIQUID DENSITY
C
C      TR = TS /TC
C      EPS = (1.0-TR)**(2.0/7.0)
C      DL = DC / ZC**EPS
C      IF (DL.GT.DTRP) DL = DTRP
C
C                  IMPROVE VAPOR GUESS NEAR CRITICAL
C
C      IF (TR.LT.0.85) GO TO 015
C      DV = DL - 3.75 * DC * (1.0-TR)**0.333
C
C                  NEWTON-RAPHSON ITERATION FOR DENSITIES
C      015 DO 100 J = 1, 25
C      020 CALL PVTf(PL,DL,TS,DPDL,D2PDD2,GL)
C      030 IF (DPDL.GT.0.0.AND.PL.GT.0.0) GO TO 040
C          DL = 1.02 * DL
C          GO TO 020

```

```

040 CALL PVTf(PV,DV,TS,DPDV,D2PDD2,GV)
    IF (DPDV.GT.0.0) GO TO 060
    DV = 0.98 * DV
    GO TO 040
060 F1 = GL -GV
    F2 = PL - PV
    F2L = DPDL
    F2V = - DPDV
    F1L = F2L / DL
    F1V = F2V / DV
    DENOM = F1L * F2V - F2L * F1V
    IF (ABS(DENOM).LE.1.0E-10) GO TO 120
    DDL = -(F1*F2V-F2*F1V) / DENOM
    DDV = -(F1+DDL*F1L) / F1V
    DL = DL + DDL
    IF(DL.LT.DC) DL = DC
    DVS = DV
    DV = DV + DDV
    IF(DV.GT.DC) DV = DC
    IF(DV.LE.0.0) DV=DVS/2.0
    IF (ABS(DDL/DL).LT.TOL .AND. ABS(DDV/DV).LE.TOL) GO TO 110
    FNORM = F1*F1 + F2*F2
    IF(TR.LT.0.99 .AND. FNORM.LE.FTOL) GO TO 110
100 CONTINUE
110 PS = PV
    DSL = DL
    DSV = DV
    RETURN
120 WRITE(6,340) DENOM
    GO TO 110
300 FORMAT(I3,8G10.4)
310 FORMAT(I3,2F12.8,G13.6)
330 FORMAT(F8.2,G13.6,2F10.6,2G13.6)
340 FORMAT('DENOM IS TOO SMALL IN SATF',G13.6)
    END

```



```

C
C      FUNCTION RHOF(P1,P2,P3)
C
C      * * * * *
C
C      PURPOSE -- THIS ROUTINE CALCULATES THE DENSITY OF A FLUID AT
C                  T AND P GIVEN AN INITIAL GUESS IN FOP.  ON EXIT,
C                  IT RETURNS THE FUGACITY COEFFICIENT IN FOP.  IT
C                  REQUIRES A ROUTINE 'PVTf' WHICH CALCULATES P,
C                  DPDD, AND GR = G(T,P)-G*(T,1)
C
C      CODED BY--J. F. ELY
C                  THERMOPHYSICAL PROPERTIES DIVISION
C                  NATIONAL ENGINEERING LABORATORY
C                  NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY
C                  (FORMERLY, NATIONAL BUREAU OF STANDARDS)
C                  BOULDER, COLORADO 80303
C
C      VERSION 2.0 -- 5/23/82
C
C      * * * * *
C
C      REVISED 3/12/85 TO CHANGE BOUNDS AND AVOID CRITICAL REGION IN N-R.
C
C      COMMON /REFDAT/ R, PC, DC, TC, ZC, A(32), PTRP, DTRP, TTRP
C      *                  , CMW
C      DATA TOLERD, TOLERP / 1.0E-8, 1.0E-8/
C
C                  ESTABLISH BOUNDS AND START NEWTON-RAPHSON
C
C      P = P1
C      T = P2
C      D = P / (R*T)
C      IF (T.GT.TC) GO TO 019
C      CALL SATF(T,PS,DSL,DSV)
C      D = DSV
C      IF (P.GE.PS) D = DSL
C      IF ((P.GE.1.5*PS).AND.((TC-T).LE.7.)) D = 2.0 * DSL
C      GO TO 020
C 019 IF (P.GT.2.*PC) D = 1.5 * MAX(D,DC)
C
C                  ESTABLISH BOUNDS AND START NEWTON RAPHSON
C
C 020 DLO=0.0
C      DHI = 1.50 * DTRP
C      DMAX = 1.2 * DHI
C      DO 100 LAP=1,20
C      CALL PVTf(PX,D,T,DPDD,D2PDD2,GR)
C
C                  IF DPDD IS ZERO OR NEGATIVE, TRY BISECTION
C
C      IF(DPDD.LE.1.0E-3) GO TO 120
C      DP=P-PX
C      DD=DP/DPDD

```

```

C          SAVE DENSITY FOR POSSIBLE BISECTION
C
      IF (DP) 040,300,060
040 DHI=D
      GO TO 080
060 DLO=D
080 DN=D+DD
C          KEEP D WITHIN BOUNDS OR GO TO BISECTION
C
      IF (DN.LT.0.0 .OR. DN.GT.DMAX) GO TO 120
      D=DN
      IF(LAP.EQ.1) GO TO 100
      IF(ABS(DP/P).LE.TOLERP) GO TO 300
      IF(ABS(DD/D).LE.TOLERD) GO TO 300
100 CONTINUE
C          NEWTON-RAPHSON FAILURE.  TRY BISECTION
120 IF(T.GT.TC) GO TO 160
C
C          SUB-CRITICAL.  MAKE SURE THAT WE HAVE THE
C          PROPER BOUNDS ON THE DENSITY.
C
      IF(P.LT.PS) GO TO 140
      DLO = DSL
      IF(DHI.LE.DSL) DHI=DMAX
      GO TO 160
C
140 IF(DLO.GE.DSV) DLO=0.0
      DHI = DSV
C
C          START THE BISECTION
160 D=0.50*(DLO+DHI)
      CALL PVTf(PX,D,T,DPDD,D2PDD2,GR)
      DP=PX-P
      IF(DP) 200,300,220
200 DLO=D
      GO TO 240
220 DHI=D
240 IF(ABS(DP/P) .LE. TOLERP) GO TO 300
      IF(ABS(DLO/DHI-1.0).GT.TOLERD) GO TO 160
C
C          BISECTION FAILED.  GIVE UP
260 WRITE(6,400) T, P,D,DPDD,DLO,DHI,LAP,PX
C          CONVERGENCE ! ! !
300 RHOF=D
      RETURN
400 FORMAT('RHOF FAILED AT T =',F9.3,' P =',G14.7,4G12.6,I4,G12.6)
      END

```

```

C
      SUBROUTINE PVTf(P0,D0,T0,DPDD,D2PD2,G0)
C
C * * * * *
C
C      PURPOSE --- THIS ROUTINE CALCULATES THE PRESSURE, ITS FIRST
C                   TWO DENSITY DERIVATIVES AND THE GIBBS ENERGY
C                   RELATIVE TO THE IDEAL GAS AT 1 BAR
C                   THIS ROUTINE IS FOR THE WAGNER EQUATION OF STATE
C
C      VERSION 1.0 - 2/18/85
C
C      CODED BY -- J. F. ELY
C                   CHEMICAL ENGINEERING SCIENCE DIVISION
C                   NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY
C                   (FORMERLY, NATIONAL BUREAU OF STANDARDS)
C                   BOULDER, COLORADO 80303
C
C * * * * *
C
C      DIMENSION S(4), P(10,3), Q(3), DQDD(3), D2QDD2(3), D3QDD3(3)
C
C      COMMON /REFDAT/ RG, PC, DC, TC, ZC, G(32), PTRP, DTRP, TTRP
C      *              , CMW
C
C      DATA P / 30*0. /, TLAST / -1.0 /
C
C
C      T = TC / T0
C      D = D0 / DC
C      IF(T.EQ.TLAST) GO TO 040
C      TLAST=T
C      RT = RG * T0
C      TS = SQRT(T)
C      TTS = T * TS
C      T2 = T * T
C      T3 = T * T2
C      T4 = T * T3
C      T5 = T * T4
C      T6 = T * T5
C      T7 = T * T6
C      T8 = T2 * T6
C      T11 = T8 * T3
C      T17 = T6 * T11
C      T18 = T * T17
C
C      P(1,1) = G(1) + (G(2) + G(3)*T) * TTS
C      P(2,1) = G(4)/TS + G(5)*TTS + G(6)*T2
C      P(3,1) = G(7) + (G(8) + G(9)*TTS) * T
C      P(6,1) = G(10)
C      P(7,1) = G(11)*T2 + G(12)*T5
C      P(8,1) = G(13)*T2

```

```

C
P(1,2) = G(14)*T5 + G(15)*T6
P(2,2) = (G(16) + G(17)*T2) * T2 * TTS
P(3,2) = G(18)*T3 + G(19)*T7
P(5,2) = G(20) * T6
P(6,2) = G(21) * T8 * TS
P(7,2) = G(22) * T4
P(8,2) = G(23) * T6 * TS
P(10,2) = G(24) * T5 * TS

C
P(2,3) = G(25) * T11 * T11
P(3,3) = G(26) * T11 + G(27) * T18
P(4,3) = (G(28) + G(29)*T11*T) * T11
P(5,3) = (G(30) + T * (G(31) + G(32)*T5)) * T17

C
040 DO 070 J = 1, 3
      DO 050 K = 1, 4
050 S(K) = 0.
      DO 060 I = 1, 10
        S(1) = S(1) * D + P(11-I,J)
        S(2) = S(2) * D + S(1)
        IF (I.EQ.10) GO TO 060
        S(3) = S(3) * D + S(2)
        IF (I.EQ.9) GO TO 060
        S(4) = S(4) * D + S(3)
060 CONTINUE
        Q(J) = S(1) * D
        DQDD(J) = S(2)
        D2QDD2(J) = S(3) * 2.0
070 D3QDD3(J) = S(4) * 6.0

C
D2 = D * D
D3 = D * D2
F2 = EXP(-D2)
F3 = EXP(-D*D3)
TWOD = 2.0 * D
FORD = 4.0 * D3
DRT = D0 * RT

C
PHI = Q(1) + Q(2) * F2 + Q(3) * F3

C
TRM2 = DQDD(2) - TWOD * Q(2)
TRM3 = DQDD(3) - FORD * Q(3)
DPHDD = DQDD(1) + TRM2 * F2 + TRM3 * F3
P0 = DRT * (1.0 + D * DPHDD)

C
TRM2P = D2QDD2(2) - 2.0 * Q(2) - TWOD * DQDD(2)
TRM3P = D2QDD2(3) - 12.0 * D2 * Q(3) - FORD * DQDD(3)
TRM22 = TRM2P - TWOD * TRM2
TRM33 = TRM3P - FORD * TRM3
D2PHD2 = D2QDD2(1) + TRM22 * F2 + TRM33 * F3
DPDD = RT * (1.0 + TWOD * DPHDD + D2 * D2PHD2)

```


C

```

TRM22P = D3QDD3(2) - 4.0 * DQDD(2) - TWOD * D2QDD2(2)
*      - 2.0 * TRM2      - TWOD * TRM2P
TRM33P = D3QDD3(3) - 24.0 * D * (Q(3) + D * DQDD(3))
*      - FORD * (D2QDD2(3) + TRM3P) - 12.0 * D2 * TRM3
D3PHD3 = D3QDD3(1) + (TRM22P - TWOD * TRM22) * F2
*      + (TRM33P - FORD * TRM33) * F3
D2PD2 = RT * (2.0*DPHDD + 4.0*D*D2PHD2 + D2*D3PHD3) / DC

```

C

```

ZO = PO / DRT
GO = RT * (PHI + ZO - 1.0 + ALOG(DRT))
RETURN
END

```

C

```

FUNCTION CVF(D,T)

```

C

```

C*****THIS FUNCTION CALCULATES THE ISOCHORIC HEAT CAPACITY

```

C

```

CALL CVR(CVD,D,T,1)
CALL IDEAL(T,CVI,SI)
CVF = CVI + 100.0 * CVD
RETURN
END

```

C

```

FUNCTION WSF(D,T)

```

C

```

C      THIS ROUTINE CALCULATES THE SOUND VELOCITY
C      GIVEN THE DENSITY AND TEMPERATURE

```

C

```

COMMON /REFDAT/ R, PC, DC, TC, ZC, G(32), PTRP, DTRP, TTRP
*      , CMW

```

C

```

COMMON /DPDCAL/ CP, CV, DPD, DPT

```

C

```

CV = CVF(D,T)
CALL DPDT(DPT,D,T,1)
CALL DPDD(DPD,D,T,1)
DPT = DPT / D
CP = CV + 100.0 * T * DPT * DPT / DPD
WSS = CP * DPD / (CMW * CV)
IF(WSS.LT.0.)WSS=0.0
WSF = SQRT(1.0E5 * WSS)
RETURN
END

```

```

C
  FUNCTION DSATL(T)
C
C      THIS ROUTINE CALCULATES THE SATURATED LIQUID
C      DENSITY OF METHANE
C
C      REVISED 2/27/85 TO REJECT CALLS IF T .GT. TC
C
C*****
C
C      REVISED COEFFICIENTS FROM 6/03/86
COMMON/SATBDY/TC,PC,DC,ZC,R,EPP,BETA
COMMON /DERIV/ DPSDT, DDSDT
DIMENSION G(4)
DATA G/ .1838981951E+01,
C -.7727452180E+00,
C.5592446346E+00,
C-.3807792546E+00/
C*****
  X = 1.0 - T / TC
  IF (X) 1,2,3
1    PRINT 4
4    FORMAT(10X,'DSATL = 0, T EXCEEDS TCRT. ' / )
    STOP
2    DSATL = DC
    DDSDT = -1.0E+10
    RETURN
3    DENOM = 1.0 + G(4) * X**(1.0-BETA)
    Y = (G(1) * X**BETA + G(2) * X*X + G(3) * X*X*X) / DENOM
    DYDX = BETA*G(1)*X**(BETA-1.0) + 2.0*G(2)*X + 3.0*G(3)*X*X
    DYDX = (DYDX - Y * G(4) * (1.0-BETA) / X**BETA) / DENOM
    DSATL = DC * (Y + 1.0)
    DDSDT = - DC * DYDX / TC
    RETURN
  END

```

```

C
  FUNCTION DSATV(T)
C * * * * *
C
C   PURPOSE --- THIS ROUTINE CALCULATES THE SATURATED VAPOR DENSITY,
C               AND ITS DERIVATIVE WITH RESPECT TO T, GIVEN T. IT
C               REQUIRES THE USE OF "PSATF" WHICH CALCULATES THE
C               SATURATION PRESSURE AND ITS DERIVATIVE WRT T.
C
C
C   CODED BY--B. C. COOKE
C               CHEMICAL ENGINEERING SCIENCE DIVISION 773.20
C               NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY
C               (FORMERLY, NATIONAL BUREAU OF STANDARDS)
C               BOULDER, COLORADO 80303
C
C
C   VERSION 1.0 -- 6/3/83
C * * * * *
C
C   REVISED 2/27/85 TO REJECT CALLS IF T .GT. TC
C
C*****
C
C   REVISED 6/03/86. USES BETA =0.355 AND SCALING AMPLITUDE
C   IS SAME IN VAPOR AND LIQUID TO LOWEST ORDER
C*****
C   COMMON /DERIV/ DPSDT, DDSDT
C   COMMON/SATBDY/TC,PC,DC,ZC,R,EPP,BETA
C   DIMENSION G(4)
C*****COEFFICIENTS FROM 4/13/87 USING 1986 VALUE OF GAS CONSTANT*****
C   DATA G/-.1241532211E+01,
C   C -.1649971667E+01,
C   C .2281948881E+01,
C   C .1439569505E+01/
C   THIS COEFFICIENT IS DIRECTLY FROM SAT LIQUID FIT
C   DATA G00/.1838981951E+01/
C   GO = G00/(1.-1./ZC)
C   X = T / TC
C   TAU = 1.0 - X
C   IF (TAU) 1,2,3
C   1   PRINT 4
C   4   FORMAT(10X,'T EXCEEDS TC IN DSATV. ' / )
C       STOP
C   2   DSATV=DC
C       DDSDT=1.0E+100
C       RETURN

```

```

3      F = GO*TAU**BETA + G(1)*TAU**(2.*BETA)
      F = F + G(2)*(TAU + TAU**4) + G(3)*TAU**2
      Y = 1.0 + G(4)*TAU
      PS = PSATF(T)
      PRX = (ZC-1.0) * PS / (PC*X**8)
      FOY = F / Y
      Z = 1.0 + PRX * (1.0 + FOY)
      RTZ = 1.0 / (R * T * Z)
      DSATV = PS * RTZ
      DFDX=- BETA*GO*TAU**(BETA-1.0)-G(1)*2.*BETA*TAU**(2.*BETA-1.)
      DFDX=DFDX-G(2)*(1.+4.*TAU**3)-2.*G(3)*TAU
      DYDX = -G(4)
      DPDX = (ZC-1.0)*DPSDT*TC/(PC*X**8)- 8.0*PRX/X
      DZDX = DPDX*(1.0+FOY) + PRX*(DFDX/Y - FOY*DYDX/Y)
      DDSDT = DPSDT*RTZ - DSATV/T - DZDX*DSATV/(Z*TC)
      RETURN
      END

```

FUNCTION PSATF(T)

```

C
C * * * * *
C
C      PURPOSE --- THIS ROUTINE CALCULATES THE SATURATION PRESSURE AND
C                   ITS DERIVATIVE WITH RESPECT TO T, GIVEN T.
C
C      CODED BY--J. F. ELY
C                   CHEMICAL ENGINEERING SCIENCE DIVISION 773.20
C                   NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY
C                   (FORMERLY, NATIONAL BUREAU OF STANDARDS)
C                   BOULDER, COLORADO 80303
C
C      VERSION 1.0 -- 6/3/83
C
C * * * * *
C
C      REVISED 2/27/85 TO REJECT CALLS IF T .GT. TC
C
C*****
C
C      NEW COEFFICIENTS
C      1/31/86
C      CHANGED 6/03/86 TO EPP=1.9 AND USES TSTAR AS VARIABLE
C      AND IS FORCED TO PC AT T = TC
C*****
C      DIMENSION G(5)
C      COMMON/SATBDY/TC,PC,DC,ZC,R,EPP,BETA
C      COMMON /DERIV/ DPSDT, DDSDT

```



```

DATA G/ -.6589879027E+01,
C.1131028214E+02,
C.6355175255E+00,
C-.1038720254E+02,
C.3393074680E+01/
X = 1. - T / TC
IF(X) 1,2,2
1 PRINT 4
4 FORMAT(10X, 'T ABOVE TCRT IN PSATF(T). ' / )
STOP
2 PCAL = G(1)*X/(1.-X)+G(2)*X**EPP+G(3)*X+G(4)*X*X+G(5)*X*X*X
PSATF= PC*EXP(PCAL)
DPSDT=- PSATF/TC*(G(1)/(1.-X)**2+EPP*G(2)*X**2+(EPP-1.0)+G(3)
* + 2.*G(4)*X+3.*G(5)*X**2)
RETURN
C
END

```

```

SUBROUTINE IDEAL(T,CVID,SID)
C*****IDEAL GAS PROPERTIES FOR METHANE AT 0.101325 MPA (1 ATM)
C*****NEW IDEAL SUBROUTINE FOR 1986 VALUE OF GAS CONSTANT*****
C*****FORM OF HELMHOLTZ FREE ENERGY FOLLOWS GOODWIN WITH WAGNER VARIABLES**
C*****COEFFICIENTS FROM GOODWINS FIT OF MCDOWELL-KRUSE*****
C*****ASSUMES HELMHOLTZ ENERGY EQUALITY (IN LN RHO FORM) AT 298.15 K*****
C*****NEW R FORCES SLIGHT DEVIATIONS IN OTHER PROPERTIES, SINCE NOT*****
C*****ALL EQS ARE DIRECTLY PROPORTIONAL TO R*****
C*****DATE OF CHANGE 4/14/87*****
C*****EVALUATED AT 1 ATM (PROBLEM FOR ARGUMENT SID ONLY*****
COMMON /REFDAT/ R1,PC, DC, TC, ZC, G(32), PTRP, DTRP, TTRP
* , CMW
DIMENSION QS(7)
DATA QS/ -15.479844, 2.5998324, -3.3854083,
C 1.6900979, -0.3911541, 4.7206715, -10.543907/
DATA P1,P2/ -.33333333, -.66666667/
R = R1*100.
TAU=TC/T
TAU3=TAU**P1
TAU23=TAU**P2
EXTAU=EXP(QS(7)*TAU )
PHID=QS(1)+(QS(2)+1.)*LOG(TAU)+QS(3)*TAU3+QS(4)*TAU23
1 +QS(5)/TAU+QS(6)*LOG(1.-EXTAU)
PHIDD1=QS(2)-QS(3)/3.*TAU3-2.*QS(4)/3.*TAU23-QS(5)/TAU
1 -QS(6)*QS(7)*TAU/(1./EXTAU-1.)
PHIDD2=-QS(2)+4.*QS(3)/9.*TAU3+10.*QS(4)/9.*TAU23
1 +2.*QS(5)/TAU-QS(6)*QS(7)**2*TAU**2*EXTAU/(EXTAU-1.))**2
CVID=-R*PHIDD2
SID=-R*(PHID-PHIDD1)
RETURN
END

```

C

SUBROUTINE PROPSS(PP,DD,TT,IDD)

C*****THIS SUBROUTINE CALCULATES MANY OF THE THERMODYNAMIC
C*****PROPERTIES FROM THE SCHMIDT-WAGNER EQUATION OF STATE

C

DIMENSION X(33)

COMMON /FITCOM/ B(33)

COMMON /REFDAT/ R, PC, DC, TC, ZC, G(32), PTRP, DTRP, TTRP

* , CMW

EQUIVALENCE (B,X)

1 CONTINUE

D = DD/DC

DEN = DD

T = TC/TT

TEMP = TT

RT = R * TEMP

DRT = DEN * RT

DDRT = D * DRT

RTD = RT / DC

RD = DEN * R

RTT = RD / TC

D2 = D * D

D3 = D2 * D

D4 = D3 * D

D5 = D4 * D

D6 = D5 * D

D7 = D6 * D

D8 = D7 * D

D9 = D8 * D

D10 = D9 * D

D11 = D10 * D

D12 = D11 * D

D13 = D12 * D

D14 = D13 * D

D15 = D14 * D

D16 = D15 * D

TS = SQRT (T)

TMS = 1.0 / TS

T15 = T * TS

T2 = T * T

T25 = T2 * TS

T3 = T2 * T

T35 = T3 * TS

T4 = T3 * T

T45 = T4 * TS

T5 = T4 * T

T55 = T5 * TS

T6 = T5 * T

T65 = T6 * TS

T7 = T6 * T

T75 = T7 * TS

T8 = T7 * T

T85 = T8 * TS

```

T9 = T8 * T
T95 = T9 * TS
T11 = T8 * T3
T12 = T11 * T
T17 = T12*T5
T18 = T17 * T
T19 = T18 * T
T22 = T18 * T4
T23 = T22 * T
T24 = T23 * T
F1 = EXP ( -D2)
F2 = EXP ( -D4)
GO TO (100,200,300,400,500,600,700,800),K

```

C

```
ENTRY PRESS(PP,DD,TT,IDD)
```

```
C*****ENTRY TO CALCULATE PRESSURE
```

C

```

K = 1
GO TO 1
100 CONTINUE
B( 1) = DDRT * 1.0
B( 2) = DDRT * T15
B( 3) = DDRT * T25
B( 4) = DDRT * 2.*D*TMS
B( 5) = DDRT * 2.*D*T15
B( 6) = DDRT * 2.*D*T2
B( 7) = DDRT * 3.*D2
B( 8) = DDRT * 3.*D2*T
B( 9) = DDRT * 3.*D2*T25
B(10) = DDRT * 6.*D5
B(11) = DDRT * 7.*D6*T2
B(12) = DDRT * 7.*D6*T5
B(13) = DDRT * 8.*D7*T2
B(14) = DDRT * (1.-2.*D2)*T5*F1
B(15) = DDRT * (1.-2.*D2)*T6*F1
B(16) = DDRT * (2.*D-2.*D3)*T35*F1
B(17) = DDRT * (2.*D-2.*D3)*T55*F1
B(18) = DDRT * (3.*D2-2.*D4)*T3*F1
B(19) = DDRT * (3.*D2-2.*D4)*T7*F1
B(20) = DDRT * (5.*D4-2.*D6)*T6*F1
B(21) = DDRT * (6.*D5-2.*D7)*T85*F1
B(22) = DDRT * (7.*D6-2.*D8)*T4*F1
B(23) = DDRT * (8.*D7-2.*D9)*T65*F1
B(24) = DDRT * (10.*D9-2.*D11)*T55*F1
B(25) = DDRT * (2.*D-4.*D5)*T22*F2
B(26) = DDRT * (3.*D2-4.*D6)*T11*F2
B(27) = DDRT * (3.*D2-4.*D6)*T18*F2
B(28) = DDRT * (4.*D3-4.*D7)*T11*F2
B(29) = DDRT * (4.*D3-4.*D7)*T23*F2
B(30) = DDRT * (5.*D4-4.*D8)*T17*F2
B(31) = DDRT * (5.*D4-4.*D8)*T18*F2
B(32) = DDRT * (5.*D4-4.*D8)*T23*F2
IF(IDD.GT.0)GO TO 102

```

```

      B(33) = PP-DRT
      RETURN
102 P = 0
      M = 32
      DO 101 I = 1,M
      P = P+B(I) * G(I)
101 CONTINUE
      P = P + DRT
      PP = P
      RETURN
C
      ENTRY DPDD(PP,DD,TT,IDD)
C*****ENTRY TO CALCULATE ISOTHERMAL DENSITY DERIVATIVE OF PRESSURE
C
      K = 2
      GO TO 1
200 CONTINUE
      B( 1) = RT *      2.00 * D
      B( 2) = RT *      2.00 * D * T15
      B( 3) = RT *      2.00 * D * T25
      B( 4) = RT *      6.00 * D2 *TMS
      B( 5) = RT *      6.00 * D2 * T15
      B( 6) = RT *      6.00 * D2 * T2
      B( 7) = RT *     12.00 * D3
      B( 8) = RT *     12.00 * D3 * T
      B( 9) = RT *     12.00 * D3 * T25
      B(10) = RT *     42.00 * D6
      B(11) = RT *     56.00 * D7 * T2
      B(12) = RT *     56.00 * D7 * T5
      B(13) = RT *     72.00 * D8 * T2
      B(14) = RT * F1 * (2.00 * D - 10.*D3 + 4.*D5) * T5
      B(15) = RT * F1 * (2.00 * D - 10.*D3 + 4.*D5) * T6
      B(16) = RT * F1 * (6.00 * D2 - 14.*D4 + 4.*D6) * T35
      B(17) = RT * F1 * (6.00 * D2 - 14.*D4 + 4.*D6) * T55
      B(18) = RT * F1 * (12.0 * D3 - 18.*D5 + 4.*D7) * T3
      B(19) = RT * F1 * (12.0 * D3 - 18.*D5 + 4.*D7) * T7
      B(20) = RT * F1 * (30.00 *D5 - 26.*D7 + 4.*D9) * T6
      B(21) = RT * F1 * (42.00 *D6 - 30.*D8 + 4.*D10) * T85
      B(22) = RT * F1 * (56.00 *D7 - 34.*D9 + 4.*D11) * T4
      B(23) = RT * F1 * (72.00 *D8 - 38.*D10 + 4.*D12) * T65
      B(24) = RT * F1 * (110.00 *D10 -46.*D12 + 4.*D14) * T55
      B(25) = RT * F2 * (6.00 * D2 - 36.0 * D6 + 16.0 * D10) * T22
      B(26) = RT * F2 * (12.0 * D3 - 44.0 * D7 + 16.0 * D11) * T11
      B(27) = RT * F2 * (12.0 * D3 - 44.0 * D7 + 16.0 * D11) * T18
      B(28) = RT * F2 * (20.0 * D4 - 52.0 * D8 + 16.0 * D12) * T11
      B(29) = RT * F2 * (20.0 * D4 - 52.0 * D8 + 16.0 * D12) * T23
      B(30) = RT * F2 * (30.0 * D5 - 60.0 * D9 + 16.0 * D13) * T17
      B(31) = RT * F2 * (30.0 * D5 - 60.0 * D9 + 16.0 * D13) * T18
      B(32) = RT * F2 * (30.0 * D5 - 60.0 * D9 + 16.0 * D13) * T23
      M = 32
      IF(IDD.GT.0)GO TO 202
      B(33) = PP-RT
      RETURN

```



```

202 P = 0
    DO 201 I = 1,M
    P = P+B(I) * G(I)
201 CONTINUE
    P = P+RT
    PP = P
    RETURN
C
    ENTRY DPDT(PP,DD,TT,IDD)
C*****ENTRY TO CALCULATE ISOCHORIC TEMPERATURE DERIVATIVE OF PRESSURE
C
    K = 3
    GO TO 1
300 CONTINUE
    B( 1) = RD * D
    B( 2) = -RD * .5*D*T15
    B( 3) = -RD * 1.5*D*T25
    B( 4) = RD * 3.*D2*TMS
    B( 5) = -RD * D2*T15
    B( 6) = -RD * 2.*D2*T2
    B( 7) = RD * 3.*D3
    B( 8) = 0.0
    B( 9) = -RD * 4.5*D3*T25
    B(10) = RD * 6.*D6
    B(11) = -RD * 7.*D7*T2
    B(12) = -RD * 28.*D7*T5
    B(13) = -RD * 8.*D8*T2
    B(14) = -RD * (4.0*D-8.*D3)*T5*F1
    B(15) = -RD * (5.0*D-10.*D3)*T6* F1
    B(16) = -RD * 5.0*(D2-D4)*T35*F1
    B(17) = -RD * 9.0*(D2-D4)*T55*F1
    B(18) = -RD * (6.*D3-4.*D5)*T3*F1
    B(19) = -RD * (18.*D3-12.*D5)*T7*F1
    B(20) = -RD * (25.*D5-10.*D7)*T6*F1
    B(21) = -RD * (45.0*D6-15.*D8)*T85*F1
    B(22) = -RD * (21.*D7-6.*D9)*T4*F1
    B(23) = -RD * (44.*D8-11.*D10)*T65*F1
    B(24) = -RD * (45.*D10-9.*D12)*T55*F1
    B(25) = -RD * (42.*D2-84.*D6)*T22*F2
    B(26) = -RD * (30.*D3-40.*D7)*T11*F2
    B(27) = -RD * (51.*D3-68.*D7)*T18*F2
    B(28) = -RD * 40.*(D4-D8)*T11*F2
    B(29) = -RD * 88.*(D4-D8)*T23*F2
    B(30) = -RD * (80.*D5-64.*D9)*T17*F2
    B(31) = -RD * (85.*D5-68.*D9)*T18*F2
    B(32) = -RD * (110.*D5-88.*D9)*T23*F2
    IF(IDD.GT.0)GO TO 302
    B(33) = PP-RD
    RETURN
302 P = 0
    DO 301 I = 1,32
    P = P+G(I) * B(I)

```

```

301 CONTINUE
    PP = P+RD
    RETURN
C
    ENTRY SR(PP,DD,TT,IDD)
C*****ENTRY TO CALCULATE RESIDUAL ENTROPY
C
    K = 4
    GO TO 1
400 CONTINUE
    X( 1) = -R * D
    X( 2) = R * 0.50 * D * T15
    X( 3) = R * 1.50 * D * T25
    X( 4) = -R * 1.50 * D2 * TMS
    X( 5) = R * 0.50 * D2 * T15
    X( 6) = R * D2 * T2
    X( 7) = -R * D3
    X( 8) = 0.0
    X( 9) = R * 1.5 * D3 * T25
    X(10) = -R * D6
    X(11) = R * D7 * T2
    X(12) = R * 4.00 * D7 * T5
    X(13) = R * D8 * T2
    X(14) = R * 4.00 * D * T5 * F1
    X(15) = R * 5.00 * D * T6 * F1
    X(16) = R * 2.5 * D2 * T35 * F1
    X(17) = R * 4.5 * D2 * T55 * F1
    X(18) = R * 2.00 * D3 * T3 * F1
    X(19) = R * 6.00 * D3 * T7 * F1
    X(20) = R * 5.00 * D5 * T6 * F1
    X(21) = R * 7.5 * D6 * T85 * F1
    X(22) = R * 3.0 * D7 * T4 * F1
    X(23) = R * 5.5 * D8 * T65 * F1
    X(24) = R * 4.5 * D10 * T55 * F1
    X(25) = R * 21.0 * D2 * T22 * F2
    X(26) = R * 10.0 * D3 * T11 * F2
    X(27) = R * 17.0 * D3 * T18 * F2
    X(28) = R * 10.0 * D4 * T11 * F2
    X(29) = R * 22.0 * D4 * T23 * F2
    X(30) = R * 16.0 * D5 * T17 * F2
    X(31) = R * 17.0 * D5 * T18 * F2
    X(32) = R * 22.0 * D5 * T23 * F2
    IF(IDD.GT.0)GO TO 402
    RETURN
402 P = 0
    DO 401 I = 1,32
    P = P+G(I) * X(I)
401 CONTINUE
    PP = P
    RETURN
C
    ENTRY AR(PP,DD,TT,IDD)
C*****ENTRY TO CALCULATE RESUDUAL HELMHOLTZ FREE ENERGY

```

C

```

      K = 5
      GO TO 1
500  CONTINUE
      B( 1) = RT * D
      B( 2) = RT * D * T15
      B( 3) = RT * D * T25
      B( 4) = RT * D2 * TMS
      B( 5) = RT * D2 * T15
      B( 6) = RT * D2 * T2
      B( 7) = RT * D3
      B( 8) = RT * D3 * T
      B( 9) = RT * D3 * T25
      B(10) = RT * D6
      B(11) = RT * D7 * T2
      B(12) = RT * D7 * T5
      B(13) = RT * D8 * T2
      B(14) = RT * D * T5 * F1
      B(15) = RT * D * T6 * F1
      B(16) = RT * D2 * T35 * F1
      B(17) = RT * D2 * T55 * F1
      B(18) = RT * D3 * T3 * F1
      B(19) = RT * D3 * T7 * F1
      B(20) = RT * D5 * T6 * F1
      B(21) = RT * D6 * T85 * F1
      B(22) = RT * D7 * T4 * F1
      B(23) = RT * D8 * T65 * F1
      B(24) = RT * D10 * T55 * F1
      B(25) = RT * D2 * T22 * F2
      B(26) = RT * D3 * T11 * F2
      B(27) = RT * D3 * T18 * F2
      B(28) = RT * D4 * T11 * F2
      B(29) = RT * D4 * T23 * F2
      B(30) = RT * D5 * T17 * F2
      B(31) = RT * D5 * T18 * F2
      B(32) = RT * D5 * T23 * F2
      IF(IDD.GT.0)GO TO 502
      RETURN
502  P = 0
      DO 501 I = 1,32
      P = P+G(I) * B(I)
501  CONTINUE
      PP = P
      RETURN

```

C

```

      ENTRY CVR(PP,DD,TT,IDD)
C*****ENTRY TO CALCULATE RESIDUAL ISOCHORIC HEAT CAPACITY
C

```

```

      K = 6
      GO TO 1
600  CONTINUE
      X( 1) = 0.0
      X( 2) = -R * 0.75 * D * T15

```

```

X( 3) = -R * 3.75 * D * T25
X( 4) = -R * 0.75 * D2 * TMS
X( 5) = -R * 0.75 * D2 * T15
X( 6) = -R * 2.00 * D2 * T2
X( 7) = 0.0
X( 8) = 0.0
X( 9) = -R * 3.75 * D3 * T25
X(10) = 0.0
X(11) = -R * 2.00 * D7 * T2
X(12) = -R * 20.00 * D7 * T5
X(13) = -R * 2.00 * D8 * T2
X(14) = -R * 20.00 * D * T5 * F1
X(15) = -R * 30.00 * D * T6 * F1
X(16) = -R * 8.75 * D2 * T35 * F1
X(17) = -R * 24.75 * D2 * T55 * F1
X(18) = -R * 6.00 * D3 * T3 * F1
X(19) = -R * 42.00 * D3 * T7 * F1
X(20) = -R * 30.00 * D5 * T6 * F1
X(21) = -R * 63.75 * D6 * T85 * F1
X(22) = -R * 12.0 * D7 * T4 * F1
X(23) = -R * 35.75 * D8 * T65 * F1
X(24) = -R * 24.75 * D10 * T55 * F1
X(25) = -R * 462.0 * D2 * T22 * F2
X(26) = -R * 110.0 * D3 * T11 * F2
X(27) = -R * 306.0 * D3 * T18 * F2
X(28) = -R * 110.0 * D4 * T11 * F2
X(29) = -R * 506.0 * D4 * T23 * F2
X(30) = -R * 272.0 * D5 * T17 * F2
X(31) = -R * 306.0 * D5 * T18 * F2
X(32) = -R * 506.0 * D5 * T23 * F2
IF(IDD.GT.0)GO TO 602
RETURN

```

```

602 P = 0
DO 601 I = 1,32
P = P+G(I) * X(I)
601 CONTINUE
PP = P
RETURN

```

```

C
ENTRY DP2D2(PP,DD,TT,IDD)
C*****ENTRY TO CALCULATE SECOND ISOTHERMAL DENSITY DERIVATIVE
C*****OF PRESSURE
C

```

```

K = 7
GO TO 1
700 CONTINUE
B( 1) = RTD * 2.0
B( 2) =RTD * 2.0 * T15
B( 3) =RTD * 2.0 * T25
B( 4) =RTD * 12.0 * D * TMS
B( 5) =RTD * 12.0 * D * T15
B( 6) =RTD * 12.0 * D * T2
B( 7) =RTD * 36.0 * D2

```



```

B( 8) =RTD * 36.0 * D2 * T
B( 9) =RTD * 36.0 * D2 * T25
B(10) =RTD * 252. * D5
B(11) =RTD * 392. * D6 * T2
B(12) =RTD * 392. * D6 * T5
B(13) =RTD * 576. * D7 * T2
B(14) =RTD *( 2.0 - 34.0 * D2 + 40.0 * D4 - 8.0 * D6)*T5*F1
B(15) =RTD *( 2.0 - 34.0 * D2 + 40.0 * D4 - 8.0 * D6)*T6*F1
B(16) =RTD *(12.0*D - 68.0 * D3 + 52.0 * D5 - 8.0 * D7)*T35*F1
B(17) =RTD *(12.0*D - 68.0 * D3 + 52.0 * D5 - 8.0 * D7)*T55*F1
B(18) =RTD*(36.0*D2 -114.0 * D4 + 64.0 * D6 - 8.0 * D8)*T3*F1
B(19) =RTD*(36.0*D2 -114.0 * D4 + 64.0 * D6 - 8.0 * D8)*T7*F1
B(20) =RTD*(150.0*D4 -242.0*D6 + 88.0 * D8 - 8.0 * D10)*T6*F1
B(21) =RTD*(252.0*D5 -324.0*D7 +100.0 * D9 - 8.0 * D11)*T85*F1
B(22) =RTD*(392.0*D6-418.0 *D8 + 112.0 * D10- 8.0 * D12)*T4*F1
B(23) =RTD*(576.0*D7-524.0*D9 + 124.0 * D11- 8.0 * D13)*T65*F1
B(24) =RTD*(1100.0*D9-772.0*D11 +148.0 *D13- 8.0 * D15)*T55*F1
B(25) =RTD*(12.0*D- 240.0 * D5 +304.0 * D9- 64.0 * D13)*T22*F2
B(26) =RTD*(36.0*D2 -356.0*D6 +352.0 * D10- 64.0 * D14)*T11*F2
B(27) =RTD*(36.0*D2 -356.0*D6 +352.0 * D10- 64.0 * D14)*T18*F2
B(28) =RTD*(80.0*D3 -496.0*D7 +400.0 * D11- 64.0 * D15)*T11*F2
B(29) =RTD*(80.0*D3 -496.0*D7 +400.0 * D11- 64.0 * D15)*T23*F2
B(30) =RTD*(150.0*D4 -660.0*D8 +448.0 * D12-64.0 * D16)*T17*F2
B(31) =RTD*(150.0*D4 -660.0*D8 +448.0* D12- 64.0 * D16)*T18*F2
B(32) =RTD*(150.0*D4-660.0*D8 +448.0 * D12- 64.0 * D16)*T23*F2
M = 32
IF(IDD.GT.0)GO TO 702
B(33) = PP
RETURN
702 PP = 0
DO 701 I = 1,M
PP = PP + B(I)*G(I)
701 CONTINUE
PP = PP
RETURN
C
ENTRY DP2DT2(PP,DD,TT,IDD)
C*****ENTRY TO CALCULATE SECOND ISOCHORIC TEMPERATURE DERIVATIVE
C*****OF PRESSURE
C
K = 8
GO TO 1
800 CONTINUE
B( 1) = 0.0
B( 2) = RTT * D * 0.75 * T25
B( 3) = RTT * D * 3.75 * T35
B( 4) = RTT * 1.5 * D2 * TS
B( 5) = RTT * 1.5 * D2 * T25
B( 6) = RTT * 4.0*D2*T3
B( 7) = 0.0
B( 8) = 0.0
B( 9) = RTT * 11.25*D3*T35
B(10) = 0.0

```

```

B(11) = RTT * 14.*D7 *T3
B(12) = RTT * 140.*D7* T6
B(13) = RTT * 16.*D8 *T3
B(14) = RTT * (20.*D-40.*D3)*T6 * F1
B(15) = RTT * (30.*D-60.0*D3) *T7*F1
B(16) = RTT * (D2-D4)*17.5*T45*F1
B(17) = RTT * (D2-D4)*49.50*T65*F1
B(18) = RTT * (18.0*D3-12.0*D5)* T4*F1
B(19) = RTT * (126.0*D3-84.0*D5)* T8*F1
B(20) = RTT * (150.0*D5-60.*D7) * T7*F1
B(21) = RTT * (382.5*D6-127.5*D8) * T95*F1
B(22) = RTT * (84.0*D7-24.0*D9) * T5*F1
B(23) = RTT * (286.0*D8-71.5*D10) * T75*F1
B(24) = RTT * (247.5*D10-49.5*D12) * T65*F1
B(25) = RTT * (924.0*D2-1848.0*D6) * T23*F2
B(26) = RTT * (330.0*D3-440.0*D7) * T12*F2
B(27) = RTT * (918.0*D3-1224.0*D7) * T19*F2
B(28) = RTT * (D4-D8)*440.0*T12*F2
B(29) = RTT * (D4-D8)* 2024.0*T24*F2
B(30) = RTT * (1360.0*D5-1088.0*D9) * T18*F2
B(31) = RTT * (1530.0*D5-1224.0*D9) * T19*F2
B(32) = RTT * (2530.0*D5-2024.0*D9) * T24*F2
IF (IDD.GT.0) GO TO 801
B(33) = PP
RETURN
801 PP = 0.0
DO 802 I = 1,32
PP = PP + G(I) * B(I)
802 CONTINUE
PP=PP
RETURN
END

```

```

C
FUNCTION ENTROPY(DENS,TEMP)
C*****FUNCTION TO CALCULATE ENTROPY FROM DENSITY AND TEMPERATURE
C
CALL SR(EN,DENS,TEMP,1)
CALL IDEAL1(TEMP,DENS,EID,HID,HEL,SID,CVID,CPID,1)
ENTROPY=100.*EN+SID
RETURN
END

```

C

```

      SUBROUTINE IDEAL1(T,D,EID,HID,HEL,SID,CVID,CPID,IATM)
C*****HAS EXPLICIT DENSITY DEPENDENCE; GOOD FOR ALL PROPERTIES
C*****AT ANY PRESSURE (OR DENSITY RELATED TO P VIA IDEAL GAS EOS)*****
C*****THIS IS FOR METHANE AT ANY DENSITY AND TEMPERATURE

```

C

```

      COMMON /REFDAT/ R1,PC, DC, TC, ZC, G(32), PTRP, DTRP, TTRP
      *
      , CMW
      DIMENSION QS(7)
      DATA QS/-15.479844,2.5998324,-3.3854083,
C 1.6900979,-0.3911541,4.7206715,-10.543907/
      DATA Q0/-10.413865/
      CALL IDEAL2(T,EID,HID,HEL,SID,CVID,CPID)
      IF(IATM.NE.0)THEN
      R = R1*100.
      TAU=TC/T
      DEL=D/DC
      ADD=R*(Q0-QS(1) + LOG(DEL/TAU))
      HEL=HEL+T*ADD
      SID=SID-ADD
      END IF
      RETURN
      END

```

C

```

      SUBROUTINE IDEAL2(T,EID,HID,HEL,SID,CVID,CPID)
C*****NEW IDEAL SUBROUTINE FOR 1986 VALUE OF GAS CONSTANT*****
C*****FORM OF HELMHOLTZ FREE ENERGY FOLLOWS GOODWIN WITH WAGNER VARIABLES**
C*****COEFFICIENTS FROM GOODWIN'S FIT OF MCDOWELL-KRUSE*****
C*****ASSUMES HELMHOLTZ ENERGY EQUALITY (IN LN RHO FORM) AT 298.15 K*****
C*****NEW R FORCES SLIGHT DEVIATIONS IN OTHER PROPERTIES, SINCE NOT*****
C*****ALL EQS ARE DIRECTLY PROPORTIONAL TO R*****
C*****DATE OF CHANGE 4/14/87*****
C*****GOOD ONLY AT 1 ATM; PROBLEM FOR HEL AND SID--SEE IDEAL1*****

```

C

```

      COMMON /REFDAT/ R1,PC, DC, TC, ZC, G(32), PTRP, DTRP, TTRP
      *
      , CMW
      DIMENSION QS(7)
      DATA QS/-15.479844,2.5998324,-3.3854083,
C 1.6900979,-0.3911541,4.7206715,-10.543907/
      DATA P1,P2/-.33333333,-.66666667/
      R = R1*100.
      TAU=TC/T
      TAU3=TAU**P1
      TAU23=TAU**P2
      EXTAU=EXP(QS(7)*TAU )
      PHID=QS(1)+(QS(2)+1.)*LOG(TAU)+QS(3)*TAU3+QS(4)*TAU23

```

```

1 +QS(5)/TAU+QS(6)*LOG(1.-EXTAU)
  PHIDD1=QS(2)-QS(3)/3.*TAU3-2.*QS(4)/3.*TAU23-QS(5)/TAU
1 -QS(6)*QS(7)*TAU/(1./EXTAU-1.)
  PHIDD2=-QS(2)+4.*QS(3)/9.*TAU3+10.*QS(4)/9.*TAU23
1 +2.*QS(5)/TAU-QS(6)*QS(7)**2*TAU**2*EXTAU/(EXTAU-1.))**2
  HEL=R*T*PHID
  CPID=R*(1.-PHIDD2)
  EID=R*T*PHIDD1
  HID=R*T+EID
  CVID=-R*PHIDD2
  SID=-R*(PHID-PHIDD1)
  RETURN
  END

```

```

C
  FUNCTION HELM(DENS,TEMP)
C*****THIS FUNCTION IS FOR HELMHOLTZ FREE ENERGY
C
  CALL AR(HE,DENS,TEMP,1)
  HE=100.*HE
  CALL IDEAL1(TEMP,DENS,EID,HID,HEL,SID,CVID,CPID,1)
  HELM=HE+HEL
  RETURN
  END

```

```

C
  FUNCTION GIBBS(DENS,TEMP,PRES)
C*****THIS FUNCTION IS FOR GIBBS ENERGY
C
  HEL=HELM(DENS,TEMP)
  GIBBS=HEL+PRES*1.E05/(DENS*1000.)
  RETURN
  END

```

```

C
  FUNCTION UNTERN(DENS,TEMP)
C*****THIS FUNCTION IS FOR INTERNAL ENERGY
C
  HEL=HELM(DENS,TEMP)
  SS=ENTROPY(DENS,TEMP)
  UNTERN=HEL+SS*TEMP
  RETURN
  END

```



```

C
      FUNCTION ENTHALP(DENS,TEMP,PRES)
C*****THIS FUNCTION IS FOR ENTHALPY
C
      HEL=HELM(DENS,TEMP)
      UNT=UNTERN(DENS,TEMP)
      GIB=GIBBS(DENS,TEMP,PRES)
      ENTHALP=GIB+UNT-HEL
      RETURN
      END

C
      FUNCTION CPEE(RHO,TEE)
C*****THIS FUNCTION IS FOR ISOBARIC HEAT CAPACITY
C
      D = RHO
      CVCAL = CVF(D,TEE)
      CALL DPDT(P1,D,TEE,1)
      CALL DPDD(P2,D,TEE,1)
      CPCAL = CVCAL + 100.0 * TEE * P1 * P1 / (D * D * P2)
      CPEE=CPCAL
      RETURN
      END

C
      FUNCTION XLAMF(D,T)
C
C*****THIS FUNCTION IS FOR THE THERMAL CONDUCTIVITY OF METHANE
C
      COMMON /REFDAT/ R, PC, DC, TC, ZC, A(32), PTRP, DTRP, TTRP
      *
      , CMW
C
C
      DIMENSION G(7),F(7)
C
      DATA G,ES /.241492073721E+01, .551663305903E+00,
1  -.528377342545E+00, .738095527532E-01, .244655067073E+00,
2  -.476136258746E-01, .155546119921E+01,6.29638/
C
C
020 DELTA = D / DC
      TAU = TC / T
      TCO = TCOND0(T)
      TCCRIT = TCRIT1(D,T)
C

```

```

DS = DC
IF(D.LE.DC.AND.T.LE.TC) THEN
CALL SATF(T,PS,DSL,DSV)
  DS = DSV
ENDIF

```

C

```

F(1) =DELTA
F(2) = DELTA**3
F(3)= DELTA**4
F(4) = DELTA**4 * TAU
F(5)= DELTA**5
F(6) = DELTA**5 * TAU
F(7)= D/DS*DELTA

```

C

```

      TCX = 0.
      DO 040 J = 1, 7
040    TCX = TCX + F(J)*G(J)
060    TCX = TCX + ES * TCX + TCCRIT
      XLAMF=TCX
      RETURN
      END

```

C

```

      FUNCTION OM22S(TS)
C*****THIS FUNCTION IS FOR THE 11-6-8 GAMMA EQUALS 3
C*****OMEGA 22 COLLISION INTEGRAL

```

C

```

      DIMENSION CO(9)

```

C

```

      DATA CO/-3.0328138281E+00, 1.6918880086E+01,-3.7189364917E+01,
*           4.1288861858E+01,-2.4615921140E+01, 8.9488430959E+00,
*           -1.8739245042E+00, 2.0966101390E-01,-9.6570437074E-03/
      TI = 1.0 / TS
      T1=TS*(1.0/3.0)
      ETA =0.0
      DO 020 J=1,9
      ETA =ETA +CO(J)*TI
020    TI=TI*T1
      OM22S = 1.0 / ETA
      RETURN
      END

```

```

C
  FUNCTION VSCTY(D,T)
C * * * * *
C   PURPOSE - - THIS ROUTINE CALCULATES THE VISCOSITY OF METHANE
C
C   VERSION 4.0  5/17/85 - - CODED BY J. F. ELY
C               WITH SUBSEQUENT REVISIONS
C * * * * *
C
  COMMON /REFDAT/ R, PC, DC, TC, ZC, A(32), PTRP, DTRP, TTRP
  *               , CMW
C
  DIMENSION GV(11), F(11)
C
  COEF FROM VP3, FILE ETAWT
C   UNITS ARE IN MICRO PA SEC MUST BE *10.
  DATA GV,ETAS/.412501370594E+00, -.143909116635E+00,
  1 .103669933465E+00, .402874641440E+00, -.249035243650E+00,
  2 -.129531310621E+00, .657577550033E-01, .256662763171E-01,
  3 -.371652573606E-01, -.387983411200E+00, .353381454207E-01,
  4 12.149/
C
020 DELTA = D / DC
  TAU = TC / T
  F(1) = DELTA
  F(2) = TAU*DELTA
C
C
  F(3) = DELTA**2
  F(4) = TAU*DELTA**2
  F(5) = DELTA**2 * TAU * SQRT(TAU)
C
  F(6) = DELTA**3
  F(7) = DELTA**3 * TAU**2
C
  F(8) = DELTA**4
  F(9) = DELTA**4 * TAU
C
  F(10)= DELTA
  F(11)= DELTA * TAU
C
  ETA = 0.
  DO 040 J = 1, 9
040   ETA = ETA + F(J)*GV(J)
      DENOM = 1.0 + F(10)*GV(10) + F(11)*GV(11)
  ETAG = ETA0(T)
060   ETA = ETAG + ETAS * ETA / DENOM
  VSCTY = ETA
  RETURN
  END

```

```

C
      FUNCTION ETA0(T)
C*****THIS FUNCTION EVALUATES THE ZERO DENSITY VISCOSITY
C*****OF METHANE
C
      COMMON /REFDAT/ R, PC, DC, TC, ZC, A(32), PTRP, DTRP, TTRP
      *
      DATA EOK/174.0/
C SIGMA AS 11/7/86
      TS = T / EOK
      ETA0 = 10.50*SQRT(TS)/OM22S(TS)
      RETURN
      END

```

```

C
      FUNCTION TCONDO(T)
C*****THIS FUNCTION EVALUATES THE ZERO DENSITY
C*****THERMAL CONDUCTIVITY OF METHANE
C
      COMMON /REFDAT/ RT, PC, DC, TC, ZC, A9(32), PTRP, DTRP, TTRF
      *
      DATA CON,EOK/0.51826,174.0/
C CORRECTED VERSION OF LAMZERO GIVES THE FOLLOWING 12/29/87
      DATA G1,G2/ 1.4588497685, -0.43771624308/
      CALL IDEAL2(T,X1,X2,X3,X4,CV,X5)
      CVDIM=-CV/(100.*RT)
      TS=T/EOK
      TCC=- (G1+G2/(TS))*(CVDIM+1.5)
      ETA0=ETA0(T)
      TCONDO=CON*ETA0*(3.75+TCC)
      RETURN
      END

```

```

C
      FUNCTION TCRIT1(D,T)
      COMMON /REFDAT/ R, PC, DC, TC, ZC, A(32), PTRP, DTRP, TTRP
      *
C
      DIMENSION G1(4)
C CRIT. ENHANC. AS IN SENGERS ET AL 1981 U MARYL. REPORT
C DERIVATIVES FROM BWR, ... 26 JAN 82
C UNITS, IN MOL/L,K, INTERNAL ALSO BAR, OUT W/M-K, ETA PA-S,BK J/K
C

```



```

C      DATA GAM,BETA,AEX,BEX,ECON/1.19,0.355,3.352,0.732,0.287/
      DATA RCON,QCON,SCON,WCON/0.535,0.1133,-6.098,-1.401/
      DATA CAPGAM/0.0801/
C      COEFS FOR DFACT AS OF 1/04/88
      DATA G1/ .264609797168E+01, .267792744757E+01,
C      -.637034076544E+00, .223519888946E+01/
      DELTA = D / DC
      TAU=TC/T
      DELD = ABS(DELTA - 1.0)
      DELT = ABS(T-TC)/TC
      DELA = (D/DC-1.0)
      DFACT = EXP(-(G1(1)*DELT**(.1/2.)+G1(2)*DELD**2.0 )+
C      G1(3)*DELA )
C
      ETA = VSCTY(D,T)
      CALL DPDT(DPT,D,T,1)
      DPTDIM=DPT/(D*R)
      CALL DPDD(DPD,D,T,1)
      DPDDIM=DPD/(T*R)
      IF(DELD.EQ.0..AND.DELT.LT..03) GO TO 3
      IF(DELD.LE.0.25.AND.DELT.LT.0.03) GO TO 8
      CHISTAR=0.28631*DELTA*TAU/DPDDIM
      GO TO 12
8 XX = (TC-T)/TC/DELD**(1.0/BETA)
      Y = 1.+SCON*XX
      IF(Y.LT.0.) THEN
      PRINT*,' T ',T,' D ', ' Y ',Y , 'IN TCRIT1'
      Y = 0.
      ENDIF
      THETA=1.+ECON*Y**(2.*BETA)
      OMEGA=WCON*XX
      TOP=QCON*DELD**(-AEX)*THETA**(BEX)
      DIV=THETA+OMEGA*(THETA+RCON)
      CHISTAR=TOP/DIV
12 CHI = CHISTAR**0.4681
      SENG=91.855*DPTDIM**2*CHI*DFACT/(ETA*TAU**2)
      TCRIT1 = SENG
      RETURN
3 CHISTAR=CAPGAM*DELT**(-GAM)
      GO TO 12
      END

```

```

C      FUNCTION TSAT(PRESS)
C*****THIS FUNCTION CALCULATES THE SATURATION TEMPERATURE
C*****GIVEN A PRESSURE BELOW ITS CRITICAL VALUE
C
      COMMON /DERIV/DF,JUNK
      COMMON /REFDAT/ R, PC, DC, TC, ZC, G(32), PTRP, DTRP, TTRP
      *      , CMW
      IF(PRESS.GT.PC)THEN
      PAUSE 'PRESSURE GREATER THAN CRITICAL IN TSAT'
      RETURN
      END IF
      IF(PRESS.LT.PTRP)THEN
      PAUSE 'PRESSURE LESS THAN TRIPLE POINT IN TSAT'
      RETURN
      END IF
      XL=TTRP
      XH=TC
      TSAT=.5*(XL+XH)
      DXOLD=ABS(XH-XL)
      DX=DXOLD
      F=PSATF(TSAT)-PRESS
      DO 11 J=1,100
      IF(((TSAT-XH)*DF-F)*((TSAT-XL)*DF-F).GE.0.
C      .OR. ABS(2.*F).GT.ABS(DXOLD*DF))THEN
      DXOLD=DX
      DX=0.5*(XH-XL)
      TSAT=XL+DX
      IF(XL.EQ.TSAT)RETURN
      ELSE
      DXOLD=DX
      DX=F/DF
      TEMP=TSAT
      TSAT=TSAT-DX
      IF(TEMP.EQ.TSAT)RETURN
      ENDIF
      IF(ABS(DX).LT..00005)RETURN
      F=PSATF(TSAT)-PRESS
      IF(F.LT.0.)THEN
      XL=TSAT
      ELSE
      XH=TSAT
      ENDIF
11  CONTINUE
      PAUSE 'IN TSAT: EXCEEDS MAXIMUM ITERATIONS'
      RETURN
      END

```

C

BLOCK DATA CLINIT

C*****THIS BLOCK DATA SUBROUTINE SUPPLIES THE FUNDAMENTAL CONSTANTS

C*****AND PARAMETERS NECESSARY FOR THE METHANE FLUID IN

C*****ACCORDANCE WITH THE CORRELATIONS OF

C*****FRIEND, ELY, AND INGHAM, 'THERMOPHYSICAL PROPERTIES OF METHANE'

COMMON /REFDAT/ R, PC, DC, TC, ZC, G(32), PTRP, DTRP, TTRP

* , CMW

C

COMMON/SATBDY/TCC,PCC,DCC,ZCC,RC,EPP,BETA

C

DATA TC, PC, DC, PTRP, DTRP, TTRP, CMW

C/190.551, 45.9920, 10.139, 0.11696, 28.145, 90.6854, 16.043/

DATA TCC, PCC, DCC

C/190.551, 45.9920, 10.139/

DATA G/ .384436099659E+00, -.179692598800E+01,

1 .329444947369E+00, .226312728442E-01, .759236768798E-01,

2 .693758447259E-01, .241163263947E-01, .107009920854E-01,

3 -.380933275164E-01, .471537561143E-03, .556607678805E-03,

4 .548759346533E-06, -.999632699967E-04, -.128087979280E+00,

5 .380198873377E-01, .139226650551E+00, -.874996348859E-01,

6 -.334894165760E-02, -.517576297122E-01, .252835179116E-01,

7 .518703205947E-03, -.166770594525E-02, -.607401927389E-03,

8 -.972915359991E-04, -.298844010462E-04, -.130940111242E-01,

9 .198175833798E-01, .208465762327E-01, -.358025052631E-01,

A -.203486851741E+00, .215964755088E+00, -.429340628249E-02/

C

DATA R,EPP,BETA,ZC/0.08314510, 1.9, 0.355,0.28631182/

DATA RC,ZCC/0.08314510,0.28631182/

C

END

U.S. DEPT. OF COMM. BIBLIOGRAPHIC DATA SHEET <i>(See instructions)</i>	1. PUBLICATION OR REPORT NO. NIST/TN-1325	2. Performing Organ. Report No.	3. Publication Date April 1989
4. TITLE AND SUBTITLE Tables for the Thermophysical Properties of Methane			
5. AUTHOR(S) Daniel G. Friend, James F. Ely, and Hepburn Ingham			
6. PERFORMING ORGANIZATION <i>(If joint or other than NBS, see instructions)</i> National Institute of Standards and Technology NATIONAL BUREAU OF STANDARDS DEPARTMENT OF COMMERCE WASHINGTON, D.C. 20234		7. Contract/Grant No.	8. Type of Report & Period Covered
9. SPONSORING ORGANIZATION NAME AND COMPLETE ADDRESS <i>(Street, City, State, ZIP)</i>			
10. SUPPLEMENTARY NOTES ☐ Document describes a computer program; SF-185, FIPS Software Summary, is attached.			
11. ABSTRACT <i>(A 200-word or less factual summary of most significant information. If document includes a significant bibliography or literature survey, mention it here)</i> The thermophysical properties of methane are tabulated for a large range of fluid states based on recently formulated correlations. For the thermodynamic properties, temperatures from 91 to 600 K at pressures less than 100 MPa are included. For the viscosity, the corresponding range is 91 - 400 K with pressures to 55MPa, while for the thermal conductivity the range is 91 - 600 K with pressures to 100 MPa. In addition to the tables of properties, algebraic expressions and associated tables of coefficients are given to allow additional property calculations. Tables of comparisons between experimental property determinations and the correlations are also given both for primary data used in the formulation of the correlations and for additional data. A listing of a FORTRAN program for the evaluation of methane thermophysical properties using the Schmidt-Wagner equation of state is included.			
12. KEY WORDS <i>(Six to twelve entries; alphabetical order; capitalize only proper names; and separate key words by semicolons)</i> correlation; density; equation of state; heat capacity; methane; phase boundary; pressure; speed of sound; thermal conductivity; thermophysical properties; transport properties; virial coefficients; viscosity.			
13. AVAILABILITY ☒ Unlimited ☐ For Official Distribution. Do Not Release to NTIS ☒ Order From Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. ☐ Order From National Technical Information Service (NTIS), Springfield, VA. 22161		14. NO. OF PRINTED PAGES 490 15. Price	

NIST *Technical Publications*

Periodical

Journal of Research of the National Institute of Standards and Technology—Reports NIST research and development in those disciplines of the physical and engineering sciences in which the Institute is active. These include physics, chemistry, engineering, mathematics, and computer sciences. Papers cover a broad range of subjects, with major emphasis on measurement methodology and the basic technology underlying standardization. Also included from time to time are survey articles on topics closely related to the Institute's technical and scientific programs. Issued six times a year.

Nonperiodicals

Monographs—Major contributions to the technical literature on various subjects related to the Institute's scientific and technical activities.

Handbooks—Recommended codes of engineering and industrial practice (including safety codes) developed in cooperation with interested industries, professional organizations, and regulatory bodies.

Special Publications—Include proceedings of conferences sponsored by NIST, NIST annual reports, and other special publications appropriate to this grouping such as wall charts, pocket cards, and bibliographies.

Applied Mathematics Series—Mathematical tables, manuals, and studies of special interest to physicists, engineers, chemists, biologists, mathematicians, computer programmers, and others engaged in scientific and technical work.

National Standard Reference Data Series—Provides quantitative data on the physical and chemical properties of materials, compiled from the world's literature and critically evaluated. Developed under a worldwide program coordinated by NIST under the authority of the National Standard Data Act (Public Law 90-396). NOTE: The Journal of Physical and Chemical Reference Data (JPCRD) is published quarterly for NIST by the American Chemical Society (ACS) and the American Institute of Physics (AIP). Subscriptions, reprints, and supplements are available from ACS, 1155 Sixteenth St., NW., Washington, DC 20056.

Building Science Series—Disseminates technical information developed at the Institute on building materials, components, systems, and whole structures. The series presents research results, test methods, and performance criteria related to the structural and environmental functions and the durability and safety characteristics of building elements and systems.

Technical Notes—Studies or reports which are complete in themselves but restrictive in their treatment of a subject. Analogous to monographs but not so comprehensive in scope or definitive in treatment of the subject area. Often serve as a vehicle for final reports of work performed at NIST under the sponsorship of other government agencies.

Voluntary Product Standards—Developed under procedures published by the Department of Commerce in Part 10, Title 15, of the Code of Federal Regulations. The standards establish nationally recognized requirements for products, and provide all concerned interests with a basis for common understanding of the characteristics of the products. NIST administers this program as a supplement to the activities of the private sector standardizing organizations.

Consumer Information Series—Practical information, based on NIST research and experience, covering areas of interest to the consumer. Easily understandable language and illustrations provide useful background knowledge for shopping in today's technological marketplace.

Order the above NIST publications from: Superintendent of Documents, Government Printing Office, Washington, DC 20402.

Order the following NIST publications—FIPS and NISTIRs—from the National Technical Information Service, Springfield, VA 22161.

Federal Information Processing Standards Publications (FIPS PUB)—Publications in this series collectively constitute the Federal Information Processing Standards Register. The Register serves as the official source of information in the Federal Government regarding standards issued by NIST pursuant to the Federal Property and Administrative Services Act of 1949 as amended, Public Law 89-306 (79 Stat. 1127), and as implemented by Executive Order 11717 (38 FR 12315, dated May 11, 1973) and Part 6 of Title 15 CFR (Code of Federal Regulations).

NIST Interagency Reports (NISTIR)—A special series of interim or final reports on work performed by NIST for outside sponsors (both government and non-government). In general, initial distribution is handled by the sponsor; public distribution is by the National Technical Information Service, Springfield, VA 22161, in paper copy or microfiche form.

U.S. DEPARTMENT OF COMMERCE

National Institute of Standards and Technology

(formerly National Bureau of Standards)

325 Broadway

Boulder, Colorado 80303-3328

OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE, \$300