CRITICAL CONSTANTS OF ORGANIC COMPOUNDS

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The parameters of the liquid-gas critical point are important constants in determining the behavior of fluids. This table lists the critical temperature, pressure, and molar volume, as well as the normal boiling point, for over 850 organic substances. The properties and their units are:

- T_b: Normal boiling point in K at a pressure of 101.325 kPa (1 atmosphere); an "s" following the value indicates a sublimation point (temperature at which the solid is in equilibrium with the gas at a pressure of 101.325 kPa)
- T_c: Critical temperature in K
- P_c: Critical pressure in MPa
- V_c: Critical molar volume in $cm^3\ mol^{-1}$

The listed values of the critical constants are critically evaluated using the NIST ThermoData Engine, TDE (Ref. 1), designed to implement the dynamic data evaluation concept (Refs. 2–5). This concept requires large electronic databases capable of storing essentially all relevant experimental data known to date with detailed descriptions of metadata and uncertainties. The combination of these electronic databases with expert-system software, designed to automatically generate recommended property values based on available experimental and predicted data, leads to the ability to produce critically evaluated data dynamically or "to order." The evaluated data have been generated only for compounds for which experimental data for critical properties are available. Group contribution methods such as Joback-Reed (Ref. 6), Constantinou-Gani (Ref. 7), Marrero-Pardillo (Ref. 8), and Wilson-Jasperson (Ref. 9) as well as quantitative structure-property relationship (QSPR) methods (Ref. 5) were used within the TDE environment to validate available experimental data. Each recommended value in the table is characterized with a combined expanded uncertainty (Ref. 10) (level of confidence, approximately 95%) listed in parentheses. Only references to original experimental data actually used by TDE to generate critically evaluated data are indicated for each compound. Compounds are listed alphabetically by name.

The values of the normal boiling temperatures provided in the table along with the combined expanded uncertainities listed in parentheses have also been critically evaluated using TDE. Additional details on the determination of the normal boiling temperatures using TDE can be found in the Physical Constants of Organic Compounds table in Section 3. The remaining values of the normal boiling temperatures (without uncertainities) are taken from the compilation presented in the 91st Edition of the CRC *Handbook of Chemistry and Physics*.

Name	Mol. Form.	T_b/K	T_c/K	P_c/MPa	V_c/cm³ mol⁻¹	Ref.
Acetaldehyde	C_2H_4O	293.9(0.6)	462(8)	7.5(1)	154(5)	11–13
Acetic acid	$C_2H_4O_2$	391.0(0.2)	593(2)	5.79(0.03)	171(2)	14–21
Acetic anhydride	$C_4H_6O_3$	412.6(0.3)	606(1)	4.00(0.08)	294(12)	22
Acetone	C_3H_6O	329.23(0.07)	508.1(0.2)	4.7(0.1)	221(20)	18, 23–31
Acetonitrile	C_2H_3N	354.8(0.2)	545.47(0.07)	4.88(0.01)	173(59)	32–40
Acetophenone	C_8H_8O	475.2(0.2)	709.5(0.7)	4.01(0.05)	373(40)	11, 41
Acetylene	C_2H_2	188.45 s	308.4(0.4)	6.24(0.04)	119(11)	42–48
Acrylonitrile	C_3H_3N	350.3(0.2)	540(2)	4.6(0.1)	211(10)	49
Allene	C_3H_4	238.3(0.3)	394(4)	6.5(0.7)	167(8)	50
Allyl alcohol	C_3H_6O	370.0(0.5)	539.8(0.6)	5.76(0.04)	222(9)	51
Allylamine	C_3H_7N	327(2)	540.0(0.7)	4.83(0.03)	217(11)	52
Allyl ethyl ether	$C_5H_{10}O$	338(4)	518(10)	3(2)	320(10)	21
2-Aminobiphenyl	$C_{12}H_{11}N$	571.4(0.2)	838(2)	3.52(0.03)	548(99)	53
2-Aminoethanol	C_2H_7NO	443.4(0.4)	671(3)	8.0(0.5)	207(13)	41
2-(2-Aminoethoxy)ethanol	$C_4H_{11}NO_2$	496.2(0.1)	721(4)	4.88(0.1)	333(19)	54
N-(2-Aminoethyl)ethanolamine	$C_4H_{12}N_2O$	515(5)	739(2)	4.53(0.09)	340(17)	55
Amyl orthosilicate	$C_{20}H_{44}O_4Si$		714(14)			57
Aniline	C_6H_7N	457.2(0.4)	704(7)	5.3(0.1)	291(3)	39, 40, 58–60
Anisole	C_7H_8O	426.8(0.2)	646.1(0.2)	4.2(0.1)	355(12)	25, 39, 40, 49
Benzene	C_6H_6	353.23(0.07)	562.0(0.1)	4.90(0.02)	257(11)	19, 27, 28, 34, 61–97
Benzeneacetic acid	$C_8H_8O_2$	541(2)	766(8)	3.9(0.3)	372(16)	98
Benzenebutanoic acid	$C_{10}H_{12}O_2$	569(2)	783(8)	3.2(0.2)	493(18)	98
Benzeneethanol	$C_8H_{10}O$	493(3)	724(4)	4.0(0.2)	390(15)	99
Benzeneheptanoic acid	$C_{13}H_{18}O_2$	585(27)	798(8)	2.5(0.3)	662(21)	98
Benzenehexanoic acid	$C_{12}H_{16}O_2$	574(27)	794(8)	2.6(0.3)	611(20)	98
Benzenepentanoic acid	$C_{11}H_{14}O_2$	583(1)	790(8)	3.1(0.2)	526(19)	98
Benzenepropanoic acid	$C_9H_{10}O_2$	557(2)	776(8)	3.5(0.2)	440(17)	98
Benzo[b]thiophene	C_8H_6S	494.0(0.4)	764(2)	4.68(0.04)	359(59)	100
Benzonitrile	C_7H_5N	464(1)	691(9)	4.22(0.04)	348(7)	39, 40, 101, 102
Benzophenone	$C_{13}H_{10}O$	579.0(0.2)	830(2)	3.0(0.1)	568(44)	101
Benzyl alcohol	C_7H_8O	478.4(0.2)	715(3)	4.3(0.2)	333(13)	103
[1,1'-Bicyclohexyl]-2-one	$C_{12}H_{20}O$	537	787(70)	3(7)	584(20)	104

Name	Mol. Form.	T_b/K	T_c/K	P_c/MPa	V_c/cm^3 mol^{-1}	Ref.
1,1'-Bicyclopentyl	$C_{10}H_{18}$	463.61(0.03)	690(2)	3.27(0.03)	497(41)	105
Biphenyl	$C_{12}H_{10}$	528.3(0.3)	773(5)	3.43(0.06)	481(69)	39, 106–109
Bis(2-aminoethyl)amine	$C_4H_{13}N_3$	479.6(0.3)	710(2)	4.43(0.07)	350(21)	55
1,1-Bis(difluoromethoxy)-1,2,2,2-tetrafluoroethane	$C_4H_2F_8O_2$	319.78(0.08)	450(1)	2.40(0.08)	410(4)	110
Bis(difluoromethyl) ether	$C_2H_2F_4O$	278.6(0.4)	420.2(0.1)	4.16(0.06)	223(13)	111
Bis(2-ethylhexyl) phthalate	$C_{24}H_{38}O_4$	657	835(9)	1.1(0.2)	1495(27)	112
Bis(2-hydroxyethyl)methylamine	$C_5H_{13}NO_2$	518(1)	742(4)	4.2(0.4)	404(17)	54
Bis(2,2,2-trifluoroethyl) ether	$C_4H_4F_6O$	336.91	476.31(0.09)	2.78(0.01)	365(1)	113
Bis(trimethylsilyl)methane	$C_7H_{20}Si_2$	406	573.9(0.3)			114
Bromochlorodifluoromethane	$CBrClF_2$	269.2(0.7)	428(12)	4.31(0.01)	229(16)	115
Bromodifluoromethane	$CHBrF_2$	257.5(0.5)	412.0(0.3)	5.2(0.1)	173(18)	116
Bromoethane	C_2H_5Br	311.3(0.6)	503.9(0.4)	6.2(0.1)	214(10)	117, 118
1-Bromo-2-fluorobenzene	C_6H_4BrF	427	669.6(0.6)	4.3(0.6)	342(18)	119
1-Bromo-3-fluorobenzene	C_6H_4BrF	423	652.0(0.4)	4.2(0.6)	337(18)	119
1-Bromo-4-fluorobenzene	C_6H_4BrF	423(2)	654.8(0.4)	4.2(0.2)	338(18)	119
1-Bromopropane	C_3H_7Br	343.9(0.2)	536.9(0.1)	4.33(0.06)	271(6)	120
Bromotrifluoromethane	$CBrF_3$	215.3(0.4)	340.06(0.05)	3.96(0.01)	199(6)	121
1-Bromo-2-(trifluoromethyl)benzene	$C_7H_4BrF_3$	440.7	656.5(0.4)	3.3(0.8)	415(24)	119
1-Bromo-3-(trifluoromethyl)benzene	$C_7H_4BrF_3$	424.7	627.1(0.4)	3.2(0.7)	413(24)	119
1-Bromo-4-(trifluoromethyl)benzene	$C_7H_4BrF_3$	433	629.8(0.4)	3.2(0.8)	413(24)	119
1,3-Butadiene	C_4H_6	268.5(0.2)	425(1)	4.35(0.07)	221(23)	122, 123
Butanal	C_4H_8O	347.9(0.2)	537(2)	4.41(0.1)	258(9)	104, 124
Butane	C_4H_{10}	272.6(0.5)	425.2(0.1)	3.79(0.01)	257(4)	29, 125–139
1,4-Butanediamine	$C_4H_{12}N_2$	429(10)	651(7)	4.5(0.5)	317(14)	140
1,2-Butanediol	$C_4H_{10}O_2$	469.57(0.06)	680(2)	5.4(0.1)	298(12)	141
1,3-Butanediol	$C_4H_{10}O_2$	481.3(0.1)	679(17)	4.7(0.1)	302(67)	54, 141
1,4-Butanediol	$C_4H_{10}O_2$	502.6(0.4)	724(4)	5.5(0.2)	307(14)	49, 55
Butanenitrile	C_4H_7N	390.8(0.4)	585.40(0.07)	3.82(0.05)	265(6)	35, 39, 40, 142
1-Butanethiol	$C_4H_{10}S$	371.5(0.5)	570.1(0.6)	4.01(0.02)	324(12)	143, 144
Butanoic acid	$C_4H_8O_2$	436.8(0.1)	623(6)	4.0(0.3)	292(10)	145–147
1-Butanol	$C_4H_{10}O$	390.8(0.2)	563.0(0.4)	4.43(0.07)	280(14)	34, 80, 148–155
2-Butanol	$C_4H_{10}O$	372.5(0.2)	535(4)	4.2(0.1)	269(4)	148, 149, 153, 156
2-Butanone	C_4H_8O	352.8(0.2)	537(1)	4.18(0.02)	274(30)	25, 30, 33, 34, 38, 157
1-Butene	C_4H_8	276.87(0.08)	419.3(0.1)	4.00(0.05)	236(14)	123, 158–161
cis-2-Butene	C_4H_8	274.03(0.09)	435.7(0.2)	4.23(0.02)	235(4)	86, 123, 158
trans-2-Butene	C_4H_8	266.8(0.2)	428.6(0.1)	4.03(0.02)	238(4)	86, 123, 158
2-Butoxyethanol	$C_6H_{14}O_2$	444(2)	633.9(1)	3.3(0.1)	424(15)	11, 41
1-*tert*-Butoxy-2-ethoxyethane	$C_8H_{18}O_2$	421.2	585(3)	2.5(0.4)	546(14)	162
2-Butoxyethyl acetate	$C_8H_{16}O_3$	464.2(0.9)	640(2)	2.7(0.2)	551(21)	144, 163
1-*tert*-Butoxy-2-methoxyethane	$C_7H_{16}O_2$	404(15)	574(1)	2.8(0.7)	480(13)	162
1-Butoxy-2-propanol	$C_7H_{16}O_2$	445(3)	625(1)	2.7(0.1)	479(20)	32
Butyl acetate	$C_6H_{12}O_2$	381(4)	578(10)	3.16(0.06)	403(6)	162, 164–167
sec-Butyl acetate	$C_6H_{12}O_2$	371(1)	571.1(0.5)	3.01(0.1)	398(14)	164, 165
tert-Butyl acetate	$C_6H_{12}O_2$	399.1(0.1)	541(4)	3.0(0.1)	399(7)	54
Butyl acrylate	$C_7H_{12}O_2$	419.8(0.6)	597.4(0.6)	2.76(0.03)	445(7)	51
Butylamine	$C_4H_{11}N$	335.86(0.08)	531.9(0.2)	4.20(0.04)	291(13)	168
sec-Butylamine	$C_4H_{11}N$	317.17(0.07)	514.3(0.2)	4.0(0.2)	284(11)	168
tert-Butylamine	$C_4H_{11}N$	350.1(0.2)	483.7(0.6)	3.85(0.06)	293(23)	75
Butylbenzene	$C_{10}H_{14}$	446.4(0.4)	660.5(0.1)	2.89(0.03)	498(18)	79, 86, 88
sec-Butylbenzene	$C_{10}H_{14}$	442.2(0.3)	652(1)	2.94(0.03)	488(39)	58
tert-Butylbenzene	$C_{10}H_{14}$	456.4(0.3)	648(1)	3.00(0.03)	474(30)	58, 64
Butyl benzoate	$C_{11}H_{14}O_2$	522(3)	725(14)	2.4(0.3)	594(10)	169
Butyl butanoate	$C_8H_{16}O_2$	438.1(0.1)	612(3)	2.4(0.2)	550(9)	162
Butylcyclohexane	$C_{10}H_{20}$	444.8(0.4)	653.1(0.4)	2.57(0.07)	547(14)	170, 171
tert-Butylcyclohexane	$C_{10}H_{20}$	454.0(0.6)	652.0(0.4)	2.82(0.09)	537(15)	170
tert-Butyl ethyl ether	$C_6H_{14}O$	345.8(0.1)	509(2)	3.0(0.2)	394(4)	172
Butyl methyl ether	$C_5H_{12}O$	343.2(0.3)	512.7(0.1)	3.37(0.02)	340(2)	25, 173, 174
Butyl propanoate	$C_7H_{14}O_2$	418.2(0.1)	594(1)	2.8(0.2)	464(10)	162
Butyl vinyl ether	$C_6H_{12}O$	367(1)	540(1)	3.12(0.01)	379(10)	175
γ-Butyrolactone	$C_4H_6O_2$	477.8(0.4)	731(1)	5(1)	246(18)	49

Name	Mol. Form.	T_b/K	T_c/K	P_c/MPa	V_c/cm^3 mol^{-1}	Ref.
Chlorobenzene	C_6H_5Cl	404.8(0.2)	632.4(0.1)	4.5(0.1)	303(79)	19, 33, 34
1-Chlorobutane	C_4H_9Cl	351.5(0.2)	539.2(0.6)	4.1(0.2)	303(11)	119
2-Chlorobutane	C_4H_9Cl	341.4	518.6(0.6)	3.4(0.2)	307(14)	119
1-Chloro-2,4-difluorobenzene	$C_6H_3ClF_2$	400	609.6(0.4)	4.0(0.7)	333(16)	119
1-Chloro-2,5-difluorobenzene	$C_6H_3ClF_2$	401	612.5(0.4)	4.0(0.7)	333(16)	119
1-Chloro-3,4-difluorobenzene	$C_6H_3ClF_2$	400	609.2(0.4)	4.0(0.6)	333(16)	119
1-Chloro-3,5-difluorobenzene	$C_6H_3ClF_2$	391.7	592.0(0.4)	3.9(0.7)	327(16)	119
1-Chloro-1,1-difluoroethane	$C_2H_3ClF_2$	264.03(0.07)	410.31(0.05)	4.06(0.03)	230(6)	113, 176–178
1-Chloro-2,2-difluoroethene	C_2HClF_2	254.3(0.5)	400.5(0.7)	4.54(0.07)	197(6)	179
Chlorodifluoromethane	$CHClF_2$	232.3(0.5)	369.30(0.05)	4.98(0.01)	165(2)	180–191
2-Chloro-2-(difluoromethoxy)-1,1,1-trifluoroethane	$C_3H_2ClF_5O$	322.4(0.1)	467.8(0.6)	3.05(0.03)	316(24)	192
Chloroethane	C_2H_5Cl	285.4(0.2)	460.3(0.4)	5.24(0.04)	198(11)	193
Chloroethene	C_2H_3Cl	259.3(0.3)	425(5)	5.60(0.03)	171(9)	194
1-Chloro-2-fluorobenzene	C_6H_4ClF	410.8	633.8(0.4)	4.3(0.6)	319(21)	119
1-Chloro-3-fluorobenzene	C_6H_4ClF	401(25)	615.9(0.4)	4.2(0.6)	324(21)	119
1-Chloro-4-fluorobenzene	C_6H_4ClF	403	620.1(0.4)	4.2(0.4)	322(18)	119
1-Chloroheptane	$C_7H_{15}Cl$	432(2)	614(8)	3.1(0.6)	492(14)	119
1-Chlorohexane	$C_6H_{13}Cl$	408.1(0.5)	599(3)	3.3(0.3)	422(12)	119
Chloromethane	CH_3Cl	249.0(0.3)	416.24(0.04)	6.72(0.03)	136(2)	195, 196
2-Chloro-2-methylbutane	$C_5H_{11}Cl$	358(1)	509.1(0.6)	3.2(0.5)	397(15)	119
3-Chloro-3-methylpentane	$C_6H_{13}Cl$	389	528(3)	3(1)	414(14)	119
2-Chloro-2-methylpropane	C_4H_9Cl	324.0(0.5)	497.8(0.1)	3.7(0.4)	308(13)	34
1-Chlorooctane	$C_8H_{17}Cl$	456(3)	643(2)	2.5(0.4)	543(13)	119
Chloropentafluoroacetone	C_3ClF_5O	280.9(0.9)	410.6(0.1)	2.89(0.01)	277(21)	197
Chloropentafluorobenzene	C_6ClF_5	391.11	570(1)	3.2(0.2)	367(25)	198
Chloropentafluoroethane	C_2ClF_5	233.9(0.2)	353.0(0.2)	3.141(0.01)	255(4)	199, 200
1-Chloropentane	$C_5H_{11}Cl$	381.0(0.3)	571.2(0.4)	3.3(0.2)	361(12)	119
1-Chloropropane	C_3H_7Cl	319.3(0.5)	503.3(0.4)	4.56(0.04)	268(24)	118, 193, 201, 202
2-Chloropropane	C_3H_7Cl	308.1(0.6)	482.4(0.4)	4.25(0.04)	245(16)	201, 202
1-Chloro-1,2,2,2-tetrafluoroethane	C_2HClF_4	261.19(0.09)	395.43(0.06)	3.62(0.01)	244(4)	203, 204
4-Chlorotoluene	C_7H_7Cl	435.0(0.2)	615.9(0.5)	2.33(0.09)	377(16)	88
2-Chloro-1,1,1-trifluoroethane	$C_2H_2ClF_3$	279.1(0.6)	425.0(0.2)	4.02(0.02)	232(6)	205
Chlorotrifluoroethene	C_2ClF_3	244.8(0.3)	380.1(0.1)	3.95(0.03)	214(12)	206, 207
2-Chloro-1,1,2-trifluoroethyl difluoromethyl ether	$C_3H_2ClF_5O$	329.9(0.5)	475.0(0.6)	2.98(0.03)	343(25)	192
Chlorotrifluoromethane	$CClF_3$	191.8	301.9(0.2)	3.89(0.01)	180.3(1)	191, 208–216
m-Cresol	C_7H_8O	475.3(0.1)	705.8(0.4)	4.4(0.2)	337(12)	39, 40, 217, 218
o-Cresol	C_7H_8O	464.1(0.1)	697.6(0.2)	4.2(0.2)	336(12)	217, 218
p-Cresol	C_7H_8O	475.0(0.1)	704.6(0.3)	4.1(0.2)	349(13)	217, 218
Cyanogen	C_2N_2	252.1	397(3)	6.2(0.4)	149(8)	219
Cycloheptane	C_7H_{14}	391.9(0.2)	604.2(0.1)	3.85(0.04)	361(12)	34, 220, 221
Cyclohexane	C_6H_{12}	353.8(0.7)	553.4(0.3)	4.07(0.01)	307(12)	19, 34, 78, 82, 84, 88, 90, 144, 163, 170, 171, 220, 222–231
Cyclohexanol	$C_6H_{12}O$	434.0(0.2)	647.1(0.3)	4.3(0.1)	334(33)	49, 232, 233
Cyclohexanone	$C_6H_{10}O$	428.5(0.1)	665(1)	4.61(0.09)	354(12)	162, 166
Cyclohexene	C_6H_{10}	356.0(0.2)	560.45(0.02)	4.43(0.08)	290(20)	86, 201, 202
Cyclohexylamine	$C_6H_{13}N$	406.8(0.5)	626.8(0.9)	3.9(0.6)	349(15)	170
Cyclooctane	C_8H_{16}	424.2(0.1)	647.2(0.4)	3.55(0.06)	417(28)	34, 170, 220, 221
Cyclopentane	C_5H_{10}	322.3(0.1)	511.7(0.2)	4.51(0.07)	264(10)	34, 78, 90, 234–236
Cyclopentanol	$C_5H_{10}O$	413.5(0.2)	619(1)	4.9(0.1)	288(19)	233
Cyclopentanone	C_5H_8O	403.6(0.2)	624(2)	4.59(0.05)	276(17)	233
Cyclopentene	C_5H_8	317.3(0.2)	506.1(0.2)	4.78(0.05)	252(16)	90, 144, 163, 201, 202
Cyclopropane	C_3H_6	242(2)	398.2(0.4)	5.58(0.02)	164(9)	237, 238
Decafluorobiphenyl	$C_{12}F_{10}$	480(2)	640(4)	2.3(0.3)	641(40)	239
1,1,1,2,2,3,4,5,5,5-Decafluoro-3,4-bis(trifluoromethyl)-pentane	C_7F_{16}				632(5)	240
1,1,1,2,2,3,4,5,5,5-Decafluoro-3-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-4-(trifluoromethyl)pentane	C_9F_{20}	399(24)	581(43)	1(2)	800(7)	240
cis-Decahydronaphthalene	$C_{10}H_{18}$	469.0(0.3)	702(1)	3.2(0.3)	492(19)	241

Name	Mol. Form.	T_b/K	T_c/K	P_c/MPa	V_c/cm^3 mol^{-1}	Ref.
trans-Decahydronaphthalene	$C_{10}H_{18}$	460.4(0.2)	687(1)	3.1(0.1)	499(19)	241
Decamethylcyclopentasiloxane	$C_{10}H_{30}O_5Si_5$	486(3)	617.4(0.3)	1.04(0.02)	1201(2)	34, 114
Decanal	$C_{10}H_{20}O$	485(3)	674(1)	2.6(0.3)	601(14)	163, 242
Decane	$C_{10}H_{22}$	447.2(0.1)	618.1(0.9)	2.10(0.03)	621(35)	16, 33, 65, 78, 86, 131, 243–252
1,10-Decanediamine	$C_{10}H_{24}N_2$	535(12)	736(8)	2.4(0.3)	654(28)	140
Decanedioic acid	$C_{10}H_{18}O_4$	647(5)	845(13)	2.5(0.1)	724(21)	253
Decanoic acid	$C_{10}H_{20}O_2$	543(1)	724(5)	1.9(0.8)	638(24)	145, 146
1-Decanol	$C_{10}H_{22}O$	502(3)	690(10)	2.3(0.1)	624(87)	149, 152, 254, 255
2-Decanol	$C_{10}H_{22}O$	484	668.5(0.3)	2.3(0.5)	646(13)	255
3-Decanol	$C_{10}H_{22}O$	490(7)	666.1(0.3)	2.3(0.3)	643(13)	255
4-Decanol	$C_{10}H_{22}O$	487(3)	663.7(0.3)	2.3(0.1)	643(13)	255
5-Decanol	$C_{10}H_{22}O$	489(5)	663.2(0.4)	2.3(0.4)	646(13)	255
2-Decanone	$C_{10}H_{20}O$	484(3)	671.8(0.5)	2.2(0.3)	625(25)	256
3-Decanone	$C_{10}H_{20}O$	485(4)	668(1)	2.2(0.2)	628(15)	256
4-Decanone	$C_{10}H_{20}O$	479.7	662.9(0.5)	2.2(0.2)	636(18)	256
5-Decanone	$C_{10}H_{20}O$	477	661.0(0.4)	2.2(0.2)	628(25)	256
1-Decene	$C_{10}H_{20}$	444(1)	616.0(0.3)	2.157(0.01)	594(3)	257
Decylbenzene	$C_{16}H_{26}$	571(1)	752(8)	1.72(0.1)	879(29)	258
Dibenzofuran	$C_{12}H_8O$	558.3(0.3)	824(2)	3.37(0.03)	494(32)	259
Dibenzothiophene	$C_{12}H_8S$	604.8(0.4)	897(2)	3.9(0.2)	506(108)	260
1,2-Dibromo-1-chloro-1,2,2-trifluoroethane	$C_2Br_2ClF_3$	365.9(0.2)	560.6(0.2)	3.61(0.02)	368(4)	261
1,4-Dibromooctafluorobutane	$C_4Br_2F_8$	371(25)	532(2)	2.4(0.3)	452(29)	198
Dibutylamine	$C_8H_{19}N$	435(2)	607.5(0.2)	3.11(0.03)	532(21)	168
1,4-Di-*tert*-butylbenzene	$C_{14}H_{22}$	510.4(0.5)	708(2)	2.23(0.01)	732(70)	232
Dibutyl ether	$C_8H_{18}O$	414.8(0.3)	584.1(0.2)	2.4(0.2)	521(12)	262
Dibutyl phthalate	$C_{16}H_{22}O_4$	611(9)	797(9)	1.6(0.3)	954(18)	112
m-Dichlorobenzene	$C_6H_4Cl_2$	445(2)	685.7(0.4)	4.2(0.2)	366(22)	119
1,4-Dichlorobenzene	$C_6H_4Cl_2$	447.0(0.2)	669(5)	3.54(0.07)	364(22)	263
Dichlorodiethylsilane	$C_4H_{10}Cl_2Si$	403(2)	595.7(0.6)	3.06(0.03)	455(4)	264
Dichlorodifluoromethane	CCl_2F_2	243.3(0.1)	384.9(0.2)	4.12(0.01)	218(36)	191, 216, 265
Dichlorodimethylsilane	$C_2H_6Cl_2Si$	343.6(0.5)	520.3(0.6)	3.49(0.03)	350(5)	266
1,1-Dichloroethane	$C_2H_4Cl_2$	329.4(0.7)	523.4(0.1)	5.1(0.5)	248(12)	267
1,2-Dichloroethane	$C_2H_4Cl_2$	356.5(0.1)	561.5(0.4)	5.4(0.1)	225(8)	33, 34, 268, 269
cis-1,2-Dichloroethene	$C_2H_2Cl_2$	333(2)	535.8(0.4)	5.4(0.3)	220(15)	34
trans-1,2-Dichloroethene	$C_2H_2Cl_2$	320.79(0.08)	515.5(0.2)	5.3(0.2)	216(14)	33, 34
1,1-Dichloro-1-fluoroethane	$C_2H_3Cl_2F$	305.20(0.09)	477.3(0.1)	4.20(0.02)	253.7(0.6)	178, 270
Dichlorofluoromethane	$CHCl_2F$	282.1	451.6(0.4)	5.20(0.01)	196(1)	271
1,2-Dichlorohexafluoropropane	$C_3Cl_2F_6$	307(2)	451.8(0.1)	2.63(0.07)	365(48)	272
Dichloromethane	CH_2Cl_2	312.9(0.3)	508.0(0.2)	6.35(0.05)	177(13)	273
1,2-Dichloropropane	$C_3H_6Cl_2$	369.6	578(2)	4.63(0.06)	292(6)	119, 232
1,3-Dichloropropane	$C_3H_6Cl_2$	393.9(0.3)	615(3)	4.7(0.5)	299(16)	119
1,1-Dichloro-1,2,2,2-tetrafluoroethane	$C_2Cl_2F_4$	276(1)	418.6(0.8)	3.31(0.03)	294(8)	179
1,2-Dichloro-1,1,2,2-tetrafluoroethane	$C_2Cl_2F_4$	276.8(0.5)	418.74(0.06)	3.25(0.02)	295(3)	191, 274
1,2-Dichloro-1,1,2-trifluoroethane	$C_2HCl_2F_3$	303.1(0.1)	461.6(0.1)	3.77(0.08)	283.2(0.5)	178
2,2-Dichloro-1,1,1-trifluoroethane	$C_2HCl_2F_3$	300.9(0.6)	456.8(0.2)	3.67(0.01)	278(2)	182, 275–280
Didecyl phthalate	$C_{28}H_{46}O_4$	736(4)	870(10)	0.94(0.05)	1807(27)	112
1,1-Diethoxyethane	$C_6H_{14}O_2$	375(2)	539.7(0.4)	3.22(0.08)	426(12)	166
1,2-Diethoxyethane	$C_6H_{14}O_2$	393.8(0.7)	542(3)	2.14(0.02)	432(11)	162
Diethoxymethane	$C_5H_{12}O_2$	359(2)	532(1)	3.4(0.5)	370(10)	162
Diethylamine	$C_4H_{11}N$	328.5(0.1)	499.5(0.4)	3.75(0.02)	304(32)	38, 117, 133, 281, 282
p-Diethylbenzene	$C_{10}H_{14}$	457(1)	657.90(0.03)	2.80(0.08)	494(12)	79, 86
Diethylene glycol	$C_4H_{10}O_3$	518.6(0.2)	753(4)	4.8(0.2)	325(19)	283
Diethylene glycol diethyl ether	$C_8H_{18}O_3$	458(4)	612(10)	2.4(0.7)	587(18)	162
Diethylene glycol dimethyl ether	$C_6H_{14}O_3$	435(2)	617(4)	3.0(0.6)	450(16)	162
Diethylene glycol monobutyl ether	$C_8H_{18}O_3$	505(4)	692(3)	2.8(0.6)	546(26)	41
Diethylene glycol monobutyl ether acetate	$C_{10}H_{20}O_4$	521(2)	694(2)	2.15(0.05)	627(20)	55
Diethylene glycol monoethyl ether	$C_6H_{14}O_3$	475(3)	670(4)	3.2(0.1)	427(23)	49
Diethylene glycol monoethyl ether acetate	$C_8H_{16}O_4$	491(1)	670(12)	2.50(0.06)	524(18)	49, 55
Diethylene glycol monomethyl ether	$C_5H_{12}O_3$	467(2)	672(2)	3.7(0.2)	378(25)	49
Diethylene glycol monopropyl ether	$C_7H_{16}O_3$	488.0(0.4)	680(2)	3.05(0.07)	495(18)	41, 104

Name	Mol. Form.	T_b/K	T_c/K	P_c/MPa	V_c/cm^3 mol^{-1}	Ref.
Diethyl ether	$C_4H_{10}O$	307.5(0.5)	466.8(0.3)	3.64(0.01)	280(5)	19, 77, 95, 155, 196, 284–301
Diethyl oxalate	$C_6H_{10}O_4$	459(1)	618(2)	2.14(0.02)	464(37)	101
Diethyl phthalate	$C_{12}H_{14}O_4$	571(2)	776(9)	2.2(0.2)	687(15)	112
Diethyl succinate	$C_8H_{14}O_4$	490(1)	663(30)	2.26(0.02)	567(44)	101, 302
Diethyl sulfide	$C_4H_{10}S$	365.2(0.2)	557.5(1)	4.0(0.1)	322(8)	32, 303, 304
m-Difluorobenzene	$C_6H_4F_2$	356.1(0.5)	548.4(0.4)	4.20(0.01)	289(21)	119
o-Difluorobenzene	$C_6H_4F_2$	367.0(0.5)	566.0(0.4)	4.28(0.01)	290(21)	119
p-Difluorobenzene	$C_6H_4F_2$	362.0(0.3)	556.9(0.4)	4.28(0.07)	297(22)	119
1,1-Difluoroethane	$C_2H_4F_2$	249.1	386.4(0.1)	4.52(0.01)	178(2)	178, 180, 185, 305–307
1,1-Difluoroethene	$C_2H_2F_2$	187.6(0.8)	302.9(0.6)	4.48(0.05)	155(4)	179, 215
2,2-Difluoroethylbis(trifluoromethyl)amine	$C_4H_3F_8N$	324.5	460.20(0.09)	2.64(0.01)	375(1)	308
Difluoromethane	CH_2F_2	221.50(0.07)	351.28(0.03)	5.79(0.01)	121(4)	306, 309–316
3-Difluoromethoxy-1,1,1,2,2-pentafluoropropane	$C_4H_3F_7O$	319.09	455.1(0.1)	2.77(0.02)	363(1)	113
2-(Difluoromethoxy)-1,1,1-trifluoroethane	$C_3H_3F_5O$	302.3(0.2)	444.9(0.3)	3.43(0.01)	291(19)	113
2,4-Difluorotoluene	$C_7H_6F_2$	390	581.4(0.4)	3.7(0.4)	340(21)	119
2,5-Difluorotoluene	$C_7H_6F_2$	391	587.8(0.4)	3.8(0.5)	341(21)	119
2,6-Difluorotoluene	$C_7H_6F_2$	385	581.8(0.4)	3.7(0.4)	341(21)	119
3,4-Difluorotoluene	$C_7H_6F_2$	385	598.5(0.5)	3.8(0.6)	342(22)	119
Diheptyl phthalate	$C_{22}H_{34}O_4$	633	830(9)	1.24(0.08)	1153(22)	112
Dihexyl phthalate	$C_{20}H_{30}O_4$	652(5)	817(9)	1.3(0.1)	1061(22)	112
3,4-Dihydro-2*H*-pyran	C_5H_8O	358.6(0.2)	561(2)	4.63(0.08)	268(34)	75
Diisobutylamine	$C_8H_{19}N$	412.8	584.4(0.2)	3.20(0.06)	518(22)	168
Diisopropylamine	$C_6H_{15}N$	357(3)	523.1(0.2)	3.02(0.02)	407(18)	168
1,4-Diisopropylbenzene	$C_{12}H_{18}$	483.4(0.2)	675(1)	2.30(0.04)	610(65)	317
Diisopropyl ether	$C_6H_{14}O$	341.5(0.2)	500.2(0.7)	2.85(0.04)	386(5)	25, 290, 318, 319
1,2-Dimethoxyethane	$C_4H_{10}O_2$	358.1(0.1)	539(4)	3.91(0.05)	305(9)	162, 166, 175, 290
Dimethoxymethane	$C_3H_8O_2$	315.4(0.2)	488(11)	4.0(0.2)	259(10)	75, 162, 320
1,2-Dimethoxypropane	$C_5H_{12}O_2$	369	543(1)	3.4(0.6)	356(12)	162
2,2-Dimethoxypropane	$C_5H_{12}O_2$	350.5(0.7)	510(3)	4(1)	360(13)	162
Dimethyl adipate	$C_8H_{14}O_4$	504(3)	692(14)	2.5(0.5)	561(13)	321
Dimethylamine	C_2H_7N	280.4(0.4)	437.5(0.4)	5.34(0.05)	188(13)	193, 322, 323
N,N-Dimethylaniline	$C_8H_{11}N$	466(1)	687.7(0.6)	3.63(0.09)	407(15)	39, 40
2,2-Dimethylbutane	C_6H_{14}	322.8(0.2)	489.1(0.5)	3.10(0.01)	363.74(0.02)	86, 324–328
2,3-Dimethylbutane	C_6H_{14}	331.1(0.3)	500.2(0.3)	3.13(0.01)	358(1)	19, 86, 252, 324–330
3,3-Dimethyl-2-butanone	$C_6H_{12}O$	379.2(0.2)	570.9(0.3)	3.67(0.03)	383(6)	164, 165
2,3-Dimethyl-1-butene	C_6H_{12}	328.74(0.04)	497.7(0.9)	3.31(0.01)	346(9)	170
3,3-Dimethyl-1-butene	C_6H_{12}	346.34(0.06)	477.4(0.9)	3.18(0.02)	348(10)	170
2,3-Dimethyl-2-butene	C_6H_{12}	314.39(0.04)	521.0(0.9)	3.4(0.1)	344(7)	170
Dimethyl carbonate	$C_3H_6O_3$	363.26(0.09)	557(1)	4.8(0.2)	251(51)	331, 332
cis-1,3-Dimethylcyclohexane	C_8H_{16}	397.5(0.6)	587.7(0.5)	2.88(0.01)	429(10)	64
cis-1,4-Dimethylcyclohexane	C_8H_{16}	392.4(0.5)	603.2(0.3)	3.44(0.02)	434(7)	164, 165
trans-1,4-Dimethylcyclohexane	C_8H_{16}	397.4(0.7)	588(2)	3.04(0.01)	439(18)	74
Dimethyl disulfide	$C_2H_6S_2$	382.87(0.08)	608(4)	5.1(0.1)	266(8)	54
Dimethyl ether	C_2H_6O	248.3(0.2)	400.1(0.8)	5.31(0.03)	171(3)	125, 174, 186, 333–343
N,N-Dimethylformamide	C_3H_7NO	426.0(0.5)	649.6(0.8)	4.4(0.1)	262(9)	11, 344
Dimethyl glutarate	$C_7H_{12}O_4$	489(4)	682(14)	2.8(0.4)	488(14)	321
2,2-Dimethylheptane	C_9H_{20}	406(1)	576.7(0.5)	2.35(0.07)	546(12)	345
2,2-Dimethylhexane	C_8H_{18}	379.9(0.4)	549.9(0.4)	2.53(0.03)	481(10)	346
2,3-Dimethylhexane	C_8H_{18}	388.8(0.5)	563.5(0.4)	2.63(0.02)	466(16)	346
2,4-Dimethylhexane	C_8H_{18}	382.5(0.4)	553(3)	2.55(0.02)	480(39)	330, 346
2,5-Dimethylhexane	C_8H_{18}	382.2(0.7)	550.0(0.3)	2.49(0.02)	485(20)	19, 346
3,3-Dimethylhexane	C_8H_{18}	385.0(0.6)	562.0(0.4)	2.65(0.02)	450(17)	346
3,4-Dimethylhexane	C_8H_{18}	390.8(0.4)	568.8(0.4)	2.69(0.02)	467(21)	346
Dimethyl malonate	$C_5H_8O_4$	454.2(0.6)	647(1)	3.5(0.1)	368(13)	317, 321
2,7-Dimethylnaphthalene	$C_{12}H_{12}$	535.5(0.3)	775(2)	3.02(0.03)	515(45)	347
Dimethyl octanedioate	$C_{10}H_{18}O_4$	532(8)	723(14)	2.3(0.3)	672(14)	321
Dimethyl oxalate	$C_4H_6O_4$	436.5(0.5)	632(14)	4.0(0.3)	315(12)	321, 348
2,2-Dimethyloxirane	C_4H_8O	324(2)	500(4)	4.4(0.1)	327(31)	54
2,2-Dimethylpentane	C_7H_{16}	352.3(0.3)	520.6(0.6)	2.77(0.04)	409(12)	346, 349
2,3-Dimethylpentane	C_7H_{16}	362.9(0.6)	537.5(0.6)	2.92(0.08)	394(23)	346, 349, 350

Name	Mol. Form.	T_b/K	T_c/K	P_c/MPa	V_c/cm^3 mol^{-1}	Ref.
2,4-Dimethylpentane	C_7H_{16}	353.5(0.5)	520.0(0.7)	2.74(0.06)	415(19)	346, 349
3,3-Dimethylpentane	C_7H_{16}	359.1(0.6)	536.4(0.4)	2.94(0.02)	413(24)	346
2,3-Dimethyl-1-pentene	C_7H_{14}	357(1)	534(4)	2.9(0.8)	400(11)	170
4,4-Dimethyl-1-pentene	C_7H_{14}	345.6(0.2)	516(4)	2.91(0.01)	406(11)	170
Dimethyl phthalate	$C_{10}H_{10}O_4$	555.8(0.2)	772(9)	2.76(0.08)	557(17)	112
Dimethyl pimelate	$C_9H_{16}O_4$	518(2)	711(14)	2.4(0.1)	608(14)	321
2,3-Dimethylpyridine	C_7H_9N	434.2(0.4)	655.5(0.3)	4.03(0.01)	337(28)	86, 351
2,4-Dimethylpyridine	C_7H_9N	431.5(0.3)	647.1(0.9)	3.83(0.02)	363(34)	90, 352
2,5-Dimethylpyridine	C_7H_9N	430.15(0.05)	644.2(0.3)	4.11(0.04)	371(45)	86
2,6-Dimethylpyridine	C_7H_9N	417.1(0.1)	623.8(0.2)	3.80(0.04)	353(43)	90
3,4-Dimethylpyridine	C_7H_9N	452.2(0.3)	683.8(0.4)	4.06(0.01)	353(13)	86, 351, 352
3,5-Dimethylpyridine	C_7H_9N	445.0(0.1)	667.3(0.3)	3.84(0.02)	369(12)	86, 351
2,6-Dimethylquinoline	$C_{11}H_{11}N$	541.2(0.4)	786(2)	3.27(0.02)	505(24)	529
Dimethyl sebacate	$C_{12}H_{22}O_4$	562(3)	742(14)	2.1(0.2)	695(14)	321
Dimethyl succinate	$C_6H_{10}O_4$	470(1)	662(14)	3.5(0.2)	426(16)	321
Dimethyl sulfide	C_2H_6S	310.47(0.05)	503.0(0.3)	5.40(0.06)	201(9)	52, 117, 304
Dimethyl sulfoxide	C_2H_6OS	465.0(0.9)	707(1)	4.6(0.7)	228(7)	23
1,3-Dimethyl-1,1,3,3-tetraphenyldisiloxane	$C_{26}H_{26}OSi_2$	701(2)	893(9)	1.38(0.1)	1300(89)	353
1,3-Dimethyltricyclo[3.3.1.1^{3,7}]decane	$C_{12}H_{20}$	476.53	708(2)	2.86(0.01)	595(115)	141
Dinonyl phthalate	$C_{26}H_{42}O_4$	686	858(9)	1.0(0.3)	1652(26)	112
Dioctyl phthalate	$C_{24}H_{38}O_4$	688(4)	840(9)	1.1(0.1)	1510(22)	112
1,4-Dioxane	$C_4H_8O_2$	374.3(0.3)	587.3(0.1)	5.2(0.2)	251(5)	34, 290, 354
Dipentyl phthalate	$C_{18}H_{26}O_4$	614(40)	811(9)	1.4(0.7)	957(21)	112
Diphenyl ether	$C_{12}H_{10}O$	531.1(0.1)	766.9(0.8)	3.10(0.04)	526(23)	25, 355
Diphenylmethane	$C_{13}H_{12}$	537.3(0.3)	776(9)	3.02(0.07)	546(144)	39, 302, 356, 357
1,3-Diphenyltetramethyldisiloxane	$C_{16}H_{22}OSi_2$		750(8)			353
Dipropylamine	$C_6H_{15}N$	380.6(0.9)	555.8(0.1)	3.6(0.1)	414(15)	168
Dipropylene glycol	$C_6H_{14}O_3$	504(2)	705(4)	3.4(0.1)	444(18)	54
Dipropyl ether	$C_6H_{14}O$	363.2(0.3)	531(2)	2.92(0.05)	402(8)	25, 52
Dipropyl phthalate	$C_{14}H_{18}O_4$	592(2)	784(9)	1.9(0.1)	816(20)	112
Diundecyl phthalate	$C_{30}H_{50}O_4$	711(25)	886(10)	0.89(0.1)	1590(25)	112
Docosane	$C_{22}H_{46}$	642(5)	786(6)	1.0(0.1)	1434(50)	62, 358, 359
Docosanoic acid	$C_{22}H_{44}O_2$	693(3)	837(8)	1.11(0.08)	1485(29)	360
1-Docosanol	$C_{22}H_{46}O$	680(12)	827(8)	1.0(0.6)	1243(20)	361
1,2,2,3,3,4,4,5,5,6,6,7-Dodecafluoro-1-heptanol	$C_7H_4F_{12}O$	444.7(0.7)	589(5)	2.0(0.2)	620(34)	362
Dodecane	$C_{12}H_{26}$	489.4(0.2)	658.8(0.9)	1.80(0.09)	747(18)	34, 86, 118, 243, 244, 363, 364
1,12-Dodecanediamine	$C_{12}H_{28}N_2$	572(13)	767(8)	2.0(0.3)	765(37)	140
Dodecanedioic acid	$C_{12}H_{22}O_4$	621(10)	859(13)	2.1(0.2)	730(19)	253
1-Dodecanethiol	$C_{12}H_{26}S$	550(3)	734(4)	1.81(0.1)	726(25)	99
Dodecanoic acid	$C_{12}H_{24}O_2$	572(1)	743(7)	1.9(0.2)	787(19)	360
1-Dodecanol	$C_{12}H_{26}O$	537.2(0.3)	719.4(0.6)	2.02(0.05)	805(15)	149
2-Dodecanone	$C_{12}H_{24}O$	520(6)	702(4)	1.9(0.9)	742(20)	256
3-Dodecanone	$C_{12}H_{24}O$	523(3)	701(2)	1.9(0.2)	680(19)	256
4-Dodecanone	$C_{12}H_{24}O$	528(5)	697(2)	1.9(0.4)	672(19)	256
5-Dodecanone	$C_{12}H_{24}O$	521(4)	695(5)	1.9(0.4)	678(19)	256
6-Dodecanone	$C_{12}H_{24}O$	522(4)	694(2)	1.9(0.3)	677(19)	256
1-Dodecene	$C_{12}H_{24}$	486.5(0.9)	657.6(0.6)	1.88(0.01)	710(15)	257
Eicosane	$C_{20}H_{42}$	617.2(0.9)	768(6)	1.08(0.05)	1325(48)	358, 359
Eicosanoic acid	$C_{20}H_{40}O_2$	673(6)	820(8)	1.2(0.1)	1346(27)	360
1-Eicosanol	$C_{20}H_{42}O$	629	808(8)	1.1(0.2)	1130(18)	361
1-Eicosene	$C_{20}H_{40}$	620(15)	772(15)	1.1(0.3)	1213(36)	365
Ethane	C_2H_6	184.5(0.4)	305.36(0.04)	4.88(0.01)	146(3)	44, 48, 92, 131, 132, 134, 214, 215, 229, 246, 366–393
1,2-Ethanediamine	$C_2H_8N_2$	390.0(0.5)	613.1(0.3)	6.71(0.04)	204(13)	49
1,2-Ethanediol	$C_2H_6O_2$	470.6(0.1)	719(5)	8.1(0.4)	180(11)	11, 32, 41, 394
1,1-Ethanediol, diacetate	$C_6H_{10}O_4$	441(3)	618(4)	2.9(0.1)	457(13)	54
Ethanethiol	C_2H_6S	308.1(0.1)	498.7(0.3)	5.53(0.08)	208(10)	304

Name	Mol. Form.	T_b/K	T_c/K	P_c/MPa	V_c/cm^3 mol^{-1}	Ref.
Ethanol	C_2H_6O	351.39(0.09)	515(1)	6.25(0.04)	169(4)	19, 25, 34, 80, 85, 128, 148–150, 152, 222, 395–409
Ethoxybenzene	$C_8H_{10}O$	443.0(0.2)	647(2)	3.45(0.05)	407(16)	39, 40
2-Ethoxyethyl acetate	$C_6H_{12}O_3$	429.8(0.4)	609(2)	3.07(0.03)	443(38)	141, 144, 163
2-Ethoxy-2-methylbutane	$C_7H_{16}O$	374.6(0.4)	546(2)	2.83(0.09)	448(29)	410
1-Ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane	$C_6H_5F_9O$	350.04	482.0(0.1)	1.98(0.01)	518(2)	113
Ethyl acetate	$C_4H_8O_2$	350.2(0.2)	523.27(0.07)	3.88(0.02)	288(19)	19, 23, 400, 411–413
Ethylamine	C_2H_7N	289.8(0.2)	456.5(0.9)	5.6(0.1)	183(22)	193, 414
Ethylbenzene	C_8H_{10}	409.3(0.4)	617.1(0.1)	3.61(0.01)	365(61)	68, 78, 79, 86, 88, 172, 345
Ethyl benzoate	$C_9H_{10}O_2$	485.6(0.2)	700(14)	3.01(0.05)	470(12)	169
Ethyl butanoate	$C_6H_{12}O_2$	394.2(0.4)	566.1(0.1)	3.2(0.3)	421(30)	415, 416
Ethyl *trans*-2-butenoate	$C_6H_{10}O_2$	413(5)	599(10)	3(2)	382(7)	21
Ethylcyclohexane	C_8H_{16}	404.9(0.4)	606.9(0.4)	3.27(0.04)	431(12)	170, 171
Ethylcyclopentane	C_7H_{14}	376.6(0.6)	569.48(0.05)	3.40(0.07)	377(3)	236
Ethyl 2,2-dimethylpropanoate	$C_7H_{14}O_2$	391.4(0.4)	566(2)	2.88(0.02)	461(8)	417
Ethylene	C_2H_4	169.3(0.3)	282.35(0.03)	5.06(0.01)	130.9(0.2)	61, 246, 371, 418–436
Ethyl 3-ethoxypropanoate	$C_7H_{14}O_3$	441(2)	621(3)	2.7(0.1)	478(19)	11, 41
Ethyl formate	$C_3H_6O_2$	327.2(0.1)	508.5(0.5)	4.78(0.03)	223(47)	413, 415
Ethyl heptanoate	$C_9H_{18}O_2$	461(2)	634(1)	2.3(0.2)	587(8)	162
3-Ethylhexane	C_8H_{18}	391.6(0.5)	565.5(0.4)	2.61(0.02)	450(15)	346
Ethyl hexanoate	$C_8H_{16}O_2$	438(1)	615(1)	2.6(0.2)	528(8)	162
2-Ethylhexanoic acid	$C_8H_{16}O_2$	500.6(0.1)	674(1)	2.75(0.06)	543(8)	144, 163
2-Ethyl-1-hexanol	$C_8H_{18}O$	459.3(0.2)	640.2(0.3)	3.0(0.2)	508(29)	437
2-Ethylhexyl acetate	$C_{10}H_{20}O_2$	473(1)	642(2)	2.02(0.01)	644(10)	410
Ethyl 3-methylbutanoate	$C_7H_{14}O_2$	408(3)	584(6)	3(1)	463(9)	147, 162
Ethyl methyl ether	C_3H_8O	279(2)	437.8(0.2)	4.39(0.06)	219(5)	174, 304, 438
3-Ethyl-2-methylpentane	C_8H_{18}	388.8(0.6)	567.1(0.4)	2.70(0.02)	442(22)	346
3-Ethyl-3-methylpentane	C_8H_{18}	391.3(0.9)	576.5(0.4)	2.77(0.01)	463(13)	346
Ethyl 2-methylpropanoate	$C_6H_{12}O_2$	384(2)	554(4)	3.1(0.3)	421(76)	415
Ethyl methyl sulfide	C_3H_8S	339.8(0.3)	533(10)	4.62(0.03)	260(6)	303
Ethyl nonanoate	$C_{11}H_{22}O_2$	497(5)	664(1)	2.0(0.4)	715(8)	162
Ethyl octanoate	$C_{10}H_{20}O_2$	479(1)	652(12)	2(2)	657(8)	147, 162
3-Ethylpentane	C_7H_{16}	366.5(0.4)	540.7(0.4)	2.90(0.03)	412(14)	346, 349
Ethyl pentanoate	$C_7H_{14}O_2$	415(3)	593(1)	2.8(0.4)	466(10)	162
2-Ethylphenol	$C_8H_{10}O$	477.6(0.1)	703(1)	3.7(0.3)	388(15)	218
3-Ethylphenol	$C_8H_{10}O$	491.5(0.1)	716(1)	3.8(0.3)	393(15)	218
4-Ethylphenol	$C_8H_{10}O$	491.12(0.06)	716(1)	3.1(0.6)	395(15)	218
Ethyl propanoate	$C_5H_{10}O_2$	372.0(0.2)	547(1)	3.37(0.05)	343(23)	19, 64, 162, 413, 415
Ethyl propyl ether	$C_5H_{12}O$	336(3)	500.2(0.4)	3.37(0.01)	343(44)	25, 304
S-Ethyl thioacetate	C_4H_8OS	387(3)	590.5(0.2)	4.1(0.1)	320(10)	49
4-Ethyltoluene	C_9H_{12}	435.1(0.6)	640.2(0.5)	3.23(0.04)	446(12)	439, 440
Ethyl vinyl ether	C_4H_8O	309(2)	475(2)	4.06(0.04)	262(8)	290
Fluorobenzene	C_6H_5F	357.8(0.3)	560.10(0.07)	4.55(0.01)	272(9)	86, 441
Fluoroethane	C_2H_5F	235.4(0.3)	375.2(0.2)	5.02(0.01)	164(3)	206, 442, 443
Fluoromethane	CH_3F	194.8	317.42(0.01)	5.88(0.01)	112.41(0.01)	444, 445
2-Fluorotoluene	C_7H_7F	387(2)	591.2(0.4)	3.9(0.3)	323(47)	119
3-Fluorotoluene	C_7H_7F	389(2)	591.8(0.4)	3.9(0.3)	332(17)	119
4-Fluorotoluene	C_7H_7F	389.8(0.4)	592.1(0.8)	3.85(0.01)	332(17)	119
Formic acid	CH_2O_2	374	588(10)		115.88(0.08)	146
Furan	C_4H_4O	304.4(0.2)	490.2(0.2)	5.43(0.08)	218(3)	241, 290
Glycerol	$C_3H_8O_3$	562(3)	850(9)	7.6(0.8)	251(15)	394
Heneicosane	$C_{21}H_{44}$	632(6)	778(8)	1.0(0.1)	1366(48)	359
Heptadecane	$C_{17}H_{36}$	576(2)	736(1)	1.33(0.07)	1081(28)	359
Heptadecanoic acid	$C_{17}H_{34}O_2$	635(4)	792(8)	1.4(0.1)	1130(24)	360
1-Heptadecanol	$C_{17}H_{36}O$	597	780(8)	1.4(0.1)	1097(18)	361
1-Heptadecene	$C_{17}H_{34}$	574(3)	734(7)	1.34(0.08)	1053(35)	365
2,2,3,3,5,5,6-Heptafluoro-1,4-dioxane	$C_4HF_7O_2$	312.5(0.1)	453(1)	2.86(0.06)	359(4)	110
1,1,1,2,2,3,3-Heptafluoropentan-4-one	$C_5H_3F_7O$	337.4	476.55(0.08)	2.57(0.01)	394.2(0.7)	308

Name	Mol. Form.	T_b/K	T_c/K	P_c/MPa	V_c/cm^3 mol^{-1}	Ref.
1,1,1,2,3,3,3-Heptafluoropropane	C_3HF_7	257.65	375.0(0.1)	2.93(0.01)	299(7)	446–449
1,1,1,2,4,4,4-Heptafluoro-2-trifluoromethoxybutane	$C_5H_2F_{10}O$	322.73(0.09)	447(1)	2.15(0.06)	465(5)	110
1,1,1,2,2,3,3-Heptafluoro-3-(trifluoromethoxy) propane	$C_4F_{10}O$	280.0(0.4)	391.7(0.7)	1.89(0.05)	431(31)	450
2,2,4,4,6,8,8-Heptamethylnonane	$C_{16}H_{34}$	519(1)	692(4)	1.53(0.01)	957(27)	451
1,1,1,3,5,5,5-Heptamethyltrisiloxane	$C_7H_{22}O_2Si_3$	416(1)	553.4(0.6)	1.48(0.02)	828(3)	452
Heptanal	$C_7H_{14}O$	426(3)	616.8(0.4)	3.2(0.2)	434(7)	242
2-Heptanamine	$C_7H_{17}N$	414(4)	598(2)	2.9(0.3)	455(18)	170
Heptane	C_7H_{16}	371.53(0.07)	540.1(0.2)	2.74(0.01)	428(15)	34, 36, 62, 75, 78, 86, 131, 133–135, 157, 243, 244, 254, 286, 324, 346, 359, 394, 432, 453–463
Heptanedioic acid	$C_7H_{12}O_4$	615.1	842(13)	3.3(0.2)	463(15)	253
Heptanoic acid	$C_7H_{14}O_2$	495(2)	678(2)	3.0(0.3)	476(5)	145, 146, 464
1-Heptanol	$C_7H_{16}O$	451(1)	632.4(0.6)	3.1(0.2)	430(9)	149, 254, 465
2-Heptanol	$C_7H_{16}O$	432	608.4(0.6)	3.0(0.1)	442(2)	149, 465
3-Heptanol	$C_7H_{16}O$	436(2)	605.4(0.3)	3.1(0.4)	451(3)	465
4-Heptanol	$C_7H_{16}O$	434(2)	602.6(0.3)	3.1(0.6)	455(4)	465
2-Heptanone	$C_7H_{14}O$	424.1(0.3)	611.4(0.2)	2.98(0.04)	436(4)	25, 172, 466
3-Heptanone	$C_7H_{14}O$	419(2)	606.6(0.2)	3.0(0.1)	433(5)	466
4-Heptanone	$C_7H_{14}O$	417(1)	602.0(0.2)	3.0(0.3)	434(5)	466
1-Heptene	C_7H_{14}	370(2)	537.3(0.3)	2.85(0.02)	409(2)	51, 52, 86, 124, 257, 467
cis-2-Heptene	C_7H_{14}	371(2)	548.5(0.6)	3.0(0.3)	410(7)	170
trans-2-Heptene	C_7H_{14}	369(2)	542.8(0.4)	3.0(0.2)	410(7)	170
trans-3-Heptene	C_7H_{14}	367(1)	538.6(0.7)	3.0(0.2)	411(7)	170
Heptylbenzene	$C_{13}H_{20}$	515(4)	708(7)	2.1(0.2)	680(16)	258
Heptyl orthosilicate	$C_{28}H_{60}O_4Si$		778(16)			57
Hexacosane	$C_{26}H_{54}$	688(11)	816(8)	0.8(0.2)	1740(59)	358
Hexadecane	$C_{16}H_{34}$	560.0(0.7)	722.2(0.8)	1.4(0.2)	1009(53)	34, 244, 245
Hexadecanoic acid	$C_{16}H_{32}O_2$	624(6)	785(8)	1.5(0.2)	1059(23)	360
1-Hexadecanol	$C_{16}H_{34}O$	598(2)	770(8)	1.47(0.1)	1019(17)	361
1-Hexadecene	$C_{16}H_{32}$	558(1)	718(7)	1.4(0.2)	986(33)	365
Hexaethyldisiloxane	$C_{12}H_{30}OSi_2$	525(7)	692.9(0.1)	1.7(0.7)	955(2)	34
Hexafluoroacetylacetone	$C_5H_2F_6O_2$	342(2)	485.1(0.5)	2.9(0.2)	313(49)	468
Hexafluorobenzene	C_6F_6	353.3(0.2)	516.4(0.5)	3.28(0.01)	337(4)	74, 198, 286, 469–473
2,2,4,4,5,5-Hexafluoro-1,3-dioxolane	$C_3F_6O_2$	251.0(0.2)	368.1(0.7)	2.72(0.04)	293(30)	116
Hexafluoroethane	C_2F_6	195.0(0.1)	292.9(0.2)	3.03(0.01)	223(3)	172, 474–477
1,1,1,3,3,3-Hexafluoro-2-methoxy-2-(trifluoromethyl)propane	$C_5H_3F_9O$	327(1)	463(1)	2.37(0.07)	448(5)	110
1,1,1,2,3,3-Hexafluoro-3-(2,2,3,3,3-pentafluoropropoxy)propane	$C_6H_3F_{11}O$	360.64	486.48(0.07)	1.95(0.01)	529(2)	113
1,1,1,2,3,3-Hexafluoropropane	$C_3H_2F_6$	277.65	412.40(0.06)	3.42(0.01)	270(5)	203, 447, 448, 478, 479
1,1,1,3,3,3-Hexafluoropropane	$C_3H_2F_6$	271.8(0.2)	398.07(0.06)	3.18(0.01)	262(18)	203
1,1,1,2,3,3-Hexafluoro-3-(2,2,3,3-tetrafluoropropoxy)propane	$C_6H_4F_{10}O$	379.07	516.2(0.3)	2.2(0.2)	543(34)	113
1,1,1,2,3,3-Hexafluoro-3-(2,2,2-trifluoroethoxy) propane	$C_5H_3F_9O$	345.87	475.74(0.09)	2.23(0.02)	455(2)	113
Hexamethylbenzene	$C_{12}H_{18}$	541(3)	758(2)	2.6(0.4)	581(15)	25
1,1,1,5,5,5-Hexamethyl-3,3-bis[(trimethylsilyl) oxy]trisiloxane	$C_{12}H_{36}O_4Si_5$	494.6(0.2)	622.6(0.2)	1.03(0.02)	1323(90)	34
Hexamethyldisiloxane	$C_6H_{18}OSi_2$	373.6(0.3)	518.7(0.6)	1.95(0.02)	629(15)	480
2,6,10,15,19,23-Hexamethyltetracosane	$C_{30}H_{62}$	693(6)	796(2)	0.60(0.04)	2060(70)	481
Hexanal	$C_6H_{12}O$	402.8(0.4)	592(3)	3.4(0.2)	378(7)	163, 242
Hexane	C_6H_{14}	341.87(0.06)	507.5(0.1)	3.03(0.01)	366.0(0.8)	19, 29, 33, 34, 38, 52, 77, 78, 84, 86, 96, 106, 124, 131, 133, 134, 243, 244, 254, 281, 286, 318, 324–328, 401, 456, 458, 470, 482–488
1,6-Hexanediamine	$C_6H_{16}N_2$	470(2)	685(7)	3.6(0.5)	446(17)	140

Name	Mol. Form.	T_b/K	T_c/K	P_c/MPa	V_c/cm^3 mol^{-1}	Ref.
1,6-Hexanedioic acid	$C_6H_{10}O_4$	610.5	841(13)	3.8(0.3)	449(17)	253
1,6-Hexanediol	$C_6H_{14}O_2$	481	741(10)	4.1(0.1)	404(13)	489
Hexanenitrile	$C_6H_{11}N$	436.6(0.3)	633.8(0.2)	2.99(0.06)	378(8)	35
Hexanoic acid	$C_6H_{12}O_2$	478.0(0.6)	661(7)		413(15)	145, 146, 360, 464
1-Hexanol	$C_6H_{14}O$	430.0(0.7)	611.0(0.4)	3.40(0.09)	381(30)	34, 149, 151, 152, 254, 255, 456
2-Hexanol	$C_6H_{14}O$	413	585.9(0.5)	3.3(0.3)	406(8)	149, 255, 437
3-Hexanol	$C_6H_{14}O$	416(2)	582.4(0.4)	3.3(0.1)	378(14)	64, 254, 255
2-Hexanone	$C_6H_{12}O$	400.8(0.1)	586.7(0.5)	3.31(0.04)	377(4)	25, 172, 466
3-Hexanone	$C_6H_{12}O$	396.6(0.3)	583.1(0.5)	3.32(0.01)	378(4)	25, 466
Hexatriacontane	$C_{36}H_{74}$	777(7)	872(9)	0.47(0.07)	2711(2)	358
1-Hexene	C_6H_{12}	336.5(0.1)	504.1(0.9)	3.20(0.03)	381(9)	86, 201, 202, 252, 257, 490
cis-2-Hexene	C_6H_{12}	342.0(0.5)	513.4(0.9)	3.34(0.06)	347(7)	170
trans-2-Hexene	C_6H_{12}	341.00(0.09)	509.0(0.7)	3.16(0.01)	353(7)	170
cis-3-Hexene	C_6H_{12}	339.5(0.5)	510(1)	3.29(0.01)	351(7)	170
trans-3-Hexene	C_6H_{12}	340.21(0.09)	507(2)	3.18(0.01)	352(7)	170
5-Hexen-2-one	$C_6H_{10}O$	402.2(0.5)	593.5(0.6)	3.51(0.04)	359(10)	51
Hexyl acetate	$C_8H_{16}O_2$	444.2(0.7)	618(1)	2.5(0.1)	526(8)	162
Hexylamine	$C_6H_{15}N$	405(1)	592.3(0.7)	3.4(0.3)	402(15)	170
Hexylbenzene	$C_{12}H_{18}$	499(2)	695(7)	2.4(0.2)	620(14)	258
Hexyl benzoate	$C_{13}H_{18}O_2$	550(26)	748(14)	2.0(0.3)	658(14)	169
Indan	C_9H_{10}	451.0(0.4)	684.8(0.4)	3.95(0.03)	385(22)	25
Isobutanal	C_4H_8O	337.2(0.2)	543.6(0.6)	5.12(0.08)	283(10)	164, 165
Isobutane	C_4H_{10}	261.4(0.5)	407.84(0.07)	3.64(0.02)	256(7)	125, 132, 491, 492
Isobutene	C_4H_8	266.1(0.2)	418.0(0.3)	4.00(0.04)	240(3)	123, 158, 493, 494
Isobutyl acetate	$C_6H_{12}O_2$	390.0(0.6)	562(2)	2.97(0.06)	369(37)	166, 201, 202, 415
Isobutylbenzene	$C_{10}H_{14}$	445.8(0.4)	650(3)	3.0(0.2)	493(15)	96
Isobutyl butanoate	$C_8H_{16}O_2$	430(1)	611(6)	2.5(0.3)	524(9)	147
Isobutylcyclohexane	$C_{10}H_{20}$	444.5	642.1(0.6)	2.61(0.07)	550(14)	170
Isobutyl formate	$C_5H_{10}O_2$	371.5(0.3)	551(4)	3.9(0.4)	359(25)	415
Isobutyl isobutanoate	$C_8H_{16}O_2$	421(3)	602(6)	2.5(0.8)	530(9)	147
Isobutyl 3-methylbutanoate	$C_9H_{18}O_2$	442(3)	621(6)	2.3(0.7)	581(9)	147
Isobutyl propanoate	$C_7H_{14}O_2$	409(2)	586(8)	3(1)	462(9)	162, 167
Isopentane	C_5H_{12}	300.98(0.06)	460.37(0.09)	3.35(0.06)	313(17)	19, 86, 96, 127, 495
Isopentyl acetate	$C_7H_{14}O_2$	414.8(0.7)	586.1(0.4)	2.76(0.07)	464(9)	166
Isopentyl butanoate	$C_9H_{18}O_2$	458.0(0.3)	619(6)	3(1)	595(10)	147
Isopentyl nitrite	$C_5H_{11}NO_2$	372(3)	626(16)	5.07(0.04)	386.2(0.1)	52
Isopentyl propanoate	$C_8H_{16}O_2$	446(4)	611(6)	2.5(0.9)	523(9)	147
Isopropyl acetate	$C_5H_{10}O_2$	361.8(0.2)	531.1(0.6)	3.31(0.04)	343(4)	64, 166, 172, 411, 490
Isopropylamine	C_3H_9N	304.9(0.2)	472.2(0.9)	4.55(0.07)	231(5)	75, 170
Isopropylbenzene	C_9H_{12}	425.5(0.2)	631(1)	3.2(0.1)	423(5)	79, 90, 96, 172
Isopropylcyclohexane	C_9H_{18}	427.5(0.4)	632.2(0.4)	3.1(0.2)	484(14)	170
Isopropyl formate	$C_4H_8O_2$	341(2)	534.6(0.5)	3.95(0.03)	294(11)	164, 165
1-Isopropyl-4-methylbenzene	$C_{10}H_{14}$	450(2)	654(8)	2.8(0.1)	495(16)	96, 147
(1*S*,2*R*,5*S*)-2-Isopropyl-5-methylcyclohexanol	$C_{10}H_{20}O$	489(3)	694(5)	2.7(0.6)	539(14)	302
Isopropyl methyl ether	$C_4H_{10}O$	303.9(0.5)	464.4(0.2)	3.76(0.01)	287(11)	25
Isoquinoline	C_9H_7N	516.3(0.6)	803(8)	5.07(0.03)	380(17)	218
d-Limonene	$C_{10}H_{16}$	450.8(0.5)	653(2)	2.81(0.02)	498(11)	496
Mesityl oxide	$C_6H_{10}O$	402.8(0.4)	605(2)	3.85(0.02)	353(27)	497
Methane	CH_4	111.6(0.2)	190.56(0.02)	4.60(0.01)	99(3)	132, 134, 498–508
Methane-d_4	CD_4		189.2(0.6)		98(3)	507
Methanethiol	CH_4S	279.1(0.1)	469.9(0.3)	7.24(0.09)	148(4)	304
Methanol	CH_4O	337.6(0.7)	512.7(0.6)	8.01(0.03)	117(4)	19, 38, 67, 80, 85, 87, 131, 148, 152, 155, 196, 405, 458, 482, 509–516
1-Methoxy-2,4-dimethylbenzene	$C_9H_{12}O$	465	682(4)	3.2(0.7)	451(18)	162
2-Methoxy-1,4-dimethylbenzene	$C_9H_{12}O$	467	677(1)	3.2(0.7)	451(15)	162
2-Methoxyethanol	$C_3H_8O_2$	397.4(0.1)	598(1)	5.28(0.08)	263(6)	49
2-Methoxyethyl acetate	$C_5H_{10}O_3$	415(3)	603(3)	3.6(0.5)	368(15)	162

Name	Mol. Form.	T_b/K	T_c/K	P_c/MPa	V_c/cm^3 mol^{-1}	Ref.
4-Methoxy-1,1,1,2,2,3,3-heptafluorobutane	$C_5H_5F_7O$	344.13	481.5(0.2)	2.38(0.01)	431(2)	113
1-Methoxy-1,1,2,2,3,3-hexafluoropropane	$C_4H_4F_6O$	341.02	487.0(0.3)	2.9(0.1)	370(25)	113
2-Methoxy-2-methylbutane	$C_6H_{14}O$	359.5(0.1)	536(2)	3.23(0.09)	372(19)	172, 410, 517
5-Methoxy-1,1,2,2,3,3,4,4-octafluoropentane	$C_6H_6F_8O$	395.83	546.1(0.3)	2.40(0.07)	493(30)	113
1-Methoxy-2-propanol	$C_4H_{10}O_2$	393.1(0.6)	579.8(0.3)	4.11(0.04)	304(12)	49
2-Methoxypropene	C_4H_8O	308.8(0.3)	478.5(0.6)	4.2(0.3)	257(13)	518
Methyl acetate	$C_3H_6O_2$	329.8(0.2)	506.7(0.4)	4.73(0.07)	227(22)	19, 411–413
Methylamine	CH_5N	266.8(0.3)	430.6(0.6)	7.61(0.09)	139(1)	130, 193, 322, 323
N-Methylaniline	C_7H_9N	470(1)	702(5)	5.2(0.6)	347(16)	117
2-Methylaniline	C_7H_9N	473.1(0.4)	710(1)	3.6(0.1)	377(52)	519
3-Methylaniline	C_7H_9N	476.4(0.5)	709(10)	4.6(0.5)	346(17)	106
4-Methylaniline	C_7H_9N	474(1)	667(10)	3.3(0.7)	334(16)	106
2-Methylanisole	$C_8H_{10}O$	446(2)	662(1)	3.6(0.3)	397(18)	162
3-Methylanisole	$C_8H_{10}O$	450(2)	665(1)	3.6(0.3)	449(22)	162
4-Methylanisole	$C_8H_{10}O$	448(2)	667(1)	3.6(0.4)	396(15)	162
α-Methylbenzenemethanol	$C_8H_{10}O$	478(4)	699(5)	3.8(0.7)	399(16)	32
Methyl benzoate	$C_8H_8O_2$	472(2)	702(1)	3.8(0.1)	408(11)	517
2-Methylbutanal	$C_5H_{10}O$	363(2)	531.6(0.1)	4.04(0.03)	318(10)	124
Methyl butanoate	$C_5H_{10}O_2$	375.0(0.1)	554.4(0.1)	3.49(0.08)	341(20)	19, 413, 416
3-Methylbutanoic acid	$C_5H_{10}O_2$	449.6(0.2)	629(1)	3.4(0.2)	355(10)	146
2-Methyl-1-butanol	$C_5H_{12}O$	402.1(0.4)	575.4(0.5)	3.9(0.1)	342(8)	254
2-Methyl-2-butanol	$C_5H_{12}O$	375.6	544(1)	3.71(0.05)	326(9)	147, 254
3-Methyl-1-butanol	$C_5H_{12}O$	403.9(0.3)	579(2)	3.9(0.3)	335(7)	21, 91, 222, 254, 511, 520
3-Methyl-2-butanol	$C_5H_{12}O$	386.8(0.4)	556.1(0.5)	3.9(0.4)	336(9)	254
3-Methyl-2-butanone	$C_5H_{10}O$	367.3(0.2)	553.1(0.3)	3.83(0.1)	321(33)	157, 166
2-Methyl-2-butene	C_5H_{10}	311.6(0.4)	470(1)	3.4(0.1)	299(7)	521
3-Methyl-1-butene	C_5H_{10}	293.2(0.2)	452.7(0.5)	3.51(0.04)	305(8)	490
Methyl *tert*-butyl ether	$C_5H_{12}O$	328.2(0.1)	497.0(0.6)	3.41(0.05)	335(10)	25, 440
Methylcyclohexane	C_7H_{14}	374.0(0.1)	572.3(0.2)	3.48(0.09)	368(3)	34, 74, 78, 86, 88, 171, 235, 236
Methylcyclopentane	C_6H_{12}	344.9(0.2)	532.78(0.05)	3.79(0.05)	322(2)	78, 235, 236
2-Methylcyclopentanone	$C_6H_{10}O$	413(3)	631(2)	4.0(0.6)	328(17)	162
2-Methyl-*N,N*-dimethylaniline	$C_9H_{13}N$	458(2)	668.0(0.7)	3.12(0.08)	466(15)	39, 40
Methyl dodecanoate	$C_{13}H_{26}O_2$	540(2)	712(5)	1.4(0.4)	842(9)	218
1,1'-Methylenebis[(1-methylethyl)benzene]	$C_{19}H_{24}$	592(36)	795(8)	1.6(0.1)	871(30)	394
Methyl formate	$C_2H_4O_2$	304.8(0.3)	487.16(0.1)	6.01(0.01)	172(6)	19, 412, 413
2-Methylfuran	C_5H_6O	337.0(0.2)	528(3)	4.77(0.08)	252(3)	290
2-Methylheptane	C_8H_{18}	390.8(0.9)	559.6(0.1)	2.50(0.02)	487(12)	86, 346, 522
3-Methylheptane	C_8H_{18}	392.0(0.6)	563.7(0.4)	2.54(0.02)	463(12)	346
4-Methylheptane	C_8H_{18}	390.8(0.5)	561.7(0.4)	2.54(0.02)	480(14)	346
Methyl heptanoate	$C_8H_{16}O_2$	442.8(0.4)	628(2)	2.6(0.4)	521(8)	162
4-Methyl-3-heptanol	$C_8H_{18}O$	430(2)	623.5(0.7)	2.8(0.4)	505(13)	437
5-Methyl-3-heptanol	$C_8H_{18}O$	427(2)	621.2(0.3)	2.8(0.3)	493(13)	437
2-Methyl-3-heptanone	$C_8H_{16}O$	431	615(1)	2.7(0.3)	487(11)	162
5-Methyl-3-heptanone	$C_8H_{16}O$	432(4)	619(4)	2.7(0.7)	484(11)	162
2-Methyl-1-heptene	C_8H_{16}	392(2)	567.5(0.9)	2.6(0.2)	466(10)	170
2-Methyl-2-heptene	C_8H_{16}	395(2)	569(1)	2.6(0.4)	465(11)	170
2-Methylhexane	C_7H_{16}	363.1(0.8)	530.4(0.1)	2.73(0.03)	420(15)	86, 346, 349, 522
3-Methylhexane	C_7H_{16}	365.0(0.1)	535.4(0.5)	2.82(0.06)	405(19)	346, 349
2-Methyl-3-hexanone	$C_7H_{14}O$	407(3)	593(1)	2.9(0.4)	428(13)	162
5-Methyl-2-hexanone	$C_7H_{14}O$	412(2)	604(1)	2.9(0.3)	434(13)	162
2-Methyl-1-hexene	C_7H_{14}	365(2)	542(1)	2.9(0.3)	407(8)	170
5-Methyl-1-hexene	C_7H_{14}	358(1)	528.7(0.4)	2.9(0.2)	410(9)	170
N-Methylhexylamine	$C_7H_{17}N$	418(8)	592(1)	2.8(0.8)	458(20)	170
Methyl isobutanoate	$C_5H_{10}O_2$	365(1)	540.7(0.5)	3.43(0.01)	341(42)	19, 413
Methyl methacrylate	$C_5H_8O_2$	373.8(0.2)	540.3(0.6)	2.97(0.06)	320(6)	51
1-Methylnaphthalene	$C_{11}H_{10}$	517.5(0.9)	771(5)	3.56(0.07)	479(22)	86, 218, 523
2-Methylnaphthalene	$C_{11}H_{10}$	514.2(0.3)	761(3)	3.37(0.06)	464(20)	218
2-Methyloctane	C_9H_{20}	416(1)	582.8(0.2)	2.30(0.02)	547(17)	345, 522
Methyloxirane	C_3H_6O	308	488.11(0.08)	5.44(0.02)	197(42)	290, 524

Name	Mol. Form.	T_b/K	T_c/K	P_c/MPa	V_c/cm^3 mol^{-1}	Ref.
Methyl pentafluoroethyl ether	$C_3H_3F_5O$	278.8(0.9)	406.81(0.05)	2.89(0.01)	301(5)	176, 448, 525
2-Methylpentane	C_6H_{14}	333.36(0.09)	497.9(0.2)	3.03(0.01)	371(2)	86, 127, 252, 325–328, 487, 522
3-Methylpentane	C_6H_{14}	336.4(0.5)	504.6(0.2)	3.12(0.01)	368.7(0.3)	252, 324–328, 526
Methyl pentanoate	$C_6H_{12}O_2$	400.51(0.06)	588.9(0.3)	3.20(0.05)	398(6)	164, 165
2-Methyl-1-pentanol	$C_6H_{14}O$	430(6)	604.4(0.5)	3.4(0.2)	410(8)	254
2-Methyl-2-pentanol	$C_6H_{14}O$	394(1)	559.5(0.7)	3.6(0.4)	410(11)	437
2-Methyl-3-pentanol	$C_6H_{14}O$	401.0(0.2)	576(1)	3.5(0.1)	380(9)	254
3-Methyl-3-pentanol	$C_6H_{14}O$	402(4)	575.6(0.6)	3.5(0.2)	376(10)	254
4-Methyl-1-pentanol	$C_6H_{14}O$	424(2)	603.5(0.7)	3.4(0.4)	406(7)	437
4-Methyl-2-pentanol	$C_6H_{14}O$	405.1(0.5)	574.4(0.5)	4(2)	389(9)	437
4-Methyl-2-pentanone	$C_6H_{12}O$	388.8(0.2)	575.4(1)	3.4(0.1)	378(12)	166, 527
2-Methyl-2-pentene	C_6H_{12}	340.4(0.5)	509.3(0.5)	3.26(0.01)	348(7)	170
4-Methyl-1-pentene	C_6H_{12}	327(2)	493.1(0.5)	3.18(0.07)	348(77)	170, 497
4-Methyl-*cis*-2-pentene	C_6H_{12}	329.5(0.1)	496.3(0.7)	3.24(0.01)	350(7)	170
Methyl pentyl ether	$C_6H_{14}O$	372(3)	546.5(0.2)	3.04(0.1)	395(14)	173, 174
2-Methyl-1,3-propanediol	$C_4H_{10}O_2$	494(4)	708(2)	5.4(0.4)	300(12)	55
Methyl propanoate	$C_4H_8O_2$	351.8(0.2)	530.57(0.1)	4.0(0.2)	280(98)	19, 412, 413, 415
2-Methylpropanoic acid	$C_4H_8O_2$	427.5(0.2)	605(2)	3.7(0.3)	296(10)	146
2-Methyl-1-propanol	$C_4H_{10}O$	380.99(0.07)	548(2)	4.30(0.04)	274(17)	25, 91, 148, 153, 155
2-Methyl-2-propanol	$C_4H_{10}O$	355.4(0.1)	506.2(0.1)	3.98(0.07)	283(4)	153
Methyl propyl ether	$C_4H_{10}O$	312(1)	476.2(0.2)	3.80(0.01)	281(7)	25
2-Methylpyridine	C_6H_7N	402.5(0.2)	622(1)	4.62(0.04)	306(119)	75, 528
3-Methylpyridine	C_6H_7N	417.2(0.1)	644.8(0.6)	4.63(0.03)	302(30)	90, 528
4-Methylpyridine	C_6H_7N	418.4(0.1)	645.8(0.5)	4.68(0.04)	316(67)	75, 90
N-Methyl-2-pyrrolidinone	C_5H_9NO	477.3(0.3)	721.7(0.4)	4.5(0.4)	330(12)	144, 242
2-Methylquinoline	$C_{10}H_9N$	520.5(0.4)	778(2)	3.91(0.02)	447(49)	530
8-Methylquinoline	$C_{10}H_9N$	520.5(0.7)	787(2)	4.22(0.02)	426(124)	530
Methyl salicylate	$C_8H_8O_3$	495.8(0.5)	709(30)	4.4(0.7)	436(17)	302
2-Methyltetrahydrofuran	$C_5H_{10}O$	353(1)	537(2)	3.74(0.06)	292(4)	290
(Methylthio)benzene	C_7H_8S	467.4(0.2)	706(4)	4.1(0.1)	374(13)	99
Methyl trifluoromethyl ether	$C_2H_3F_3O$	247.9(0.7)	377.92(0.06)	3.64(0.03)	219(2)	447, 525
Methyltris(trimethylsiloxy)silane	$C_{10}H_{30}O_3Si_4$	464.3(0.2)	597.4(0.2)	1.23(0.02)	1089(74)	34
4-Morpholinecarboxaldehyde	$C_5H_9NO_2$	511(1)	779(4)	5.0(0.4)	326(14)	54
Naphthalene	$C_{10}H_8$	491.1(0.1)	748.3(0.4)	4.06(0.04)	408(21)	79, 82, 86, 241, 251, 355, 451, 531
Neopentane	C_5H_{12}	282.65(0.06)	433.71(0.01)	3.20(0.01)	311.6(0.7)	532
Nitromethane	CH_3NO_2	374.3(0.1)	588(3)	6.0(0.2)	175(2)	533, 534
Nonadecane	$C_{19}H_{40}$	603(3)	756(5)	1.16(0.07)	1216(43)	358, 359
1-Nonadecene	$C_{19}H_{38}$	604(17)	755(8)	1.2(0.2)	1196(36)	365
1,1,1,2,2,3,3,4,4-Nonafluorohexan-5-one	$C_6H_3F_9O$	360.47	498.97(0.08)	2.20(0.02)	504(2)	308
Nonanal	$C_9H_{18}O$	468(3)	658(2)	2.7(0.1)	546(10)	242
Nonane	C_9H_{20}	424.0(0.2)	594.2(0.5)	2.29(0.05)	547(23)	34, 36, 78, 86, 131, 243–245, 247, 249, 251, 454, 456, 535, 536
1,9-Nonanediamine	$C_9H_{22}N_2$	531.8	726(7)	2.6(0.3)	600(23)	140
Nonanedioic acid	$C_9H_{16}O_4$	630.2	844(13)	2.7(0.2)	586(17)	253
Nonanoic acid	$C_9H_{18}O_2$	529(1)	712(3)	2.3(0.8)	592(16)	146
1-Nonanol	$C_9H_{20}O$	486.8(0.4)	670.6(0.5)	2.54(0.07)	555(75)	149, 152, 254, 255
2-Nonanol	$C_9H_{20}O$	466.7	649(1)	2.53(0.1)	575(11)	149, 255
3-Nonanol	$C_9H_{20}O$	468	648.0(0.3)	2.5(0.3)	577(12)	255
4-Nonanol	$C_9H_{20}O$	465.7	645.1(0.3)	2.5(0.3)	577(12)	255
2-Nonanone	$C_9H_{18}O$	467(1)	652.1(0.7)	2.5(0.1)	560(8)	49, 466
3-Nonanone	$C_9H_{18}O$	460(4)	648(4)	2.4(0.6)	560(7)	466
4-Nonanone	$C_9H_{18}O$	461(4)	643.7(0.3)	2.4(0.3)	560(7)	466
5-Nonanone	$C_9H_{18}O$	461.5(0.3)	641.4(0.3)	2.35(0.02)	560(7)	466
1-Nonene	C_9H_{18}	420.0(0.6)	594(1)	2.38(0.01)	529(2)	257
Octacosane	$C_{28}H_{58}$	705(6)	824(8)	0.8(0.1)	1916(65)	358
Octadecane	$C_{18}H_{38}$	589(2)	748(1)	1.3(0.1)	1167(41)	244
1-Octadecanol	$C_{18}H_{38}O$	624(2)	790(8)	1.28(0.1)	1157(18)	361
1-Octadecene	$C_{18}H_{36}$	588.7(1)	748(8)	1.3(0.1)	1119(34)	365

Name	Mol. Form.	T_b/K	T_c/K	P_c/MPa	V_c/cm^3 mol^{-1}	Ref.
1,1,1,2,2,3,3,4-Octafluorobutane	$C_4H_2F_8$	300.62(0.02)	432.0(0.1)	2.80(0.02)	360(22)	537
1,2,2,3,3,4,4,5-Octafluoro-1-pentanol	$C_5H_4F_8O$	413.1(0.3)	571(1)	2.9(0.1)	440(24)	362
Octafluorotetrahydrofuran	C_4F_8O	272.3(0.5)	399.6(0.7)	2.68(0.09)	350(30)	450
Octamethylcyclotetrasiloxane	$C_8H_{24}O_4Si_4$	448.5(0.9)	585.8(0.9)	1.33(0.01)	1006(67)	114, 538
Octamethyltrisiloxane	$C_8H_{24}O_2Si_3$	425.6(0.8)	564.1(0.2)	1.42(0.01)	882(16)	539
Octanal	$C_8H_{16}O$	447(3)	639.3(0.3)	3.0(0.3)	489(7)	163, 242
Octane	C_8H_{18}	398.8(0.1)	568.7(0.1)	2.48(0.01)	490(22)	11, 19, 33, 34, 36, 78, 83, 86, 91, 96, 131, 133, 134, 243–245, 247, 249, 318, 319, 324, 346, 465, 469, 535, 540, 541
1,8-Octanediamine	$C_8H_{20}N_2$	498.7	712(7)	2.8(0.3)	547(20)	140
Octanedioic acid	$C_8H_{14}O_4$	618.6	843(13)	3.0(0.2)	520(16)	253
Octanenitrile	$C_8H_{15}N$	475(3)	674.4(0.4)	2.85(0.03)	494(10)	35
Octanoic acid	$C_8H_{16}O_2$	513(1)	694(1)	2.9(0.3)	522(19)	145, 146, 360, 464
1-Octanol	$C_8H_{18}O$	467.8(0.8)	651(2)	2.80(0.07)	490(47)	25, 149, 152, 254, 255
2-Octanol	$C_8H_{18}O$	452.5	629.5(0.9)	2.75(0.04)	519(10)	149, 254, 255
3-Octanol	$C_8H_{18}O$	457(6)	628.4(0.3)	2.8(0.4)	515(10)	255
4-Octanol	$C_8H_{18}O$	449.5	625.1(0.3)	2.8(0.3)	516(10)	255
2-Octanone	$C_8H_{16}O$	446(3)	632.7(0.2)	2.7(0.5)	497(6)	466
3-Octanone	$C_8H_{16}O$	439(4)	627.7(0.2)	2.7(0.3)	497(6)	466
4-Octanone	$C_8H_{16}O$	439(3)	623.8(0.2)	2.7(0.3)	497(6)	466
1-Octene	C_8H_{16}	398.0(0.5)	566.58(0.05)	2.68(0.02)	464(2)	86, 257
trans-2-Octene	C_8H_{16}	395.5(0.5)	569.8(0.4)	2.58(0.09)	471(9)	170
trans-4-Octene	C_8H_{16}	394.4(0.2)	566(1)	2.55(0.06)	472(9)	170
Octylamine	$C_8H_{19}N$	451.8(0.2)	641(1)	2.82(0.03)	494(41)	542
Octylbenzene	$C_{14}H_{22}$	536(2)	725(7)	2.0(0.2)	746(17)	258
Octyl orthosilicate	$C_{32}H_{68}O_4Si$		812(16)			57
Oxazole	C_3H_3NO	342.6(0.2)	551(4)	6.8(0.2)	185(23)	54
Oxirane	C_2H_4O	283.5(0.1)	469(1)	7.2(0.2)	138(4)	543, 544
Paraldehyde	$C_6H_{12}O_3$	397(2)	563(10)	4(3)	410(15)	12
Pentacene	$C_{22}H_{14}$		1115(47)		806(23)	545
1*H*-Pentadecafluoroheptane	C_7HF_{15}	368(2)	495.8(0.7)	1.7(0.5)	644(38)	546
Pentadecane	$C_{15}H_{32}$	543.8(0.4)	707(2)	1.54(0.09)	938(36)	243, 244, 245, 247, 249, 363, 547
Pentadecanoic acid	$C_{15}H_{30}O_2$	612(4)	777(8)	1.6(0.2)	1002(22)	360
1-Pentadecanol	$C_{15}H_{32}O$	591(2)	757(8)	1.6(0.2)	961(16)	361
1-Pentadecene	$C_{15}H_{30}$	541.5(0.4)	705(7)	1.56(0.05)	933(30)	365
Pentafluorobenzene	C_6HF_5	358(3)	530.93(0.03)	3.53(0.01)	322(22)	472, 548
3,3,4,4,4-Pentafluoro-2-butanone	$C_4H_3F_5O$	314.36(0.04)	453(1)	2.90(0.06)	333(4)	110
Pentafluoroethane	C_2HF_5	224.65	339.2(0.2)	3.63(0.01)	210(3)	180, 309, 312, 315, 447, 448, 549–554
1,1,1,2,2-Pentafluoropentan-3-one	$C_5H_5F_5O$	335.24	475.5(0.1)	2.64(0.01)	356(1)	308
1,1,1,2,2-Pentafluoropropane	$C_3H_3F_5$	255.1(0.3)	380.1(0.4)	3.14(0.02)	273(3)	555
1,1,1,3,3-Pentafluoropropane	$C_3H_3F_5$	288.5	427.20(0.07)	3.66(0.02)	262(14)	203
1,1,2,2,3-Pentafluoropropane	$C_3H_3F_5$	298.2	447.57(0.06)	3.96(0.02)	258(13)	203
1,1,1,2,2-Pentafluoro-3-(1,1,2,2-tetrafluoroethoxy)propane	$C_5H_3F_9O$	343.4	473.0(0.1)	2.24(0.01)	457(2)	113
Pentafluoro(trifluoromethoxy)ethane	C_3F_8O	249.5(0.3)	356.8(0.1)	2.4(0.5)	319(5)	442
Pentafluoro(trifluoromethyl)sulfur	CF_8S	252.4(0.2)	381.2(0.1)	3.4(0.1)	284(4)	442
Pentanal	$C_5H_{10}O$	376(2)	567(3)	3.1(0.3)	313(11)	104, 124
Pentane	C_5H_{12}	309.21(0.07)	469.7(0.1)	3.37(0.01)	310(1)	19, 34, 36, 52, 64, 77, 84–86, 127, 131, 133, 134, 201, 202, 243, 244, 254, 286, 324, 359, 394, 456, 490, 556–562
Pentanedioic acid	$C_5H_8O_4$	546(10)	840(13)	4.3(0.5)	343(13)	253
Pentanenitrile	C_5H_9N	413(1)	610.3(0.2)	3.58(0.05)	320(8)	35
Pentanoic acid	$C_5H_{10}O_2$	459.2(0.3)	639(2)	3.6(0.1)	347(15)	11, 41, 145, 146, 464
1-Pentanol	$C_5H_{12}O$	410.8(0.4)	587.9(0.4)	3.9(0.3)	331(9)	25, 34, 149, 329, 456, 465, 563

Name	Mol. Form.	T_b/K	T_c/K	P_c/MPa	V_c/cm^3 mol^{-1}	Ref.
2-Pentanol	$C_5H_{12}O$	392.2(0.5)	560.4(0.2)	4.2(0.4)	340(3)	149, 254, 465
3-Pentanol	$C_5H_{12}O$	396(2)	559.6(0.3)	4.9(0.9)	325(2)	465
2-Pentanone	$C_5H_{10}O$	375.3(0.1)	561.0(0.2)	3.70(0.06)	324(4)	25, 172
3-Pentanone	$C_5H_{10}O$	375.0(0.1)	561.4(0.2)	3.73(0.07)	319(11)	25
1-Pentene	C_5H_{10}	310.0(0.2)	464.74(0.04)	3.55(0.02)	301.0(0.1)	86, 470, 559
cis-2-Pentene	C_5H_{10}	303.1(0.3)	474.9(0.4)	3.69(0.02)	301(7)	564
Pentyl acetate	$C_7H_{14}O_2$	422.5(0.3)	600(2)	2.79(0.03)	466(123)	141, 162, 166
Pentylbenzene	$C_{11}H_{16}$	476(3)	675(7)	2.6(0.3)	559(12)	258
Pentyl benzoate	$C_{12}H_{16}O_2$	533(3)	736(14)	2.2(0.2)	661(14)	169
Pentyl formate	$C_6H_{12}O_2$	399(3)	576(4)	3.5(0.8)	453(35)	415
Perfluoroacetone	C_3F_6O	245.7(0.4)	357.2(0.1)	2.85(0.01)	329(7)	197, 470
Perfluorobutane	C_4F_{10}	271.0(0.8)	386.3(0.2)	2.33(0.02)	380(18)	565, 566
Perfluorocyclobutane	C_4F_8	267.3	388.4(0.1)	2.78(0.01)	316(8)	265, 470, 567, 568
Perfluorocyclohexane	C_6F_{12}	325.95 s	457.1(0.5)	2.24(0.03)	424(32)	569
Perfluorocyclohexene	C_6F_{10}	324.8(0.1)	461.7(0.7)	2.6(0.1)	434(28)	546
Perfluorodecane	$C_{10}F_{22}$	408(3)	542.4(0.4)	1.45(0.03)	892(7)	240, 570
Perfluorodimethoxymethane	$C_3F_8O_2$	263.1(0.7)	372.4(0.2)	2.34(0.01)	370(30)	116, 571
Perfluoro-2,3-dimethylbutane	C_6F_{14}	332.9(0.3)	463.0(0.1)	1.95(0.03)	523(18)	240, 572
Perfluoroethyl ethyl ether	$C_4H_5F_5O$	301(3)	431.23(0.08)	2.53(0.01)	366(3)	176
Perfluoroethyl 2,2,2-trifluoroethyl ether	$C_4H_2F_8O$	301.04	421.68(0.08)	2.33(0.01)	409(3)	176
Perfluoroheptane	C_7F_{16}	355.6(0.2)	477(3)	1.63(0.01)	603(14)	232, 566, 570, 573–576
Perfluoro-1-heptene	C_7F_{14}	354(4)	478.2(0.7)	1.7(0.3)	555(34)	546
1*H*-Perfluorohexane	C_6HF_{13}	345(4)	471.8(0.7)	2.0(0.3)	504(32)	546
Perfluorohexane	C_6F_{14}	330.3(0.2)	451(3)	1.88(0.02)	552(77)	198, 470, 546, 570, 572, 573, 577
Perfluoro-1-hexene	C_6F_{12}	330.2	454.3(0.7)	1.9(0.7)	462(31)	546
Perfluoroisobutane	C_4F_{10}	273	395.4(0.7)		396(22)	578
Perfluoroisopentane	C_5F_{12}	303.26(0.03)	423(19)	2.12(0.02)	465(8)	240
Perfluoroisopropyl methyl ether	$C_4H_3F_7O$	302(1)	433.30(0.08)	2.55(0.01)	369(3)	176
Perfluoromethylcyclohexane	C_7F_{14}	349.4(0.2)	486.5(1)	2.02(0.01)	561(4)	325, 326, 327, 566, 569
Perfluoromethylcyclopentane	C_6F_{12}	321.58(0.01)	451.43(0.04)	2.17(0.01)	419(37)	579
Perfluoro-2-methylpentane	C_6F_{14}	330.8(0.3)	454.6(0.2)	1.87(0.02)	585(10)	572, 580
Perfluoro-3-methylpentane	C_6F_{14}	331(9)	450(1)	1.69(0.01)	511(36)	572
Perfluoronaphthalene	$C_{10}F_8$	473(8)	673(1)	2.9(0.6)	464(29)	546
Perfluorononane	C_9F_{20}	390(3)	524.0(0.1)	1.56(0.04)	846(48)	570
Perfluorooctane	C_8F_{18}	378(2)	502.3(0.1)	1.66(0.02)	738(17)	34, 240, 570, 573
Perfluorooxetane	C_3F_6O	244.5(0.6)	361.8(0.5)	3.10(0.02)	274(24)	116, 571
1*H*-Perfluoropentane	C_5HF_{11}	319(2)	443.9(0.7)	2.2(0.3)	413(28)	546
Perfluoropentane	C_5F_{12}	302.3(0.2)	421.8(0.1)	2.04(0.02)	463(7)	570, 573
Perfluoropropane	C_3F_8	236.3(0.3)	345.03(0.08)	2.67(0.01)	301(12)	187, 305, 470, 581
Perfluoropropyl methyl ether	$C_4H_3F_7O$	307(1)	437.7(0.1)	2.48(0.01)	382(3)	176
Perfluorotoluene	C_7F_8	377.8(0.3)	534.4(0.2)	2.70(0.02)	423(26)	25
Perfluorotributylamine	$C_{12}F_{27}N$	451(2)	566(4)	1.24(0.09)	1196(66)	582
Perfluorovaleric acid	$C_5HF_9O_2$	415.3(0.3)	545.5(0.2)	2.10(0.05)	496(29)	583
Phenol	C_6H_6O	455.0(0.1)	694.3(0.1)	5.5(0.2)	283(10)	218, 584
Phenyl acetate	$C_8H_8O_2$	468(1)	686(2)	3.60(0.06)	407(12)	55
4-Phenyl-1-butanol	$C_{10}H_{14}O$	537(3)	746(14)	3.1(0.2)	493(19)	584
Phenyl isocyanate	C_7H_5NO	439.4(0.4)	657(10)	3.6(0.1)	342(15)	54
3-Phenyl-1-propanol	$C_9H_{12}O$	514(4)	732(14)	3.4(0.5)	450(14)	584
(1*S*)-(-)-α-Pinene	$C_{10}H_{16}$	429.1(0.4)	644(2)	3.4(0.2)	472(10)	496
Piperazine	$C_4H_{10}N_2$	421.78(0.05)	660(5)	5.4(0.4)	283(16)	331, 489
Piperidine	$C_5H_{11}N$	379.34(0.09)	594.14(0.02)	4.7(0.1)	294(10)	39, 218
Propanal	C_3H_6O	321.1(0.2)	503.7(0.8)	5.04(0.03)	218(9)	104, 124, 163, 242
Propane	C_3H_8	231.04(0.09)	369.9(0.1)	4.25(0.01)	199(6)	29, 125, 127, 131–134, 252, 322, 323, 336, 371, 387, 470, 486, 509, 540, 585–596
1,3-Propanediamine	$C_3H_{10}N_2$	412.3(0.7)	632(7)	5.7(0.6)	257(13)	140
1,2-Propanediol	$C_3H_8O_2$	460.4(0.2)	676(1)	5.9(0.2)	237(10)	32
1,3-Propanediol	$C_3H_8O_2$	487.8(0.3)	718(2)	6.7(0.2)	255(12)	55

Name	Mol. Form.	T_b/K	T_c/K	P_c/MPa	V_c/cm^3 mol^{-1}	Ref.
Propanenitrile	C_3H_5N	370.4(0.4)	561.3(0.2)	4.26(0.07)	211(7)	35
1-Propanethiol	C_3H_8S	340.8(0.1)	536.6(0.6)	4.7(0.1)	286(11)	143, 144
Propanoic acid	$C_3H_6O_2$	414.6(0.2)	603(3)	4.5(0.7)	232(12)	39, 145, 146, 493, 597, 598
1-Propanol	C_3H_8O	370.19(0.09)	536.8(0.2)	5.1(0.1)	220(22)	19, 34, 80, 148–150, 152, 153, 599, 600
2-Propanol	C_3H_8O	355.36(0.09)	508.3(0.2)	4.7(0.1)	226(1)	25, 91, 148, 149, 153, 324, 440, 520, 601, 602
Propene	C_3H_6	225.5(0.1)	364.9(0.5)	4.59(0.02)	184(11)	67, 123, 172, 181, 427, 603–610
2-Propoxyethanol	$C_5H_{12}O_2$	425(3)	614.7(0.7)	3.65(0.09)	364(13)	11, 41
1-Propoxy-2-propanol	$C_6H_{14}O_2$	423.3(0.7)	605(1)	3.1(0.1)	417(16)	32
Propyl acetate	$C_5H_{10}O_2$	374.1(0.2)	549.69(0.08)	3.37(0.07)	346(24)	19, 411, 413, 415
Propylamine	C_3H_9N	320.36(0.08)	499.2(0.4)	4.77(0.06)	230(12)	170, 193
Propylbenzene	C_9H_{12}	432.3(0.5)	638.3(0.1)	3.20(0.02)	441(6)	79, 86, 88
Propyl benzoate	$C_{10}H_{12}O_2$	504(2)	710(14)	2.6(0.3)	530(10)	169
Propyl butanoate	$C_7H_{14}O_2$	417(2)	593(1)	2.72(0.06)	463(10)	162, 166
Propylcyclohexane	C_9H_{18}	429.8(0.3)	630.8(0.9)	2.87(0.04)	489(13)	170, 171
Propylene carbonate	$C_4H_6O_3$	514.8(0.7)	763(2)	4.1(0.2)	256.5(0.1)	55
1,2-Propylene glycol 1-*tert*-butyl ether	$C_7H_{16}O_2$	425.2	601(4)	2.7(0.1)	468(15)	99
1,2-Propylene glycol monomethyl ether acetate	$C_6H_{12}O_3$	419.1(0.4)	598(1)	3.1(0.2)	432(16)	41, 144
Propyl formate	$C_4H_8O_2$	353.8(0.2)	538.1(0.1)	4.07(0.02)	281(31)	19, 412, 413, 415
Propyl isobutanoate	$C_7H_{14}O_2$	407(4)	582(11)	3(1)	463(9)	162, 167
Propyl 3-methylbutanoate	$C_8H_{16}O_2$	428(3)	609(6)	2.5(0.8)	523(9)	147
Propyl propanoate	$C_6H_{12}O_2$	395.3(0.1)	569(3)	3.1(0.1)	403(6)	162, 166
Propyne	C_3H_4	250	402(2)	5.63(0.06)	160(10)	605, 611
Pyrazine	$C_4H_4N_2$	389.4(0.1)	627(1)	6.49(0.03)	225(16)	612
Pyridine	C_5H_5N	388.3(0.1)	619(2)	5.63(0.07)	248(12)	16, 17, 60, 90, 246, 290, 520, 613
Pyrrole	C_4H_5N	402.89(0.04)	639.7(0.2)	8.0(0.2)	222(15)	241
Pyrrolidine	C_4H_9N	359.8(0.1)	568.6(0.2)	5.69(0.08)	259(3)	241, 290
Quinoline	C_9H_7N	510.2(0.5)	782(3)	4.75(0.1)	382(17)	218
Resorcinol	$C_6H_6O_2$	553(2)	836(10)	6.3(0.3)	292(10)	489
Stearic acid	$C_{18}H_{36}O_2$	644(3)	803(8)	1.3(0.2)	1251(27)	360
Styrene	C_8H_8	418.4(0.6)	635(2)	3.9(0.2)	357(15)	481
Succinic acid	$C_4H_6O_4$	507(3)	851(20)		308(21)	253
m-Terphenyl	$C_{18}H_{14}$	648(1)	883(7)	2.2(0.2)	747(37)	108, 358
o-Terphenyl	$C_{18}H_{14}$	610(5)	857(6)	2.9(0.1)	737(37)	108
p-Terphenyl	$C_{18}H_{14}$	649	913(22)	2.5(0.5)	713(37)	108, 614
Tetrabutyl silicate	$C_{16}H_{36}O_4Si$		682(14)			57
Tetrachloromethane	CCl_4	349.8(0.2)	556.5(0.3)	4.57(0.07)	276(9)	19, 27, 469, 615–619
Tetracosane	$C_{24}H_{50}$	664(5)	800(5)	0.9(0.1)	1585(55)	358, 359
Tetradecamethylcycloheptasiloxane	$C_{14}H_{42}O_7Si_7$	548.4(0.2)	683.2(0.2)	0.99(0.02)	1634(110)	34
Tetradecane	$C_{14}H_{30}$	526.6(0.4)	693(1)	1.56(0.08)	870(49)	34, 244
Tetradecanedioic acid	$C_{14}H_{26}O_4$	639(10)		1.9(0.2)		253
Tetradecanoic acid	$C_{14}H_{28}O_2$	599(1)	763(8)	1.6(0.2)	921(20)	360
1-Tetradecanol	$C_{14}H_{30}O$	569.0(0.4)	743(7)	1.70(0.04)	887(15)	361
2-Tetradecanone	$C_{14}H_{28}O$	562(6)	728(9)	1.6(0.5)	896(26)	256
3-Tetradecanone	$C_{14}H_{28}O$	552(7)	727(6)	1.6(0.5)	896(26)	256
4-Tetradecanone	$C_{14}H_{28}O$	552(7)	725(6)	1.6(0.5)	900(27)	256
7-Tetradecanone	$C_{14}H_{28}O$	552(8)	723(8)	1.6(0.6)	904(27)	256
1-Tetradecene	$C_{14}H_{28}$	524.2(0.4)	691(7)	1.58(0.07)	851(24)	365
Tetradecyl orthosilicate	$C_{40}H_{84}O_4Si$		849(16)			57
Tetraethoxysilane	$C_8H_{20}O_4Si$	441(1)	587(12)	2.0(0.4)	701.3(0.2)	57
Tetraethylene glycol	$C_8H_{18}O_5$	588(7)	800(30)	2.8(0.7)	608(31)	283
Tetraethylsilane	$C_8H_{20}Si$	426.5(0.7)	606(2)	2.297(0.01)	596.4(0.2)	620
1,2,3,4-Tetrafluorobenzene	$C_6H_2F_4$	367.4(0.8)	550.8(0.2)	3.791(0.01)	312(22)	25
1,2,3,5-Tetrafluorobenzene	$C_6H_2F_4$	357.4(0.8)	535.2(0.2)	3.75(0.01)	311(22)	25
1,2,4,5-Tetrafluorobenzene	$C_6H_2F_4$	363.3(0.3)	543.3(0.2)	3.80(0.01)	309(22)	25
1,1,2,2-Tetrafluoro-2-(2,2-difluoromethoxy) ethane	$C_4H_4F_6O$	352.13	501.08(0.08)	3.09(0.02)	356(1)	113

Name	Mol. Form.	T_b/K	T_c/K	P_c/MPa	V_c/cm^3 mol^{-1}	Ref.
1,1,1,2-Tetrafluoroethane	$C_2H_2F_4$	247.0(0.1)	374.2(0.2)	4.06(0.01)	200(2)	113, 182, 183, 188, 278–280, 305, 313, 315, 447, 448, 478, 621–631
1,1,2,2-Tetrafluoroethane	$C_2H_2F_4$	253(1)	391.75(0.08)	4.61(0.01)	192(1)	178, 632
Tetrafluoroethene	C_2F_4	197(1)	307(1)	3.94(0.05)	183(3)	633, 634
1,2,2,2-Tetrafluoroethyl difluoromethyl ether	$C_3H_2F_6O$	296(2)	428.95(0.08)	3.05(0.01)	315(2)	176
1,1,2,2-Tetrafluoroethyl 1,1,1-trifluoroethyl ether	$C_4H_3F_7O$	329.37	463.89(0.07)	2.71(0.01)	373(1)	113
Tetrafluoromethane	CF_4	145.2(0.1)	227.54(0.03)	3.73(0.03)	140(1)	506, 635
1,1,2,2-Tetrafluoro-3-methoxypropane	$C_4H_6F_4O$	347.4(0.1)	505.4(0.1)	3.28(0.01)	331(1)	113
1,2,2,3-Tetrafluoro-1-propanol	$C_3H_4F_4O$	386.4(0.4)	554(2)	3.3(0.2)	280(15)	362
1,1,2,2-Tetrafluoro-3-(1,1,2,2-tetrafluoroethoxy) propane	$C_5H_4F_8O$	366.32	510.07(0.08)	2.58(0.01)	440(2)	113
1,1,1,2-Tetrafluoro-2-(trifluoromethoxy)ethane	C_3HF_7O	264(2)	377.26(0.06)	2.62(0.01)	321(2)	525
3,4,4,4-Tetrafluoro-3-(trifluoromethyl)-2-butanone	$C_5H_3F_7O$	328.76(0.05)	468(1)	2.50(0.06)	409(5)	110
4,4,5,5-Tetrafluoro-2-(trifluoromethyl)-1,3-dioxolane	$C_4HF_7O_2$	304.6(0.1)	435(1)	2.62(0.07)	376(4)	110
Tetrahexoxysilane	$C_{24}H_{52}O_4Si$		757(16)			57
Tetrahydrofuran	C_4H_8O	339.1(0.1)	540(1)	5.29(0.06)	223(2)	23, 241, 290
1,2,3,4-Tetrahydronaphthalene	$C_{10}H_{12}$	480.3(0.3)	720(1)	3.6(0.1)	431(40)	144, 242, 636
Tetrahydropyran	$C_5H_{10}O$	361.1(0.4)	572.0(0.3)	4.8(0.2)	278(18)	75
Tetrahydrothiophene	C_4H_8S	394.2(0.2)	632.0(0.2)	5.4(0.6)	276(19)	143, 241
1,2,4,5-Tetraisopropylbenzene	$C_{18}H_{30}$	532	703(1)	1.65(0.02)	983(83)	317
Tetramethoxysilane	$C_4H_{12}O_4Si$	393.2(0.7)	558(12)	2.8(0.6)	464(22)	57
1,2,4,5-Tetramethylbenzene	$C_{10}H_{14}$	470(1)	676(2)	2.9(0.3)	489(11)	39
2,2,3,3-Tetramethylhexane	$C_{10}H_{22}$	433(2)	623.0(0.5)	2.51(0.06)	574(14)	536
2,2,5,5-Tetramethylhexane	$C_{10}H_{22}$	410(2)	581.4(0.5)	2.19(0.01)	600(14)	536
2,2,3,3-Tetramethylpentane	C_9H_{20}	413.3(0.4)	607.5(0.5)	2.74(0.03)	514(15)	536
2,2,3,4-Tetramethylpentane	C_9H_{20}	406.1(0.8)	592.6(0.5)	2.60(0.03)	517(17)	536
2,2,4,4-Tetramethylpentane	C_9H_{20}	395(1)	574.6(0.5)	2.49(0.01)	532(16)	536
2,3,3,4-Tetramethylpentane	C_9H_{20}	414.6(0.7)	607.5(0.5)	2.72(0.04)	517(17)	536
Tetramethylsilane	$C_4H_{12}Si$	299.8(0.5)	449(2)	2.82(0.01)	362(7)	637–639
Tetramethylstannane	$C_4H_{12}Sn$	350(1)	521.77(0.02)	2.98(0.01)	109(109)	640, 641
Tetranonoxysilane	$C_{36}H_{76}O_4Si$		830(16)			57
Tetrapropyl silicate	$C_{12}H_{28}O_4Si$		649(12)			57
Thiacyclohexane	$C_5H_{10}S$	414.88(0.04)	684(44)	6.50(0.07)	284(11)	104
Thiobis(trifluoromethane)	C_2F_6S	251.3(0.3)	376.8(0.1)	3.2(0.5)	216(19)	442
Thiophene	C_4H_4S	357.2(0.1)	579.4(0.2)	5.7(0.2)	230(3)	241, 290
Thymol	$C_{10}H_{14}O$	506(3)	698(10)	3(2)	528(21)	302
Toluene	C_7H_8	383.75(0.07)	591.9(0.2)	4.13(0.02)	314(7)	34, 63, 68, 74, 78, 79, 84, 86, 88, 90, 96, 163, 172, 258, 481, 636, 642–646
Triacontane	$C_{30}H_{62}$	724(7)	843(8)	0.6(0.1)	2055(69)	358
Tribromomethane	$CHBr_3$	422.3(0.5)	682(1)	5.8(0.2)	261(12)	647
Trichloroacetyl chloride	C_2Cl_4O	391.3(0.3)	604(2)	4.21(0.03)	331(54)	410
Trichloroethylsilane	$C_2H_5Cl_3Si$	371.8(0.7)	559.9(0.6)	3.34(0.04)	403(5)	266
Trichlorofluoromethane	CCl_3F	296.8(0.6)	471.1(0.2)	4.40(0.03)	248.0(0.9)	33, 34, 191, 271, 571
Trichloromethane	$CHCl_3$	334.3(0.1)	536.0(0.4)	5.5(0.2)	237(7)	18, 27, 28, 117
Trichloromethylsilane	CH_3Cl_3Si	339(2)	517.7(0.3)	3.52(0.03)	329(9)	264, 648
1,3,5-Trichloro-2,4,6-trifluorobenzene	$C_6Cl_3F_3$	472(27)	684.7(0.4)	3.3(0.1)	443(27)	25
1,1,2-Trichloro-1,2,2-trifluoroethane	$C_2Cl_3F_3$	320.8(0.2)	487.4(0.2)	3.40(0.02)	325(1)	191, 265, 271, 649
Tricosane	$C_{23}H_{48}$	654(9)	790(8)	0.9(0.1)	1527(53)	359
Tridecane	$C_{13}H_{28}$	508.5(0.4)	676(1)	1.68(0.04)	824(30)	34, 244, 249
1-Tridecanol	$C_{13}H_{28}O$	560(8)	732(7)	1.8(0.2)	828(14)	361
2-Tridecanone	$C_{13}H_{26}O$	541(1)	717(6)	1.8(0.2)	820(24)	256
3-Tridecanone	$C_{13}H_{26}O$	539(7)	716(5)	1.7(0.5)	823(24)	256
4-Tridecanone	$C_{13}H_{26}O$	539(7)	712(6)	1.7(0.5)	823(24)	256
5-Tridecanone	$C_{13}H_{26}O$	539(8)	710(8)	1.7(0.7)	826(17)	256
6-Tridecanone	$C_{13}H_{26}O$	539(7)	709(5)	1.7(0.5)	826(24)	256
7-Tridecanone	$C_{13}H_{26}O$	539(9)	708(5)	1.7(0.5)	830(24)	256

Name	Mol. Form.	T_b/K	T_c/K	P_c/MPa	V_c/cm^3 mol^{-1}	Ref.
1-Tridecene	$C_{13}H_{26}$	506.0(0.7)	673(7)	1.74(0.05)	770(17)	365
Tridecylbenzene	$C_{19}H_{32}$	613(4)	790(8)	1.5(0.1)	1079(43)	258
Triethylamine	$C_6H_{15}N$	361.9(0.2)	535.6(0.3)	3.1(0.3)	392(25)	117, 286
1,3,5-Triethylbenzene	$C_{12}H_{18}$	489.0(0.9)	679(2)	2.32(0.01)	624(60)	332
Triethylene glycol	$C_6H_{14}O_4$	561.8(0.2)	775(30)	3.3(0.2)	454(25)	283
Trifluoroacetonitrile	C_2F_3N	204.3(0.8)	311.1(0.4)	3.61(0.04)	202(4)	470
1,2,3-Trifluorobenzene	$C_6H_3F_3$	368	560.3(0.4)	4.1(0.4)	296(20)	119
1,2,4-Trifluorobenzene	$C_6H_3F_3$	363	551.1(0.4)	4.1(0.6)	297(20)	119
1,3,5-Trifluorobenzene	$C_6H_3F_3$	350.1(0.5)	530.9(0.4)	3.8(0.2)	300(20)	119
1,1,1-Trifluoroethane	$C_2H_3F_3$	225.9(0.1)	345.89(0.07)	3.77(0.01)	195(15)	179, 203, 309, 478, 479, 549, 624, 650–653
2,2,2-Trifluoroethanol	$C_2H_3F_3O$	346.9(0.3)	498.57(0.05)	4.81(0.01)	211(12)	654, 655
2,2,2-Trifluoroethyl methyl ether	$C_3H_5F_3O$	304.77	448.98(0.08)	3.51(0.06)	277(3)	176
Trifluoroiodomethane	CF_3I	251.3(0.6)	396.44(0.06)	3.95(0.01)	231(3)	656–659
Trifluoromethane	CHF_3	191.1(0.1)	299.00(0.02)	4.82(0.01)	133(1)	310, 606, 660–664
Trifluoromethyl difluoromethyl ether	C_2HF_5O	238.1(0.2)	354.49(0.06)	3.36(0.02)	226(20)	203
Trifluoromethyl 1,1,2,2-tetrafluoroethyl ether	C_3HF_7O	270(1)	387.8(0.5)	2.65(0.01)	341(22)	116, 571
3,3,3-Trifluoropropene	$C_3H_3F_3$	246(4)	378.6(0.5)	3.61(0.08)	229(14)	440
Trimethylamine	C_3H_9N	275.9(0.2)	433.0(0.6)	4.08(0.04)	254(6)	322, 323, 665
1,2,3-Trimethylbenzene	C_9H_{12}	449.1(0.4)	664.4(0.1)	3.45(0.03)	423(11)	79
1,2,4-Trimethylbenzene	C_9H_{12}	442.5(0.3)	649.1(0.1)	3.3(0.1)	436(12)	79, 86, 96, 251
1,3,5-Trimethylbenzene	C_9H_{12}	437.8(0.3)	637.31(0.1)	3.13(0.05)	435(12)	79
3,7,7-Trimethyl-bicyclo[4.1.0]hept-3-ene	$C_{10}H_{16}$	445(2)	658(2)	2.9(0.5)	487(10)	496
2,2,3-Trimethylbutane	C_7H_{16}	353.9(0.1)	531.3(0.5)	2.96(0.03)	401(13)	346, 349
Trimethylchlorosilane	C_3H_9ClSi	330.8(0.4)	497.7(0.6)	3.20(0.03)	366(6)	266
1α,3α,5β-1,3,5-Trimethylcyclohexane	C_9H_{18}	414(2)	602(2)	2.6(0.3)	494(14)	74
3,3,5-Trimethylheptane	$C_{10}H_{22}$	430(3)	609.5(0.5)	2.32(0.05)	583(18)	536
2,2,5-Trimethylhexane	C_9H_{20}	397(2)	570(2)	2.46(0.03)	547(18)	350
2,2,3-Trimethylpentane	C_8H_{18}	382.9(0.4)	563.5(0.4)	2.73(0.02)	442(16)	346
2,2,4-Trimethylpentane	C_8H_{18}	372.3(0.2)	543.9(0.4)	2.57(0.02)	475(20)	33, 34, 86, 159, 346, 666, 667
2,3,3-Trimethylpentane	C_8H_{18}	387.8(0.3)	573.5(0.4)	2.82(0.03)	454(14)	346
2,3,4-Trimethylpentane	C_8H_{18}	386.5(0.3)	566.4(0.4)	2.72(0.02)	462(12)	346
cis-Tri(methylphenyl)trisiloxane	$C_{21}H_{24}O_3Si_3$		824(8)			353
trans-2,4,6-Trimethyl-2,4,6-triphenylcyclotrisiloxane	$C_{21}H_{24}O_3Si_3$		839(8)			353
Undecafluorocyclohexane	C_6HF_{11}	335.2	477.7(0.7)			546
Undecane	$C_{11}H_{24}$	469.0(0.3)	638.8(0.2)	2.01(0.03)	683(20)	34, 86, 131, 243, 249, 363, 535
Undecanoic acid	$C_{11}H_{22}O_2$	553	728(7)	2.1(0.2)	741(20)	360
1-Undecanol	$C_{11}H_{24}O$	519(2)	703.0(0.6)	2.15(0.07)	707(12)	149
2-Undecanone	$C_{11}H_{22}O$	506.2(0.3)	688(2)	2.08(0.01)	692(20)	256
3-Undecanone	$C_{11}H_{22}O$	500	685(2)	2.0(0.4)	692(20)	256
4-Undecanone	$C_{11}H_{22}O$	501(3)	681(2)	2.0(0.2)	692(20)	256
5-Undecanone	$C_{11}H_{22}O$	500	679(2)	2.0(0.2)	692(20)	256
6-Undecanone	$C_{11}H_{22}O$	500.5(0.5)	678(2)	2.02(0.01)	692(20)	256
Undecylbenzene	$C_{17}H_{28}$	585(3)	763(8)	1.6(0.1)	946(35)	258
Vinyl acetate	$C_4H_6O_2$	345.8(0.3)	519.2(0.2)	4.17(0.03)	269(7)	156, 440
m-Xylene	C_8H_{10}	412.2(0.4)	616.9(0.3)	3.54(0.01)	377(7)	34, 68, 79, 88, 90, 106, 668
o-Xylene	C_8H_{10}	417.5(0.4)	630.26(0.1)	3.74(0.01)	372(40)	34, 68, 78, 79, 88, 669
p-Xylene	C_8H_{10}	411.4(0.5)	616.17(0.09)	3.55(0.02)	372(35)	34, 68, 74, 79, 88, 90, 669
2,3-Xylenol	$C_8H_{10}O$	490.03(0.05)	723(1)	4.1(0.3)	397(15)	218
2,4-Xylenol	$C_8H_{10}O$	484.09(0.03)	708(1)	3.5(0.3)	389(15)	218
2,5-Xylenol	$C_8H_{10}O$	484.29(0.08)	707(1)	3.9(0.1)	397(15)	25
2,6-Xylenol	$C_8H_{10}O$	474.18(0.05)	701(1)	3.8(0.1)	396(15)	218
3,4-Xylenol	$C_8H_{10}O$	500.46(0.05)	730(1)	4.9(0.5)	388(15)	218
3,5-Xylenol	$C_8H_{10}O$	494.86(0.05)	716(1)	3.8(0.2)	396(15)	218

References

1. Frenkel, M., Chirico, R. D., Diky, V. V., Kazakov, A., and Muzny, C. D., *ThermoData Engine*. NIST Standard Reference Database 103b, Version 4.0 (Pure Compounds, Binary Mixtures, and Chemical Reactions, TDE-SOURCE Version 4.3), National Institute of Standards and Technology, Gaithersburg, MD – Boulder, CO, 2009, http://www.nist.gov/srd/nist103b.cfm.
2. Frenkel, M., Chirico, R. D., Diky, V., Yan, X., Dong, Q., and Muzny, C., *J. Chem. Inf. Model.* 45, 816, 2005.
3. Diky, V., Muzny, C. D., Lemmon, E. W., Chirico, R. D., and Frenkel, M., *J. Chem. Inf. Model.* 47, 1713, 2007.
4. Diky, V., Chirico, R. D., Kazakov, A. F., Muzny, C., and Frenkel, M., *J. Chem. Inf. Model.* 49, 503, 2009.
5. Diky, V., Chirico, R. D., Kazakov, A. F., Muzny, C., and Frenkel, M., *J. Chem. Inf. Model.* 49, 2883, 2009.
6. Joback, K. G., and Reid, R. C., *Chem. Eng. Commun.* 57, 233, 1987.
7. Constantinou, L., and Gani, R., *AIChE J.* 40, 1697, 1994.
8. Marrero-Morejon, J., and Pardillo-Fontdevila, E., *AIChE J.* 45, 615, 1999.
9. Wilson, G. M., and Jasperson, L. V., AIChE Meeting, New Orleans, LA, 1996.
10. Chirico, R. D., Frenkel, M., Diky, V. V., Marsh, K. N., and Wilhoit, R. C., *J. Chem. Eng. Data* 48, 1344, 2003.
11. Teja, A. S., and Anselme, M. J., *AIChE Symp. Ser.* 86 (279), 115, 1990.
12. Hollmann, R., *Z. Phys. Chem., Stoechiom. Verwandtschaftsl.* 43, 129, 1903.
13. Van der Waals, J. D., *Continuity of Gas and Liquid Data*, 1st edition, Leipzig, p. 168, 1881.
14. Vandana, V., and Teja, A. S., *Fluid Phase Equilib.* 103, 113, 1995.
15. Ambrose, D., Ellender, J. H., Sprake, C. H. S., and Townsend, R., *J. Chem. Thermodyn.* 9, 735, 1977.
16. Kreglewski, A., *Rocz. Chem.* 31, 1001, 1957.
17. Swietoslawski, W., and Kreglewski, A., *Bull. Acad. Pol. Sci., Cl. 3* 2, 77, 1954.
18. Swietoslawski, W., and Kreglewski, A., *Bull. Acad. Pol. Sci., Cl. 3* 2, 187, 1954.
19. Young, S., *Sci. Proc. R. Dublin Soc.* 12, 374, 1910.
20. Young, S., *J. Chem. Soc.* 59, 903, 1891.
21. Pawlewski, B., *Ber. Dtsch. Chem. Ges.* 16, 2633, 1883.
22. Ambrose, D., and Ghiassee, N. B., *J. Chem. Thermodyn.* 19, 911, 1987.
23. Sassa, Y., Konishi, R., and Katayama, T., *J. Chem. Eng. Data* 19, 44, 1974.
24. Ambrose, D., Sprake, C. H. S., and Townsend, R., *J. Chem. Thermodyn.* 6, 693, 1974.
25. Ambrose, D., Broderick, B. E., and Townsend, R., *J. Appl. Chem. Biotechnol.* 24, 359, 1974.
26. Campbell, A. N., and Musbally, G. M., *Can. J. Chem.* 48, 3173, 1970.
27. Campbell, A. N., and Chatterjee, R. M., *Can. J. Chem.* 47, 3893, 1969.
28. Campbell, A. N., and Chatterjee, R. M., *Can. J. Chem.* 46, 575, 1968.
29. Kay, W. B., *J. Phys. Chem.* 68, 827, 1964.
30. Rosenbaum, M., M.S. Thesis, Univ. Texas, Austin, TX, 1951.
31. Kuenen, J. P., and Robson, W. G., *Philos. Mag.* 3, 622, 1902.
32. VonNiederhausern, D. M., Wilson, L. C., Giles, N. F., and Wilson, G. M., *J. Chem. Eng. Data* 45, 154, 2000.
33. Christou, G., Young, C. L., and Svejda, P., *Ber. Bunsen-Ges. Phys. Chem.* 95, 510, 1991.
34. Christou, G., Ph.D. Dissertation, Univ. Melbourne, 1988.
35. Castillo-Lopez, N., and Trejo Rodriguez, A., *J. Chem. Thermodyn.* 19, 671, 1987.
36. Trejo Rodriguez, A., and McLure, I. A., *Fluid Phase Equilib.* 12, 297, 1983.
37. Trejo Rodriguez, A., and McLure, I. A., *J. Chem. Thermodyn.* 11, 1113, 1979.
38. Khera, R., Ph.D. Thesis, Ohio State Univ., Columbus, OH, 1968.
39. Guye, P. A., and Mallet, E., *Arch. Sci. Phys. Nat.* 13, 274, 1902.
40. Guye, P. A., and Mallet, E., *C. R. Hebd. Seances Acad. Sci.* 133, 168, 1902.
41. Teja, A. S., and Rosenthal, D. J., *Experimental Results for Phase Equilibria and Pure Component Properties*, DIPPR DATA Series No. 1, p. 96, 1991.
42. Goloborod'ko, N. P., and Khodeeva, S. M., *Russ. J. Phys. Chem.* (*Engl. Transl.*) 46, 235, 1972.
43. Mislavskaya, V. S., and Khodeeva, S. M., *Zh. Fiz. Khim.* 43, 2367, 1969.
44. Khodeeva, S. M., *Russ. J. Phys. Chem.* (*Engl. Transl.*) 40, 1061, 1966.
45. Ambrose, D., and Townsend, R., *Trans. Faraday Soc.* 60, 1025, 1964.
46. Ambrose, D., *Trans. Faraday Soc.* 52, 772, 1956.
47. McIntosh, D., *J. Phys. Chem.* 11, 306, 1907.
48. Kuenen, J. P., *Philos. Mag.* 44, 174, 1897.
49. Wilson, L. C., Wilson, H. L., Wilding, W. V., and Wilson, G. M., *J. Chem. Eng. Data* 41, 1252, 1996.
50. Lespieau, R., and Chavanne, G., *C. R. Hebd. Seances Acad. Sci.* 140, 1035, 1905.
51. Wang, X., Jia, Q., Gao, J., Xia, S., and Ma, P. S., *J. Chem. Ind. Eng.* (*China*) 56, 1385, 2005.
52. Liang, Y.-H., Ma, P. S., and Zhang, H., *J. Chem. Ind. Eng.* (*China*) 51, 243, 2000.
53. Steele, W. V., Chirico, R. D., Knipmeyer, S. E., and Nguyen, A., *J. Chem. Thermodyn.* 23, 957, 1991.
54. VonNiederhausern, D. M., Wilson, G. M., and Giles, N. F., *J. Chem. Eng. Data* 51, 1990, 2006.
55. Wilson, G. M., VonNiederhausern, D. M., and Giles, N. F., *J. Chem. Eng. Data* 47, 761, 2002.
56. Chashkin, Yu. R., Gorbunova, V. G., and Voronel, A. V., *Zh. Exp. Teor. Fiz.* 49, 432, 1965.
57. Nikitin, E. D., and Popov, A. P., *J. Chem. Eng. Data* 53, 1371, 2008.
58. Steele, W. V., Chirico, R. D., Knipmeyer, S. E., and Nguyen, A., *J. Chem. Eng. Data* 47, 648–666, 2002.
59. Lagutkin, O. D., and Kuropatkin, E. I., *Zh. Fiz. Khim.* 55, 1329, 1981.
60. Livingston, J., Morgan, R., and Higgins, E., *Z. Phys. Chem., Stoechiom. Verwandtschaftsl.* 64, 170, 1908.
61. Liu, T., Fu, J., Wang, K., Gao, Y., and Yuan, W., *J. Chem. Eng. Data* 46, 809, 2001.
62. Nikitin, E. D., Pavlov, P. A., and Skutin, M., *Fluid Phase Equilib.* 161, 119, 1999.
63. Chirico, R. D., and Steele, W. V., *Ind. Eng. Chem. Res.* 33, 157, 1994.
64. Zhang, J., Zhao, X., and Ma, P., *Huagong Xuebao* 43, 105, 1992.
65. Knipmeyer, S. E., Archer, D. G., Chirico, R. D., Gammon, B. E., Hossenlopp, I. A., Nguyen, A., Smith, N. K., Steele, W. V., and Strube, M. M., *Fluid Phase Equilib.* 52, 185, 1989.
66. Goodwin, R. D., *J. Phys. Chem. Ref. Data* 17, 1541, 1988.
67. Brunner, E., *J. Chem. Thermodyn.* 20, 1397, 1988.
68. Ambrose, D., *J. Chem. Thermodyn.* 19, 1007, 1987.
69. Kay, W. B., and Kreglewski, A., *Fluid Phase Equilib.* 11, 251, 1983.
70. Hales, J. L., and Gundry, H. A., *J. Phys. E* 16, 91, 1983.
71. Hugill, J. A., and McGlashan, M. L., *J. Chem. Thermodyn.* 13, 429, 1981.
72. Ewing, M. B., McGlashan, M. L., and Tzias, P., *J. Chem. Thermodyn.* 13, 527, 1981.
73. Akhundov, T. S., and Abdullaev, F. G., *Izv. Vyssh. Uchebn. Zaved., Neft Gaz* 20, 73, 1977.
74. Powell, R. J., Swinton, F. L., and Young, C. L., *J. Chem. Thermodyn.* 2, 105, 1970.
75. Kobe, K. A., and Mathews, J. F., *J. Chem. Eng. Data* 15, 182, 1970.
76. Artyukhovskaya, L. M., Shimanskaya, E. T., and Shimanskii, Yu. I., *Ukr. Fiz. Zh.* (*Ukr. Ed.*) 15, 1974, 1970.
77. Skripov, V. P., and Sinitsyn, E. N., *Zh. Fiz. Khim.* 42, 309, 1968.
78. Kay, W. B., and Hissong, D. W., *Proc. - Am. Pet. Inst., Div. Refin.* 47, 653, 1967.
79. Ambrose, D., Broderick, B. E., and Townsend, R., *J. Chem. Soc. A* 633, 1967.
80. Skaates, J. M., and Kay, W. B., *Chem. Eng. Sci.* 19, 431, 1964.
81. Makhan'ko, I. G., and Nozdrev, V. F., *Akust. Zh.* 10, 249, 1964.
82. Cheng, D. C. H., *Chem. Eng. Sci.* 18, 715, 1963.
83. Connolly, J. F., and Kandalic, G. A., *J. Chem. Eng. Data* 7, 137, 1962.
84. Partington, E. J., Rowlinson, J. S., and Weston, J. F., *Trans. Faraday Soc.* 56, 479, 1960.
85. McCracken, P. G., Storvick, T. S., and Smith, J. M., *J. Chem. Eng. Data* 5, 130, 1960.
86. Ambrose, D., Cox, J. D., and Townsend, R., *Trans. Faraday Soc.* 56, 1452, 1960.

87. Krichevskii, I. R., Khazanova, N. E., and Linshits, L. R., *Tr. GIAP* No. 9, 40, 1959.
88. Simon, M., *Bull. Soc. Chim. Belg.* 66, 375, 1957.
89. Krichevskii, I. R., Khazanova, N. E., and Linshits, L. R., *Zh. Fiz. Khim.* 31, 2711, 1957.
90. Ambrose, D., and Grant, D. G., *Trans. Faraday Soc.* 53, 771, 1957.
91. Kreglewski, A., *Rocz. Chem.* 29, 754, 1955.
92. Kay, W. B., and Nevens, T. D., *Chem. Eng. Prog., Symp. Ser.* 48, 108, 1952.
93. Bender, P., Furukawa, G. T., and Hyndman, J. R., *Ind. Eng. Chem.* 44, 387, 1952.
94. Gornowski, E. J., Amick, E. H., and Hixson, A. N., *Ind. Eng. Chem.* 39, 1348, 1947.
95. Schamhardt, H. O., Thesis, Amsterdam, The Netherlands, 1908.
96. Altschul, M., *Z. Phys. Chem., Stoechiom. Verwandtschaftsl.* 11, 577, 1893.
97. Young, S., *J. Chem. Soc., Trans.* 55, 486, 1889.
98. Nikitin, E. D., Popov, A. P., and Yatluk, Y. G., *J. Chem. Eng. Data* 51, 1335, 2006.
99. VonNiederhausern, D. M., Wilson, G. M., and Giles, N. F., *J. Chem. Eng. Data* 51, 1982, 2006.
100. Chirico, R. D., Knipmeyer, S. E., Nguyen, A., and Steele, W. V., *J. Chem. Thermodyn.* 23, 759, 1991.
101. Steele, W. V., Chirico, R. D., Hossenlopp, I. A., Knipmeyer, S. E., Nguyen, A., and Smith, N. K., *Experimental Results for DIPPR 1990–91 Projects on Phase Equilibria and Pure Component Properties*, DIPPR Data Ser. No. 2, p. 188, 1994.
102. Guseinov, S. O., Naziev, Y. M., Farzaliev, B. I., and Movsunov, T. G., *Izv. Vyssh. Uchebn. Zaved., Neft Gaz* 21, 48, 1978.
103. Ambrose, D., and Ghiassee, N. B., *J. Chem. Thermodyn.* 22, 307, 1990.
104. Anselme, M. J., and Teja, A. S., *AIChE Symp. Ser.* 86 (279), 128, 1990.
105. Chirico, R. D., and Steele, W. V., *J. Chem. Thermodyn.* 36, 633, 2004.
106. Glaser, F., and Ruland, H., *Chem.-Ing.-Tech.* 29, 772, 1957.
107. Chirico, R. D., Knipmeyer, S. E., Nguyen, A., and Steele, W. V., *J. Chem. Thermodyn.* 21, 1307, 1989.
108. Reiter, R. W., *NASA Document* N63, 1963.
109. Ellard, J. A., and Yanko, W. H., *U. S. A. E. C. Rep.* IDO-11008, 1963.
110. Sako, T., Yasumoto, M., Nakazawa, N., and Kamizawa, C., *J. Chem. Eng. Data* 46, 1078, 2001.
111. Defibaugh, D. R., Gillis, K. A., Moldover, M. R., Morrison, G., and Schmidt, J. W., *Fluid Phase Equilib.* 81, 285, 1992.
112. Nikitin, E. D., Popov, A. P., and Yatluk, Y. G., *J. Chem. Eng. Data* 51, 1326, 2006.
113. Yasumoto, M., Yamada, Y., Murata, J., Urata, S., and Otake, K., *J. Chem. Eng. Data* 48, 1368, 2003.
114. McLure, I. A., and Neville, J. F., *J. Chem. Thermodyn.* 14, 385, 1982.
115. Badylkes, S., *Kholod. Tekh.* 43, 18, 1966.
116. Salvi-Narkhede, M., Wang, B. -H., Adcock, J. I., and Van Hook, W. A., *J. Chem. Thermodyn.* 24, 1065, 1992.
117. Herz, W., and Neukirch, E., *Z. Phys. Chem., Stoechiom. Verwandtschaftsl.* 104, 433, 1923.
118. Adamenko, I. I., and Chernyavskaya, I. A., *Ukr. Fiz. Zh.* 11, 336, 1966.
119. Morton, D. W., Lui, M. P. W., Tran, C. A., and Young, C. L., *J. Chem. Eng. Data* 45, 437, 2000.
120. Li, Y., Ma, P., and Ruan, Y., *Shiyou Huagong* 22, 322, 1993.
121. Higashi, Y., Uematsu, M., and Watanabe, K., *Bull. JSME* 28, 2660, 1985.
122. Scott, R. B., Meyers, C. H., Rands, R. D., Brickwedde, F. G., and Bekkedahl, N., *J. Res. Natl. Bur. Stand.* (*U. S.*) 35, 39, 1945.
123. Cragoe, C. S., *Natl. Bur. Stand.* (*U. S.*) LC-736, 1943.
124. Ma, P. S., Gao, J., and Xia, S., *Chin. J. Chem. Eng.* 10, 473, 2002.
125. Yasumoto, M., Uchida, Y., Ochi, K., Furuya, T., and Otake, K., *J. Chem. Eng. Data* 50, 596, 2005.
126. Warowny, W., *J. Chem. Eng. Data* 41, 689, 1996.
127. Holcomb, C. D., Magee, J. W., and Haynes, W. M., *Research Report RR-147*, Gas Processors Association Project 916, Tulsa, OK, 1995.
128. Deak, A., Victorov, A. I., and De Loos, T. W., *Fluid Phase Equilib.* 107, 277, 1995.
129. Vasserman, A. A., Khasilev, I. P., and Cymarnyi, V. A., *Deposited Doc. VNIIKI*, Doc. No. 604-kk, 1989.
130. Li, L., and Kiran, E., *J. Chem. Eng. Data* 33, 342, 1988.
131. Brunner, E., *J. Chem. Thermodyn.* 20, 273, 1988.
132. Younglove, B. A., and Ely, J. F., *J. Phys. Chem. Ref. Data* 16, 577, 1987.
133. Kreglewski, A., and Kay, W. B., *J. Phys. Chem.* 73, 3359, 1969.
134. Golubev, I. F., and Agaev, N. A., *Dokl. Akad. Nauk SSSR* 151(4), 875, 1963.
135. Kay, W. B., *Ind. Eng. Chem.* 33, 590, 1941.
136. Sage, B. H., Hicks, B. L., and Lacey, W. N., *Ind. Eng. Chem.* 32, 1085, 1940.
137. Kay, W. B., *Ind. Eng. Chem.* 32, 353, 1940.
138. Beattie, J. A., Simard, G. L., and Su, G.-J., *J. Am. Chem. Soc.* 61, 24, 1939.
139. Kuenen, J. P., *Commun. Kamerlingh Onnes Lab., Univ. Leiden*, No. 125, 1, 1911.
140. Nikitin, E. D., Popov, A. P., and Yatluk, Y. G., *J. Chem. Eng. Data* 51, 609, 2006.
141. Steele, W. V., Chirico, R. D., Knipmeyer, S. E., and Nguyen, A., *J. Chem. Eng. Data* 41, 1255, 1996.
142. Eliosa, G., Murrieta-Guevara, F., Reza, J., and Trejo Rodriguez, A., *Fluid Phase Equilib.* 61, 99, 1990.
143. Tsonopoulos, C., and Ambrose, D., *J. Chem. Eng. Data* 46, 480, 2001.
144. Teja, A. S., and Anselme, M. J., *AIChE Symp. Ser.* 86 (279), 122, 1990.
145. Gude, M. T., Mendez-Santiago, J., and Teja, A. S., *J. Chem. Eng. Data* 42, 278, 1997.
146. Ambrose, D., and Ghiassee, N. B., *J. Chem. Thermodyn.* 19, 505, 1987.
147. Brown, J. C., *J. Chem. Soc., Trans.* 89, 311, 1906.
148. Lydersen, A. L., and Tsochev, V., *Chem. Eng. Technol.* 13, 125, 1990.
149. Rosenthal, D. J., and Teja, A. S., *Ind. Eng. Chem. Res.* 28, 1693, 1989.
150. Christou, G., and Young, C. L., *Int. DATA Ser.*, Sel. Data Mixtures, Ser. A, 14(4), 245, 1986.
151. Naumova, A. A., Tyvina, T. N., and Fokina, V. V., *Zh. Prikl. Khim.* 1980, 1667, 1980.
152. Efremov, Yu. V., *Zh. Fiz. Khim.* 40, 1240, 1966.
153. Ambrose, D., and Townsend, R., *J. Chem. Soc.* 54, 3614, 1963.
154. Singh, R., and Shemilt, L. W., *J. Chem. Phys.* 23, 1370, 1955.
155. Kay, W. B., and Donham, W. E., *Chem. Eng. Sci.* 4, 1, 1955.
156. Stevens, R. M. M., Van Roermund, J. C., Jager, M. D., De Loos, T. W., and De Swaan Arons, J., *Fluid Phase Equilib.*, 138, 159, 1997.
157. Kobe, K. A., Crawford, H. R., and Stephenson, R. W., *Ind. Eng. Chem.* 47, 1767, 1955.
158. Ihmels, E. C., Fischer, K., and Gmehling, J., *Fluid Phase Equilib.* 228–229, 155, 2005.
159. Li, J., Qin, Z., Wang, G., Dong, M., and Wang, J., *J. Chem. Eng. Data* 52, 1736, 2007.
160. Beattie, J. A., and Marple, S., *J. Am. Chem. Soc.* 72, 1449, 1950.
161. Olds, R. H., Sage, B. H., and Lacey, W. N., *Ind. Eng. Chem.* 38, 301, 1946.
162. Morton, D. W., Lui, M., and Young, C. L., *J. Chem. Thermodyn.* 31, 675, 1999.
163. Teja, A. S., and Rosenthal, D. J., *AIChE Symp. Ser.* 86 (279), 133, 1990.
164. Ma, F., Wang, J., and Ruan, Y., *J. Chem. Eng. Chin. Univ.* 9, 62, 1995.
165. Ma, P., and Ruan, Y., *Gaoxiao Huaxue Gongcheng Xuebao* 9, 62, 1995.
166. Quadri, S. K., and Kudchadker, A. P., *J. Chem. Thermodyn.* 23, 129, 1991.
167. Pawlewski, B., *Ber. Dtsch. Chem. Ges.* 15, 2460, 1882.
168. Toczylkin. L. S., and Young, C. L., *J. Chem. Thermodyn.* 12, 365, 1980.
169. Nikitin, E. D., and Popov, A. P., *J. Chem. Eng. Data* 52, 1336, 2007.
170. Morton, D. W., Lui, M. P. W., Tran, C. A., and Young, C. L., *J. Chem. Eng. Data* 49, 283, 2004.
171. Nikitin, E. D., Popov, A. P., and Bogatishcheva, N. S., *J. Chem. Eng. Data* 48, 1137, 2003.
172. Wilson, L. C., Wilding, W. V., Wilson, H. L., and Wilson, G. M., *J. Chem. Eng. Data* 40, 765, 1995.
173. Zawisza, A. C., and Glowka, S., *Bull. Acad. Pol. Sci., Ser. Sci. Chim.* 19, 191, 1971.
174. Osipiuk, B., and Stryjek, R., *Bull. Acad. Pol. Sci., Ser. Sci. Chim.* 18, 289, 1970.
175. Steele, W. V., Chirico, R. D., Knipmeyer, S. E., Nguyen, A., and Smith, N. K., *J. Chem. Eng. Data* 41, 1285, 1996.

176. Sako, T., Sato, M., Nakazawa, N., Oowa, M., Yasumoto, M., Ito, H., and Yamashita, S., *J. Chem. Eng. Data* 41, 802, 1996.
177. Tanikawa, S., Tatoh, J., Maezawa, Y., Sato, H., and Watanabe, K., *J. Chem. Eng. Data* 37, 74, 1992.
178. Chae, H. B., Schmidt, J. W., and Moldover, M. R., *J. Phys. Chem.* 94, 8840, 1990.
179. Mears, W. H., Stahl, R. F., Orfeo, S. R., Shair, R. C., Kells, L. F., Thompson, W., and McCann, H., *Ind. Eng. Chem.* 47, 1449, 1955.
180. Yata, J., Hori, M., Kawakatsu, H., and Minamiyama, T., *Int. J. Thermophys.* 17, 65, 1996.
181. Zhao, X., and Ma, P. S., *Chin. J. Chem. Eng.* 3, 233, 1995.
182. Nishiumi, H., Kohmatsu, S., Yokoyama, T., and Konda, A., *Fluid Phase Equilib.* 104, 131, 1995.
183. Economou, I. G., Peters, C. J., Florusse, L. J., and De Swaan Arons, J., *Fluid Phase Equilib.* 111, 239, 1995.
184. Nishiumi, H., Komatsu, M., Yokoyama, T., and Kohmatsu, S., *Fluid Phase Equilib.* 83, 109, 1993.
185. Wang, J., Liu, Z. G., Tan, L. C., and Yin, J. M., *Fluid Phase Equilib.* 80, 203, 1992.
186. Noles, J. R., and Zollweg, J. A., *J. Chem. Eng. Data* 37, 306, 1992.
187. Leu, A. D., and Robinson, D. B., *J. Chem. Eng. Data* 37, 7, 1992.
188. Goodwin, A. R. H., Defibaugh, D. R., and Weber, L. A., *Int. J. Thermophys.* 13, 837, 1992.
189. Zhimai, H., and Jianfen, H., *Gongcheng Rewuli Xuebao* 10, 233, 1989.
190. He, Z., Zhang, Y., and Hong, J., *The Second Asian Thermophysical Properties Conference*, Hunan University of Science and Technology, Guangzhou, China, p. 519, 1989.
191. *Chemicals and Plastics Physical Properties*, Union Carbide Corp. (Product Bulletin), 1968.
192. Ambrose, D., and Ghiassee, N. B., *J. Chem. Thermodyn.* 20, 765, 1988.
193. Berthoud, A., *J. Chim. Phys. Phys.-Chim. Biol.* 15, 3, 1917.
194. Cullick, A. S., and Ely, J. F., *J. Chem. Eng. Data* 27, 276, 1982.
195. Mansoorian, H., Hall, K. R., Holste, J. C., and Eubank, P. T., *J. Chem. Thermodyn.* 13, 1001, 1981.
196. Centnerszwer, M., *Z. Phys. Chem., Stoechiom. Verwandtschaftsl.* 49, 199, 1904.
197. Murphy, K. P., *J. Chem. Eng. Data* 9, 259, 1964.
198. Skripov, V. P., and Muratov, G. N., *Russ. J. Phys. Chem.* (*Engl. Transl.*) 51, 806, 1977.
199. Yada, N., Uematsu, M., and Watanabe, K., *Nippon Kikai Gakkai Ronbunshu, B-hen* 55, 2426, 1989.
200. Mears, W. H., Rosenthal. E., and Sinka, J. V., *J. Chem. Eng. Data* 11, 338, 1966.
201. Ma, P., Fang, Z., Zhang, J., and Ruan, Y., *J. Chem. Eng. Chin. Univ.* 6, 112, 1992.
202. Ma, P., Fang, Z., Zhang, J., and Ruan, Y., *Gaoxiao Huaxue Gongcheng Xuebao* 6, 112, 1992.
203. Schmidt, J. W., Carrillo-Nava, E., and Moldover, M. R., *Fluid Phase Equilib.* 122, 187, 1996.
204. Fukushima, M., and Watanabe, N., *Nippon Reito Kyokai Ronbunshu* 10, 75, 1993.
205. Liu, Z., Liang, D., He, M., Ju, B., and Yin, J., *Gongchengrewuli Xuebao* 18, 261, 1997.
206. Booth, H. S., and Swinehart, C. F., *J. Am. Chem. Soc.* 57, 1337, 1935.
207. Oliver, G. D., Grisard, J. W., and Cunningham, C. W., *J. Am. Chem. Soc.* 73, 5719, 1951.
208. Weber, L. A., *J. Chem. Eng. Data* 34, 171, 1989.
209. Shavandrin, A. M., and Li, S. A., *Inzh.-Fiz. Zh.* 37, 830, 1979.
210. Vitkalov, V. S., Kolpakov, Y. D., and Skripov, V. P., *Zh. Fiz. Khim.* 50, 2336, 1976.
211. Oguchi, K., Tanishita, I., Watanabe, K., Yamaguchi, T., and Sasayama, A., *Bull. JSME* 18, 1456, 1975.
212. Muratov, G. N., and Skripov, V. P., *Zh. Fiz. Khim.* 49, 2148, 1975.
213. Levelt Sengers, J. M. H., Straub, J., and Vincentini-Missoni, M., *J. Chem. Phys.* 54, 5034, 1971.
214. Tsiklis, D. S., and Prokhorov, V. M., *Dokl. Akad. Nauk SSSR* 174, 470, 1967.
215. Tsiklis, D. S., and Prokhorov, V. M., *Zh. Fiz. Khim.* 41, 2195, 1967.
216. Michels, A., Wassenaar, T., Wolkers, G. J., Prins, Chr., and van de Klundert, L., *J. Chem. Eng. Data* 11, 449, 1966.
217. Delaunois, C., *Ann. Mines Belg.* No. 1, 9, 1968.
218. Ambrose, D., *Trans. Faraday Soc.* 59, 1988, 1963.
219. Dewar, J., *Philos. Mag.* 18, 210, 1884.
220. Young, C. L., *Aust. J. Chem.* 25, 1625, 1972.
221. Hicks, C. P., and Young, C. L., *Trans. Faraday Soc.* 67, 1605, 1971.
222. Fischer, R., and Reichel, T., *Mikrochem. Ver. Mikrochim. Acta* 31, 102, 1943.
223. Zhang, R., Qin, Z., Wang, G., Dong, M., Hou, X., and Wang, J., *J. Chem. Eng. Data* 50, 1414, 2005.
224. Hugill, J. A., and McGlashan, M. L., *J. Chem. Thermodyn.* 10, 95, 1978.
225. Naziev, Y. M., Abasov, A. A., Nurberdiev, A. A., and Shakhverdiev, A. N., *Zh. Fiz. Khim.* 68, 434, 1974.
226. Krichevskii, I. R., and Sorina, G. A., *Zh. Fiz. Khim.* 34, 1420, 1960.
227. Richardson, M. J., and Rowlinson, J. S., *Trans. Faraday Soc.* 53, 1586, 1959.
228. Reamer, H. H., Sage, B. H., and Lacey, W. N., *Chem. Eng. Data Ser.* 3, 240, 1958.
229. Kay, W. B., and Albert, R. E., *Ind. Eng. Chem.* 48, 422, 1956.
230. Rotinyantz, L., and Nagornov, N. N., *Z. Phys. Chem., Abt. A* 169, 20, 1934.
231. Young, S., and Fortey, E. C., *J. Chem. Soc., Trans.* 75, 873, 1899.
232. Steele, W. V., Chirico, R. D., Knipmeyer, S. E., and Nguyen, A., *J. Chem. Eng. Data* 42, 1021, 1997.
233. Ambrose, D., and Ghiassee, N. B., *J. Chem. Thermodyn.* 19, 903, 1987.
234. Alekhin, O. D., Krupskii, N. P., and Minchenko, Y. B., *Ukr. Fiz. Zh.* (*Ukr. Ed.*) 15, 509, 1970.
235. Kudchadker, A. P., Alani, G. H., and Zwolinski, B. J., *Chem. Rev.* 68, 659, 1968.
236. Kay, W. B., *J. Am. Chem. Soc.* 69, 1273, 1947.
237. Lin, D. C. K., Silberberg, I. H., and McKetta, J. J., *J. Chem. Eng. Data* 15, 483, 1970.
238. Booth, H. S., and Morris, W. C., *J. Phys. Chem.* 62, 875, 1958.
239. Grzyll, L. R., Ramos, C., and Back, D. D., *J. Chem. Eng. Data* 41, 446, 1996.
240. Ermakov, G. V., and Skripov, V. P., *Zh. Fiz. Khim.* 43, 1308, 1969.
241. Cheng, D. C. H., McCoubrey, J. C., and Phillips, D. G., *Trans. Faraday Soc.* 58, 224, 1962.
242. Gude, M. T., and Teja, A. S., *Experimental Results for DIPPR 1990-91 Projects on Phase Equilibria and Pure Component Properties*, DIPPR Data Series No. 2, p. 174, 1994.
243. Anselme, M. J., Gude, M., and Teja, A. S., *Fluid Phase Equilib.* 57, 317, 1990.
244. Rosenthal, D. J., and Teja, A. S., *AIChE J.* 35, 1829, 1989.
245. Smith, R. L., Teja, A. S., and Kay, W. B., *AIChE J.* 33, 232, 1987.
246. Brunner, E., *J. Chem. Thermodyn.* 19, 823, 1987.
247. Smith, R. L., Anselme, M., and Teja, A. S., *Proc. World Congress III Chem. Eng.*, Tokyo, Vol. II, p. 135, 1986.
248. Gehrig, M., and Lentz, H., *J. Chem. Thermodyn.* 15, 1159, 1983.
249. Mogollon, E., Kay, W. B., and Teja, A. S., *Ind. Eng. Chem. Fundam.* 21, 173, 1982.
250. Cholpan, P. F., Sperkach, V. S., and Garkusha, L. N., *Fiz. Zhidk. Sostoyaniya* 9, 79, 1981.
251. Kay, W. B., and Pak, S. C., *J. Chem. Thermodyn.* 12, 673, 1980.
252. Chun, S. W., Ph.D. Thesis, Ohio State Univ., Columbus, OH, 1964.
253. Nikitin, E. D., Popov, A. P., Bogatishcheva, N. S., and Yatluk, Y. G., *J. Chem. Eng. Data* 49, 1515, 2004.
254. Quadri, S. K., Khilar, K. C., Kudchadker, A. P., and Patni, M. J., *J. Chem. Thermodyn.* 23, 67, 1991.
255. Anselme, M. J., and Teja, A. S., *Fluid Phase Equilib.* 40, 127, 1988.
256. Pulliam, M. K., Gude, M. T., and Teja, A. S., *J. Chem. Eng. Data* 40, 455, 1995.
257. Gude, M. T., Rosenthal, D. J., and Teja, A. S., *Fluid Phase Equilib.* 70, 55, 1991.
258. Nikitin, E. D., Popov, A. P., Bogatishcheva, N. S., and Yatluk, Y. G., *J. Chem. Eng. Data* 47, 1012, 2002.
259. Chirico, R. D., Gammon, B. E., Knipmeyer, S. E., Nguyen, A., Strube, M. M., Tsonopoulos, C., and Steele, W. V., *J. Chem. Thermodyn.* 22, 1075, 1990.
260. Chirico, R. D., Knipmeyer, S. E., Nguyen, A., and Steele, W. V., *J. Chem. Thermodyn.* 23, 431, 1991.

261. Nisel'son, L. A., Tret'yakova, K. V., Yatko, M. E., Tsirut, E. K., and Antonova, N. P., *Thermophysical Properties of Matter and Substances*, Vol. 4, Rabinovich, V. A., Ed., Amerind Pub., New Delhi, p. 132, 1975.
262. Toczylkin. L. S., and Young, C. L., *J. Chem. Thermodyn.* 12, 355, 1980.
263. Golik, A. Z., and Ravikovich, S. D., *Zh. Fiz. Khim.* 23, 86, 1949.
264. Stepanov, N. G., *Russ. J. Phys. Chem.* (*Engl. Transl.*) 46, 464, 1972.
265. Krauss, R., and Stephan, K., *J. Phys. Chem. Ref. Data* 18, 43, 1989.
266. Stepanov, N. G., and Nozdrev, V. F., *Russ. J. Phys. Chem.* (*Engl. Transl.*) 42, 1300, 1968.
267. Garcia-Sanchez, F., and Trejo Rodriguez, A., *J. Chem. Thermodyn.* 19, 359, 1987.
268. Garcia-Sanchez, F., and Trejo Rodriguez, A., *J. Chem. Thermodyn.* 17, 981, 1985.
269. Hojendahl, K., *Mat.-Fys. Medd. - K. Dan. Vidensk. Selsk.* 24, 1, 1946.
270. Duarte-Garza, H. A., Hwang, C.-A., Kellerman, S. A., Miller, R. C., Hall, K. R., Holste, J. C., Marsh, K. N., and Gammon, B. E., *J. Chem. Eng. Data* 42, 497, 1997.
271. Benning, A. F., and McHarness, R. C., *Ind. Eng. Chem.* 32, 814, 1940.
272. Gorchakovskii, V. K., Zadov, V. E., and Podvezennyi, V. N., *Inzh.-Fiz. Zh.* 59, 122, 1990.
273. Garcia-Sanchez, F., Romero-Martinez, A., and Trejo Rodriguez, A., *J. Chem. Thermodyn.* 21, 823, 1989.
274. Higashi, Y., Uematsu, M., and Watanabe, K., *Bull. JSME* 28, 2968, 1985.
275. Piao, C. C., Sato, H., and Watanabe, K., *J. Chem. Eng. Data* 36, 398, 1991.
276. Weber, L. A., and Levelt Sengers, J. M. H., *Fluid Phase Equilib.* 55, 241, 1990.
277. Tanikawa, S., Kabata, Y., Sato, H., and Watanabe, K., *J. Chem. Eng. Data* 35, 381, 1990.
278. Fukushima, M., Watanabe, N., and Kamimura, T., *Nippon Reito Kyokai Ronbunshu* 7, 243, 1990.
279. Fukushima, M., Watanabe, N., and Kamimura, T., *Nippon Reito Kyokai Ronbunshu* 7, 189, 1990.
280. Yamashita, T., Kubota, H., Tanaka, Y., Makita, T., and Kashiwagi, H., *Proc. 10th Symp. Thermophys. Prop.*, Japan, pp. 75–78, 1989.
281. Mandlekar, A. V., Kay, W. B., Smith, R. L., and Teja, A. S., *Fluid Phase Equilib.* 23, 79, 1985.
282. Herz, W., *Z. Anorg. Allg. Chem.* 149, 230, 1925.
283. Nikitin, E. D., Pavlov, P. A., and Popov, A. P., *J. Chem. Thermodyn.* 27, 43, 1995.
284. Ratzsh, M. T., *Z. Phys. Chem. Leipzig* 243, 212, 1970.
285. Schmidt, G. C., *Justus Liebigs Ann. Chem.* 266, 266, 1891.
286. Young, C. L., *Int. DATA Ser., Sel. Data Mixtures, Ser. A*, No. 1, 66, 1975.
287. Ambrose, D., Sprake, C. H. S., and Townsend, R., *J. Chem. Thermodyn.* 4, 247, 1972.
288. Zawisza, A. C., *Bull. Acad. Pol. Sci., Ser. Sci. Chim.* 15, 291, 1967.
289. Stryjek, R., and Kreglewski, A., *Bull. Acad. Pol. Sci., Ser. Sci. Chim.* 13, 201, 1965.
290. Kobe, K. A., Ravicz, A. E., and Vohra, S. P., *J. Chem. Eng. Data* 1, 50, 1956.
291. Schroeer, E., *Z. Phys. Chem., Abt. A* 140, 379, 1929.
292. Schroeer, E., *Z. Phys. Chem., Abt. A* 140, 241, 1929.
293. Wilip, J., *Eesti Vabariigi Tartu Ulik. Toim. A* 6 (2), 1924.
294. Audant, *C. R. Hebd. Seances Acad. Sci.* 170, 1573, 1920.
295. Prins, A., and Scheffer, F. E. C., *J. Phys. Chem.* 84, 827, 1913.
296. Travers, M. W., and Usher, F. L., *Z. Phys. Chem., Stoechiom. Verwandtschaftsl.* 57, 365, 1906.
297. Centerszwer, M., and Pakalneet, A., *Z. Phys. Chem., Stoechiom. Verwandtschaftsl.* 55, 303, 1906.
298. Smits, A., *Z. Phys. Chem., Stoechiom. Verwandtschaftsl.* 52, 587, 1905.
299. Galitzine, B., and Wilip, J., *Bull. Acad. Pet.* 11, No. 3, 117, 1901.
300. De Vries, E. C., *Arch. Neerl. Sci. Exactes Nat.* 28, 215, 1895.
301. Ramsay, W., and Young, S., *Philos. Trans. R. Soc. London, A* 178, 57, 1887.
302. Radice, G., Ph.D. Thesis, Univ. of Geneve, 1899.
303. Vespigniani, G. R., *Gazz. Chim. Ital.* 33, 73, 1903.
304. Berthoud, A., and Brum, R., *J. Chim. Phys. Phys.-Chim. Biol.* 21, 143, 1924.
305. Grebenkov, A. J., Zhelezny, V. P., Klepatsky, P. M., Beljajeva, O. V., Chernjak, Y. A., Kotelevsky, Y. G., and Timofejev, B. D., *Int. J. Thermophys.* 17, 535, 1996.
306. Holcomb, C. D., Niesen, V. G., Van Poolen, L. J., and Outcalt, S. L., *Fluid Phase Equilib.* 91, 145, 1993.
307. Higashi, Y., Ashizawa, M., Kabata, Y., Majima, T., Uematsu, M., and Watanabe, K., *JSME Int. J.* 30, 1106, 1987.
308. Otake, K., Yasumoto, M., Yamada, Y., Murata, J., and Urata, S., *J. Chem. Eng. Data* 48, 1380, 2003.
309. Pitschmann, M., and Straub, J., *Int. J. Thermophys.* 23, 877, 2002.
310. Diefenbacher, A., and Tuerk, M., *J. Chem. Thermodyn.* 31, 905, 1999.
311. Shi, L., Zhu, M., Han, L., Duan, Y., Sun, L;, and Fu, Y.-D., *Science in China, Ser. E* 41, 435, 1998.
312. Kuwabara, S., Aoyama, H., Sato, H., and Watanabe, K., *J. Chem. Eng. Data* 40, 112, 1995.
313. Higashi, Y., *Int. J. Thermophys.* 16, 1175, 1995.
314. Fu, Y. D., Han, L.-Z., and Zhu, M.-S., *Fluid Phase Equilib.* 111, 273, 1995.
315. Higashi, Y., *Int. J. Refrig.* 17, 524, 1994.
316. Malbrunot, P. F., Meunier, P. A., Scatena, G. M., Mears, W. H., Murphy, K. P., and Sinka, J. V., *J. Chem. Eng. Data* 13, 16, 1968.
317. Steele, W. V., Chirico, R. D., Cowell, A. B., Knipmeyer, S. E., and Nguyen, A., *J. Chem. Eng. Data* 47, 725, 2002.
318. Young, C. L., *Int. DATA Ser., Sel. Data Mixtures, Ser. A*, No. 1, 159, 1975.
319. Durig, J. R., and Li, Y. S., *J. Chem. Phys.* 63, 4110, 1975.
320. Bourgou, A., *Bull. Soc. Chim. Belg.* 33, 101, 1924.
321. Verevkin, S. P., Kozlova, S. A., Emel'yanenko, V. N., Nikitin, E. D., Popov, A. P., and Krasnykh, E. L., *J. Chem. Eng. Data* 51, 1896, 2006.
322. Kay, W. B., and Young, C. L., *Int. DATA Ser., Sel. Data Mixtures, Ser. A*, No. 2, 154, 1974.
323. Weaver, D. L., M.S. Thesis, Ohio State Univ., Columbus, OH, 1973.
324. Young, C. L., *Int. DATA Ser., Sel. Data Mixtures, Ser. A*, No. 1, 47, 1974.
325. Genco, J. M., Teja, A. S., and Kay, W. B., *J. Chem. Eng. Data* 25, 350, 1980.
326. Kay, W. B., and Young, C. L., *Int. DATA Ser., Sel. Data Mixtures, Ser. A*, No. 1, 52, 1975.
327. Genco, J. M., Ph.D. Thesis, Ohio State Univ., Columbus, OH, 1965.
328. Kay, W. B., *J. Am. Chem. Soc.* 68, 1336, 1946.
329. Quadri, S. K., and Kudchadker, A. P., *J. Chem. Thermodyn.* 24, 473, 1992.
330. Young, S., and Fortey, E. C., *J. Chem. Soc.* 35, 1126, 1879.
331. Steele, W. V., Chirico, R. D., Knipmeyer, S. E., Nguyen, A., and Smith, N. K., *J. Chem. Eng. Data* 42, 1037, 1997.
332. Steele, W. V., Chirico, R. D., Knipmeyer, S. E., and Nguyen, A., *J. Chem. Eng. Data* 42, 1008, 1997.
333. Ihmels, E. C. C., and Lemmon, E. W., *Fluid Phase Equilib.* 260, 36, 2007.
334. Wu, J., Liu, Z., Wang, B., and Pan, J., *J. Chem. Eng. Data* 49, 704, 2004.
335. Noles, J. R., and Zollweg, J. A., *Fluid Phase Equilib.* 66, 275, 1991.
336. Glowka, S., *Bull. Acad. Pol. Sci., Ser. Sci. Chim.* 20, 163, 1972.
337. Zawisza, A. C., and Glowka, S., *Bull. Acad. Pol. Sci., Ser. Sci. Chim.* 18, 549, 1970.
338. Edwards, J., and Maass, O., *Can. J. Res., Sect. A* 12, 357, 1935.
339. Tapp, J. S., Steacie, E. W. R., and Maass, O., *Can. J. Res.* 9, 217, 1933.
340. Cardoso, E., and Coppola, A. A., *J. Chim. Phys. Phys.-Chim. Biol.* 20, 337, 1923.
341. Cardoso, E., and Bruno, A., *J. Chim. Phys. Phys.-Chim. Biol.* 20, 347, 1923.
342. Briner, E., and Cardoso, E., *J. Chim. Phys. Phys.-Chim. Biol.* 6, 641, 1908.
343. Briner, E., and Cardoso, E., *C. R. Hebd. Seances Acad. Sci.* 144, 911, 1907.
344. Bogoslovskii, V. E., Mikhalyuk, G. I., and Shamolin, A. I., *Zh. Prikl. Khim.* (*Leningrad*) 45, 1154, 1972.
345. Kay, W. B., and Hissong, D. W., *Proc. - Am. Pet. Inst., Div. Refin.* 49, 13, 1969.
346. McMicking, J. H., and Kay, W. B., *Proc., Am. Pet. Inst., Sect. 3* 45, 75, 1965.

347. Chirico, R. D., Knipmeyer, S. E., Nguyen, A., and Steele, W. V., *J. Chem. Thermodyn.* 25, 1461, 1993.
348. Stern, S. A., and Kay, W. B., *J. Phys. Chem.* 61, 374, 1957.
349. Edgar, G., and Calingaert, G., *J. Am. Chem. Soc.* 51, 1540, 1929.
350. Francis, A. W., *Ind. Eng. Chem.* 49, 1779, 1957.
351. Cox, J. D., *Trans. Faraday Soc.* 56, 959, 1960.
352. Steele, W. V., Chirico, R. D., Nguyen, A., and Knipmeyer, S. E., *J. Chem. Thermodyn.* 27, 311, 1995.
353. Nikitin, E. D., Pavlov, P. A., and Popov, A. P., *J. Chem. Thermodyn.* 26, 1047, 1994.
354. Cristou, G., Young, C. L., and Svejda, P., *Fluid Phase Equilib.* 67, 45, 1991.
355. Zhuravlev, D. I., *Zh. Fiz. Khim.* 9, 875, 1937.
356. Chirico, R. D., and Steele, W. V., *J. Chem. Eng. Data* 50, 1052, 2005.
357. Smith, R. L., Ph.D. Dissertation, Georgia Institute of Technology 1985.
358. Nikitin, E. D., Pavlov, P. A., and Popov, A. P., *Fluid Phase Equilib.* 141, 155, 1997.
359. Nikitin, E. D., Pavlov, P. A., and Bessonova, N. V., *J. Chem. Thermodyn.* 26, 177, 1994.
360. Nikitin, E. D., Pavlov, P. A., and Popov, A. P., *Fluid Phase Equilib.* 189, 151, 2001.
361. Nikitin, E. D., Pavlov, P. A., and Popov, A. P., *Fluid Phase Equilib.* 149, 223, 1998.
362. Sinicyn, E. N., Mikhalevich, L. A., and Yankovskaya, O. P., *Deposited Doc. VINITI*, Doc. No. 2510-V90, 1990.
363. Teja, A. S., Gude, M., and Rosenthal, D. J., *Fluid Phase Equilib.* 52, 193, 1989.
364. Beale, E. S., and Docksey, P., *J. Inst. Pet.* 21, 860, 1935.
365. Nikitin, E. D., and Popov, A. P., *Fluid Phase Equilib.* 166, 237, 1999.
366. Horstman, S., Fischer, K., Gmehling, J., and Kolar, P., *J. Chem. Thermodyn.* 32, 451, 2000.
367. Colgate, S. O., Sivaraman, A., and Dejsupa, C., *Fluid Phase Equilib.* 76, 175, 1992.
368. Friend, D. G., Ingham, H., and Ely, J. F., *J. Phys. Chem. Ref. Data* 20, 275, 1991.
369. Jangkamolkulchai, A., and Luks, K. D., *J. Chem. Eng. Data* 34, 92, 1989.
370. Calado, J. C. G., Chang, E., Clancy, P., and Streett, W. B., *J. Phys. Chem.* 91, 3914, 1987.
371. Brunner, E., *J. Chem. Thermodyn.* 17, 871, 1985.
372. Morrison, G., and Kincaid, J. M., *AIChE J.* 30, 257, 1984.
373. Sychev, V. V., Vasserman, A. A., Kozlov, A. D., Zagoruchenko, V. A., Spiridonov, G. A., and Tsymarny, V. A., *Thermodynamic Properties of Ethane*, Standards Publishing House, Moscow, 1982.
374. Morrison, G., *J. Phys. Chem.* 85, 759, 1981.
375. Bulavin, L. A., and Shimanskii, Yu. I., *Zh. Eksp. Teor. Fiz.* 29, 482, 1979.
376. Strumpf, H. J., Collings, A. F., and Pings, C. J., *J. Chem. Phys.* 60, 3109, 1974.
377. Burton, M., and Balzarini, D., *Can. J. Phys.* 52, 2011, 1974.
378. Douslin, D. R., and Harrison, R. H., *J. Chem. Thermodyn.* 5, 491, 1973.
379. Berestov, A. T., Giterman, M. S., and Shmakov, N. G., *Sov. Phys. - JETP* (*Engl. Transl.*) 37, 1128, 1973.
380. Efremova, G. D., and Shvarts, A. V., *Russ. J. Phys. Chem.* (*Engl. Transl.*) 46, 237, 1972.
381. Miniovich, V. M., and Sorina, G. A., *Russ. J. Phys. Chem.* (*Engl. Transl.*) 45, 306, 1971.
382. Khazanova, N. E., and Sominskaya, E. E., *Russ. J. Phys. Chem.* (*Engl. Transl.*) 45, 88, 1971.
383. Bulavin, L. A., Ostanevich, Yu M., Simkina, A. P., and Stelkov, A. V., *Ukr. Fiz. Zh.* (*Ukr. Ed.*) 16, 90, 1971.
384. Chashkin, Yu. R., Smirnov, V. A., and Voronel, A. V., *Teplofiz. Svoistva Veshchestv Mater.* 2, 139, 1970.
385. Sliwinski, P., *Z. Phys. Chem.* (*Munich*) 63, 263, 1969.
386. Khazanova, N. E., Lesnevskaya, L. S., and Zakharova, A. V., *Khim. Prom-st.* (*Moscow*) 42, 364, 1966.
387. Matschke, D. E., and Thodos, G., *J. Chem. Eng. Data* 7, 232, 1962.
388. Schmidt, E., and Thomas, W., *Forsch. Geb. Ingenieurw.* 20B, 161, 1954.
389. Kay, W. B., and Brice, D. B., *Ind. Eng. Chem.* 45, 615, 1953.
390. Murray, F. E., and Mason, S. G., *Can. J. Chem.* 30, 550, 1952.
391. Mason, S. G., Naldrett, S. N., and Maass, O., *Can. J. Res., Sect. B* 18, 103, 1940.
392. Beattie, J. A., Su, G.-J., and Simard, G. L., *J. Am. Chem. Soc.* 61, 924, 1939.
393. Price, T. W., *J. Chem. Soc.* 107, 188, 1915.
394. Nikitin, E. D., Pavlov, P. A., and Skripov, P. V., *J. Chem. Thermodyn.* 25, 869, 1993.
395. Marshall, W. L., and Jones, E. V., *J. Inorg. Nucl. Chem.* 36, 2319, 1974.
396. Sajotschewsky, W., *Beibl. Ann. Phys.* 3, 741, 1879.
397. Mocharnyuk, R. F., *Zh. Obshch. Khim.* 30, 1098, 1960.
398. Golik, A. Z., Ravikovich, S. D., and Orishchenko, A. V., *Ukr. Khim. Zh.* (*Russ. Ed.*) 21, 167, 1955.
399. Polikhronidi, N. G., Abdulagatov, I. M., Stepanov, G. V., and Batyrova, R. G., *J. Supercrit. Fluids* 43, 1, 2007.
400. Hu, T., Qin, Z., Wang, G., Hou, X., and Wang, J., *J. Chem. Eng. Data* 49, 1809, 2004.
401. Sauermann, P., Holzapfel, K., Oprzynski, J., Kohler, F., Poot, W., and De Loos, T. W., *Fluid Phase Equilib.* 112, 249, 1995.
402. Mousa, A. H. N., *J. Chem. Eng. Jpn.* 20, 635, 1987.
403. Wilson, K. S., Lindley, D. D., Kay, W. B., and Hershey, H. C., *J. Chem. Eng. Data* 29, 243, 1984.
404. Hentze, G., *Thermochim. Acta* 20, 27, 1977.
405. Nozdrev, V. F., *Akust. Zh.* 2, 209, 1956.
406. Griswold, J., Haney, J. D., and Klein, V. A., *Ind. Eng. Chem.* 35, 701, 1943.
407. Battelli, A., *Mem. Torino, Ser. 2* 44, 57, 1893.
408. Ramsay, W., and Young, S., *Philos. Trans. R. Soc. London* 177, 123, 1886.
409. Strauss, O, *Beibl. Ann. Phys.* 6, 282, 1882.
410. Steele, W. V., Chirico, R. D., Knipmeyer, S. E., and Nguyen, A., *Experimental Results for DIPPR 1990–91 Projects on Phase Equilibria and Pure Component Properties*, DIPPR Data Series No. 2, 154, 1994.
411. Ambrose, D., Ellender, J. H., Gundry, H. A., Lee, D. A., and Townsend, R., *J. Chem. Thermodyn.* 13, 795, 1981.
412. Lambert, J. D., Clarke, J. S., Duke, J. F., Hicks, C. L., Lawrence, S. D., Morris, D. M., and Shone, M. G. T., *Proc. R. Soc. London, A* 249, 414, 1959.
413. Young, S., and Thomas, G. L., *J. Chem. Soc.* 63, 1191, 1893.
414. Pohland, E., and Mehl, W., *Z. Phys. Chem., Abt. A* 164, 48, 1933.
415. Nadezhdin, A., *Rep. Phys.* 23, 708, 1887.
416. Guseinov, K. D., and Zhabbarov, O., *Izv. Vyssh. Uchebn. Zaved. Neft Gaz* 2, 76, 1975.
417. Steele, W. V., Chirico, R. D., Cowell, A. B., Knipmeyer, S. E., and Nguyen, A., *J. Chem. Eng. Data* 47, 700, 2002.
418. Nowak, P., Kleinrahm, R., and Wagner, W., *J. Chem. Thermodyn.* 28, 1441, 1996.
419. Hasch, B. M., and McHugh, M. A., *Fluid Phase Equilib.* 64, 251, 1991.
420. Jahangiri, M., Jacobsen, R. T., Stewart, R. B., and McCarty, R. D., *J. Phys. Chem. Ref. Data* 15, 593, 1986.
421. Younglove, B. A., *J. Phys. Chem. Ref. Data*, Vol. 11, Suppl. No. 1, Am. Chem. Soc., Washington, DC, 1982.
422. McCarty, R. D., and Jacobsen, R. T., *NBS Tech. Note* (*U.S.*) 1045, 1981.
423. Thomas, W., and Zander, M., *Int. J. Thermophys* 1, 383, 1980.
424. Hastings, J. R., Levelt Sengers, J. M. H., and Balfour, F. W., *J. Chem. Thermodyn.* 12, 1009, 1980.
425. Hastings, J. R., and Levelt Sengers, J. M. H., *Proc. 7th Symp. Thermophys. Prop.*, Cezairliyan, A., Ed., ASME, New York, p. 794, 1977.
426. Douslin, D. R., and Harrison, R. H., *J. Chem. Thermodyn.* 8, 301, 1976.
427. Bender, E., *Cryogenics* 15, 667, 1975.
428. Moldover, M. R., *J. Chem. Phys.* 61, 1766, 1974.
429. Angus, S., Armstrong, B., and de Reuck, K. M., *International Thermodynamic Tables of the Fluid State - 2 Ethylene*, Butterworths, London, 1974.
430. Zernov, V. S., Kogan, V. B., and Lyubetskii, S. G., *Zh. Prikl. Khim.* (*Leningrad*) 44, 1819, 1971.
431. Shim, J., and Kohn, J. P., *J. Chem. Eng. Data* 9, 1, 1964.

432. Kay, W. B., *Ind. Eng. Chem.* 40, 1459, 1948.
433. Diepen, G. A. M., and Scheffer, F. E. C., *J. Am. Chem. Soc.* 70, 4081, 1948.
434. Naldrett, S. N., and Maass, O., *Can. J. Res., Sect. B* 18, 118, 1940.
435. Dacey, J. R., McIntosh, R. L., and Maass, O., *Can. J. Res., Sect. B* 17, 206, 1939.
436. Maass, O., and Geddes, A. L., *Philos. Trans. R. Soc. London, A* 236, 303, 1937.
437. Lawrenson, I. J., and Lee, D. A., *J. Chem. Thermodyn.* 10, 1111, 1978.
438. Zawisza, A. C., and Glowka, S., *Bull. Acad. Pol. Sci., Ser. Sci. Chim.* 18, 555, 1970.
439. Lyons, R. L., M.S. Thesis, Pennsylvania State Univ., University Park, PA, 1985.
440. Daubert, T. E., Jalowka, J. W., and Goren, V., *AIChE Symp. Ser.* 83 (256), 128, 1987.
441. Douslin, D. R., Moore, R. T., Dawson, J. P., and Waddington, G., *J. Am. Chem. Soc.* 80, 2031, 1958.
442. Beyerlein, A. L., DesMarteau, D. D., Kul, I., and Zhao, G., *Fluid Phase Equilib.* 150, 287, 1998.
443. Parthasarathy, S., *Proc. - Indian Acad. Sci., Sect. A* 2, 497, 1935.
444. Bominaar, S. A. R. C., Trappeniers, N. J., and Biswas, S. N., *J. Phys. Chem.* 94, 1097, 1990.
445. Bominaar, S. A. R. C., Biswas, S. N., Trappeniers, N. J., and Ten Seldam, C. A., *J. Chem. Thermodyn.* 19, 959, 1987.
446. Froba, A. P., Botero, C., and Leipertz, A., *Int. J. Thermophys.* 27, 1609, 2006.
447. Uchida, Y., Yasumoto, M., Yamada, Y., Ochi, K., Furuya, T., and Otake, K., *J. Chem. Eng. Data* 49, 1615, 2004.
448. Otake, K., Uchida, Y., Yasumoto, M., Yamada, Y., Furuya, T., and Ochi, K., *J. Chem. Eng. Data* 49, 1643, 2004.
449. Hu, P. , and Chen, Z. S., *Fluid Phase Equilib.* 221, 7, 2004.
450. Salvi-Narkhede, M., Adcock, J. L., Gakh, A., and Van Hook, W. A., *J. Chem. Thermodyn.* 25, 643, 1993.
451. Ambrose, D., and Ghiassee, N. B., *J. Chem. Thermodyn.* 20, 1231, 1988.
452. Myers, J. E., Hershey, H. C., and Kay, W. B., *J. Chem. Thermodyn.* 11, 1019, 1979.
453. Golik, A. Z., and Adamenko, I. I., *Ukr. Fiz. Zh.* (*Ukr. Ed.*) 10, 443, 1965.
454. Golik, A. Z., and Ivanova, I. I., *Zh. Fiz. Khim.* 36, 1768, 1962.
455. Kay, W. B., *Ind. Eng. Chem.* 30, 459, 1938.
456. Christou, G., Sadus, R. J., and Young, C. L., *Fluid Phase Equilib.* 67, 259, 1991.
457. Kurumov, D. S., Grigor'ev, B. A., and Vasil'ev, Yu. L., *Teplofiz. Svoistva Veshchestv Mater.* No. 27, 101, 1989.
458. De Loos, T. W., Poot, W., and De Swaan Arons, J., *Fluid Phase Equilib.* 42, 209, 1988.
459. Artyukhovskaya, L. M., Shimanskaya, E. T., and Shimanskii, Yu I., *Opt. Spektrosk.* 37, 935, 1974.
460. Artyukhovskaya, L. M., Shimanskaya, E. T., and Shimanskii, Yu I., *Sov. Phys. - JETP* (*Engl. Transl.*) 37, 848, 1973.
461. Artyukhovskaya, L. M., Shimanskaya, E. T., and Shimanskii, Yu I., *Zh. Eksp. Teor. Fiz.* 63, 2159, 1972.
462. Smith, L. B., Beattie, J. A., and Kay, W. C., *J. Am. Chem. Soc.* 59, 1587, 1937.
463. Beattie, J. A., and Kay, W. C., *J. Am. Chem. Soc.* 59, 1586, 1937.
464. Rosenthal, D. J., Gude, M. T., Teja, A. S., and Mendez-Santiago, J., *Fluid Phase Equilib.* 135, 89, 1997.
465. Smith, R. L., Anselme, M. J., and Teja, A. S., *Fluid Phase Equilib.* 31, 161, 1986.
466. Pulliam, M. K., Gude, M. T., and Teja, A. S., *Experimental Results for DIPPR 1990–91 Projects on Phase Equilibria and Pure Component Properties*, DIPPR Data Ser. No. 2, p. 184, 1994.
467. Naziev, Y. M., and Abasov, A. A., *Izv. Vyssh. Uchebn. Zaved., Neft Gaz* 12, 81, 1969.
468. Mousa, A. H. N., *J. Chem. Eng. Data* 26, 248, 1981.
469. Hicks, C. P., and Young, C. L., *Chem. Rev.* 75, 119, 1975.
470. Mousa, A. H. N., Kay, W. B., and Kreglewski, A., *J. Chem. Thermodyn.* 4, 301, 1972.
471. Douslin, D. R., Harrison, R. H., and Moore, R. T., *J. Chem. Thermodyn.* 1, 305, 1969.
472. Evans, F. D., and Tiley, P. F., *J. Chem. Soc. B* 134, 1966.
473. Counsell, J. F., Green, J. H. S., Hales, J. L., and Martin, J. F., *Trans. Faraday Soc.* 61, 212, 1965.
474. Saikawa, K., Kijima, J., Uematsu, M., and Watanabe, K., *J. Chem. Eng. Data* 24, 165, 1979.
475. Kijima, J., Saikawa, K., Watanabe, K., Oguchi, K., and Tanishita, I., *Proc. 7th Symp. Thermophys. Prop.,* Cezairliyan, A., Ed., ASME, New York, p. 480, 1977.
476. Kim, K. Y., Ph.D. Dissertation, Univ. Michigan, Ann Arbor, MI, 1974.
477. Swarts, F., *Bull. Soc. Chim. Belg.* 42, 114, 1933.
478. Aoyama, H., Kishizawa, G., Sato, H., and Watanabe, K., *J. Chem. Eng. Data* 41, 1046, 1996.
479. Aoyama, H., Sato, H., and Watanabe, K., *Sixteenth Japan Symposium on Thermophysical Properties*, Hiroshima, p. 173, 1995.
480. McLure, I. A., and Dickinson, E., *J. Chem. Thermodyn.* 8, 93, 1976.
481. VonNiederhausern, D. M., Wilson, G. M., and Giles, N. F., *J. Chem. Eng. Data* 45, 157, 2000.
482. Liu, J., Qin, Z., Wang, G., Hou, X., and Wang, J., *J. Chem. Eng. Data* 48, 1610, 2003.
483. Gude, M. T., and Teja, A. S., *Fluid Phase Equilib.* 83, 139, 1993.
484. Grigor'ev, B. A., Rastorguev, Yu. L., Gerasimov, A. A., Kurumov, D. S., and Plotnikov, S. A., *Int. J. Thermophys.* 9, 439, 1988.
485. Zawisza, A., *J. Chem. Thermodyn.* 17, 941, 1985.
486. Mousa, A. H. N., *J. Chem. Thermodyn.* 9, 1063, 1977.
487. Young, C. L., *Int. DATA Ser., Sel. Data Mixtures, Ser. A*, No. 1, 157, 1975.
488. Nichols, W. B., Reamer, H. H., and Sage, B. H., *AIChE J.* 3, 262, 1957.
489. VonNiederhausern, D. M., Wilson, G. M., and Giles, N. F., *J. Chem. Eng. Data* 51, 1986, 2006.
490. Ma, P., Ma, Y., and Zhang, J., *Gaoxiao Huaxue Gongcheng Xuebao* 5, 175, 1991.
491. Masui, G., Honda, Y., and Uematsu, M., *J. Chem. Thermodyn.* 38, 1711, 2006.
492. Goodwin, R. D., and Haynes, W. M., *NBS Tech. Note* (*U.S.*) No. 1051, 1982.
493. Pryanikova, R. O., Plenkina, R. M., Kuzyakina, N. V., and Markina, I. A., *Khim. Prom-st.* (*Moscow*), 13. 1987.
494. Beattie, J. A., Ingersoll, H. G., and Stockmayer, W. H., *J. Am. Chem. Soc.* 64, 546, 1942.
495. Vohra, S. P., and Kobe, K. A., *J. Chem. Eng. Data* 4, 329, 1959.
496. Smith, R. L., Negishi, E. , Arai, K., and Saito, S., *J. Chem. Eng. Jpn.* 23, 99, 1990.
497. Steele, W. V., Chirico, R. D., Cowell, A. B., Knipmeyer, S. E., and Nguyen, A., *J. Chem. Eng. Data* 42, 1053, 1997.
498. Setzmann, U., and Wagner, W., *J. Phys. Chem. Ref. Data* 20, 1061, 1991.
499. Friend, D. G., Ely, J. F., and Ingham, H., *J. Phys. Chem. Ref. Data* 18, 583, 1989.
500. Kleinrahm, R., and Wagner, W., *J. Chem. Thermodyn.* 18, 739, 1986.
501. Calado, J. C. G., Dieters, U., and Strett, W. B., *J. Chem. Soc., Faraday Trans. 1* 77, 2503, 1981.
502. Angus, S., Armstrong, B., and de Reuck, K. M., *International Thermodynamic Tables of the Fluid State - 5 Methane*, Pergamon, Oxford, 1978.
503. Goodwin, R. D., *NBS Tech. Note* (*U.S.*) No. 653, 1974.
504. Gielen, H., Jansoone, F., and Verbeke, O. B., *J. Chem. Phys.* 59, 5763, 1973.
505. Jansoone, V., Gielen, H., De Boelpaep, J., and Verbeke, O. B., *Physica* (*Amsterdam*) 46, 213, 1970.
506. Terry, M. J., Lynch, J. T., Bunclark, M., Mansell, K. R., and Staveley, L. A. K., *J. Chem. Thermodyn.* 1, 413, 1969.
507. Grigor, A. F., and Steele, W. A., *J. Chem. Phys.* 48, 1032, 1968.
508. Keyes, F. G., Taylor, R. S., and Smith, L. B., *J. Math. Phys.* (*Cambridge, Mass.*) 1, 211, 1922.
509. Kuenen, J. P., *Philos. Mag.* 6, 637, 1903.
510. Crismer, L., *Bull. Soc. Chim. Belg.* 18, 18, 1904.
511. Schmidt, G. C., *Z. Phys. Chem., Stoechiom. Verwandtschaftsl.* 8, 628, 1891.
512. Polikhronidi, N. G., Radzhabova, L. M., Rasulov, A. R., and Stepanov, G. V., *High Temp.* (*Engl. Transl.*) 44, 512, 2006.
513. Francesconi, Artur Zaghini, Lentz, H., and Franck, E. U., *J. Phys. Chem.* 85, 3303, 1981.

514. Swami, D. R., Kumarkrishna Rao, V. N., and Narasinga Rao, N., *Trans., Indian Inst. Chem. Eng.* 9, 32, 1956.
515. Salzwedel, E., *Ann. Phys.* (*Leipzig*) 5, 853, 1930.
516. Ramsay, W., and Young, S., *Philos. Trans. R. Soc. London, A* 178, 313, 1887.
517. Steele, W. V., Chirico, R. D., Cowell, A. B., Knipmeyer, S. E., and Nguyen, A., *J. Chem. Eng. Data* 47, 667, 2002.
518. Gurarii, L. L., Kuleshov, G. G., Baglai, A. K., and Petrashkevich, R. I., *Khim.-Farm. Zh.* 21, 247, 1987.
519. Guseinov, S. O., Farzaliev, B. I., and Naziev, Y. M., *Izv. Vyssh. Uchebn. Zaved., Neft Gaz* 22, 52, 1979.
520. Kreglewski, A., *Bull. Acad. Pol. Sci., Cl. 3* 2, 191, 1954.
521. Kiyama, R., Suzuki, K., and Ikegami, T., *Rev. Phys. Chem. Jpn.* 21, 50, 1951.
522. Abara, J. A., Jennings, D. W., Kay, W. B., and Teja, A. S., *J. Chem. Eng. Data* 33, 242, 1988.
523. Wilson, G. M., Johnston, R. H., Hwang, S.-C., and Tsonopoulos, C., *Ind. Eng. Chem. Process Des. Dev.* 20, 94, 1981.
524. Rutenberg, O. L., and Shakhova, S. F., *Russ. J. Phys. Chem.* (*Engl. Transl.*) 47, 124, 1973.
525. Yasumoto, M., Uchida, Y., Ochi, K., Furuya, T., Shono, A., and Otake, K., *J. Chem. Eng. Data* 52, 1726, 2007.
526. Day, H. O., and Felsing, W. A., *J. Am. Chem. Soc.* 74, 1951, 1952.
527. Ambrose, D., and Ghiassee, N. B., *J. Chem. Thermodyn.* 20, 767, 1988.
528. Chirico, R. D., Knipmeyer, S. E., Nguyen, A., and Steele, W. V., *J. Chem. Thermodyn.* 31, 339, 1999.
529. Chirico, R. D., Johnson, R. D. I., and Steele, W. V., *J. Chem. Thermodyn.* 39, 698, 2007.
530. Chirico, R. D., and Steele, W. V., *J. Chem. Eng. Data* 50, 697, 2005.
531. Schroeer, E., *Z. Phys. Chem., Abt. B* 49, 271, 1941.
532. Dawson, P. P., Silberberg, I. H., and McKetta, J. J., *J. Chem. Eng. Data* 18, 7, 1973.
533. Ambrose, D., Counsell, J. F., and Hicks, C. P., *J. Chem. Thermodyn.* 10, 771, 1978.
534. Griffin, D. N., *J. Am. Chem. Soc.* 71, 1423, 1949.
535. Matzik, I., and Schneider, G. M., *Ber. Bunsen-Ges. Phys. Chem.* 89, 551, 1985.
536. Ambrose, D., and Townsend, R., *Trans. Faraday Soc.* 64, 2622, 1968.
537. Defibaugh, D. R., Carrillo-Nava, E., Hurly, J. J., Moldover, M. R., Schmidt, J. W., and Weber, L. A., *J. Chem. Eng. Data* 42, 488, 1997.
538. Young, C. L., *J. Chem. Thermodyn.* 4, 65, 1972.
539. Lindley, D. D., and Hershey, H. C., *Fluid Phase Equilib.* 55, 109, 1990.
540. Kreglewski, A., *Bull. Acad. Pol. Sci., Cl. 3* 5, 323, 1957.
541. Young, S., *J. Chem. Soc.* 77, 1145, 1900.
542. Steele, W. V., Chirico, R. D., Knipmeyer, S. E., Nguyen, A., Smith, N. K., and Tasker, I. R., *J. Chem. Eng. Data* 41, 1269, 1996.
543. Post, R. G., *Unpublished Rep., Chem. Eng. No. 362,* Univ. Texas, Austin, TX, 1950.
544. Hess, L. G., and Tilton, V. V., *Ind. Eng. Chem.* 42, 1251, 1950.
545. Thodos, G., *AIChE J.* 3, 428, 1957.
546. Cheng, D. C. H., and McCoubrey, J. C., *J. Chem. Soc.* 4993, 1963.
547. Teja, A. S., and Smith, R. L., *AIChE J.* 33, 1560, 1987.
548. Ambrose, D., and Sprake, C. H. S., *J. Chem. Soc. A* 1263, 1971.
549. Yata, J., Hori, M., Kohno, K., and Minamiyama, T., *High Temp. - High Press.* 29, 19, 1997.
550. Duarte-Garza, H. A., Stouffer, C. E., Hall, K. R., Hall, K. R., Holste, J. C., Marsh, K. N., and Gammon, B. E., *J. Chem. Eng. Data* 42, 745, 1997.
551. Ye, F., Sato, H., and Watanabe, K., *J. Chem. Eng. Data* 40, 148, 1995.
552. Tsvetkov, O. B., Kletskii, A. V., Laptev, Yu. A., Asambaev, A. J., and Zausaev, I. A., *Int. J. Thermophys.* 16, 1185, 1995.
553. Sagawa, T., Sato, H., and Watanabe, K., *High Temp. - High Press.* 26, 193, 1994.
554. Wilson, L. C., Wilding, W. V., Wilson, G. M., Rowley, R. L., Felix, V. M., and Chisolm-Carter, T., *Fluid Phase Equilib.* 80, 167, 1992.
555. Shank, R. L., *J. Chem. Eng. Data* 12, 474, 1967.
556. Gude, M. T., and Teja, A. S., *AIChE Symp. Ser.* 90 (298), 14, 1994.
557. Grigor'ev, B. A., Rastorguev, Yu. L., Kurumov, D. S., Gerasimov, A. A., Kharin, V. E., and Plotnikov, S. A., *Int. J. Thermophys.* 11, 487, 1990.
558. Kratzke, H., *AIChE J.* 31, 693, 1985.
559. Wolfe, D., Kay, W. B., and Teja, A. S., *J. Chem. Eng. Data* 28, 319, 1983.
560. Artyukhovskaya, L. M., Shimanskaya, E. T., and Shimanskii, Yu I., *Sov. Phys. - JETP* (*Engl. Transl.*) 59, 375, 1970.
561. Beattie, J. A., Levine, S. W., and Douslin, D. R., *J. Am. Chem. Soc.* 73, 4431, 1951.
562. Sage, B. H., and Lacey, W. N., *Ind. Eng. Chem.* 32, 992, 1940.
563. Quadri, S. K., and Kudchadker, A. P., *AIChE Symp. Ser.* 298, 1, 1994.
564. Lenoir, J. M., Rebert, C. J., and Hipkin, H. G., *J. Chem. Eng. Data* 16, 401, 1971.
565. Brown, J. A., and Mears, W. H., *J. Phys. Chem.* 62, 960, 1958.
566. Fowler, R. D., Hamilton, J. M., Kasper, J. S., Weber, C. E., Burford, W. B., and Anderson, H. C., *Ind. Eng. Chem.* 39, 375, 1947.
567. Martin, J. J., *J. Chem. Eng. Data* 7, 68, 1962.
568. Douslin, D. R., Moore, R. T., and Waddington, G., *J. Phys. Chem.* 63, 1959, 1959.
569. Rowlinson, J. S., and Thacker, R., *Trans. Faraday Soc.* 53, 1, 1957.
570. Ermakov, G. V., and Skripov, V. P., *Russ. J. Phys. Chem.* (*Engl. Transl.*) 41, 39, 1967.
571. Wang, B. -H., Adcock, J. L., Mathur, S. B., and Van Hook, W. A., *J. Chem. Thermodyn.* 23, 699, 1991.
572. Taylor, Z. L., and Reed, T. M., *AIChE J.* 16, 738, 1970.
573. Vandana, V., Rosenthal, D. J., and Teja, A. S., *Fluid Phase Equilib.* 99, 209, 1994.
574. Milton, H. T., and Oliver, G. D., *J. Am. Chem. Soc.* 74, 3951, 1952.
575. Oliver, G. D., and Grisard, J. W., *J. Am. Chem. Soc.* 73, 1688, 1951.
576. Oliver, G. D., Blumkin, S., and Cunningham, C. W., *J. Am. Chem. Soc.* 73, 5722, 1951.
577. Mousa, A. H. N., *J. Chem. Eng. Data* 23, 133, 1978.
578. McLure, I. A., Trejo Rodriguez, A., and Soares, V. A. M., *J. Chem. Thermodyn.* 14, 402, 1982.
579. Ewing, M. B., and Sanchez Ochoa, J. C., *J. Chem. Thermodyn.* 30, 189, 1998.
580. Ernst, G., Gurtner, J., and Wirbser, H., *J. Chem. Thermodyn.* 29, 1125, 1997.
581. Brown, J. A., *J. Chem. Eng. Data* 8, 106, 1963.
582. Young, C. L., *Int. DATA Ser., Sel. Data Mixtures, Ser. A*, No. 4, 291, 1985.
583. Sinitsyn, E. N., Mikhalevich, L. A., Biryukova, L. V., Danilov, N. N., Muratov, G. N., and Fedorov, A. P., *Deposited Doc. VINITI*, Doc. No. 1516-80, 1980.
584. Nikitin, E. D., Popov, A. P., and Yatluk, Y. G., *J. Chem. Eng. Data* 52, 315, 2007.
585. Honda, Y., Sato, T., and Uematsu, M., *J. Chem. Thermodyn.* 40, 208, 2008.
586. Jou, F.-Y., Carroll, J. J., and Mather, A. E., *Fluid Phase Equilib.* 109, 235, 1995.
587. Sychev, V. V., Vasserman, A. A., Kozlov, A. D., and Tsymarny, V. A., *Thermodynamic Properties of Propane*, Standards Publishing House, Moscow, 1989.
588. Goodwin, R. D., and Haynes, W. M., *NBS Monogr.* (*U.S.*) No. 170, 1982.
589. Barber, J. R., Kay, W. B., and Teja, A. S., *AIChE J.* 28, 134, 1982.
590. Yesavage, V. F., Katz, D. L., and Powers, J. E., *J. Chem. Eng. Data* 14, 197, 1969.
591. Clegg, H. P., and Rowlinson, J. S., *Trans. Faraday Soc.* 51, 1333, 1955.
592. Kay, W. B., and Rambosek, G. M., *Ind. Eng. Chem.* 45, 221, 1953.
593. Meyers, C. H., *J. Res. Natl. Bur. Stand.* (*U.S.*) 29, 157, 1942.
594. Meyer, R. E., Ph.D. Thesis, Pennsylvania State Univ., University Park, PA, 1941.
595. Deschner, W. W., and Brown, G. G., *Ind. Eng. Chem.* 32, 836, 1940.
596. Beattie, J. A., Poffenberger, N., and Hadlock, C., *J. Chem. Phys.* 3, 96, 1935.
597. Efremova, G. D., and Sokolova, E. S., *Russ. J. Phys. Chem.* (*Engl. Transl.*) 46, 1084, 1972.
598. Anonymous, B., *International Critical Tables of Numerical Data, Phys., Chem. Technol.*, Vol. III, Washburn, E. W., Ed., McGraw-Hill, New York, 1928.
599. Kuenen, J. P., and Robson, W. G., *Philos. Mag.* 4, 116, 1902.
600. Ramsay, W., and Young, S., *Philos. Trans. R. Soc. London, A* 180, 137, 1889.

601. Oh, B. C., Lee, S., Seo, J., and Kim, H., *J. Chem. Eng. Data* 49, 221, 2004.
602. Ambrose, D., Counsell, J. F., Lawrenson, I. J., and Lewis, G. B., *J. Chem. Thermodyn.* 10, 1033, 1978.
603. Seibert, F. M., and Burrell, G. A., *J. Am. Chem. Soc.* 37, 2683, 1915.
604. Lu, H., Newitt, D. M., and Ruhemann, M., *Proc. R. Soc. London, A* 178, 506, 1941.
605. Maass, O., and Wright, C. H., *J. Am. Chem. Soc.* 43, 1098, 1921.
606. Ohgaki, K., Umezono, S., and Katayama, T., *J. Supercrit. Fluids* 3, 78, 1990.
607. Marchman, H., Prengle, H. W., and Motard, R. L., *Ind. Eng. Chem.* 41, 2658, 1949.
608. Farrington, P. S., and Sage, B. H., *Ind. Eng. Chem.* 41, 1734, 1949.
609. Vaughan, W. E., and Graves, N. R., *Ind. Eng. Chem.* 32, 1252, 1940.
610. Winkler, C. A., and Maass, O., *Can. J. Res.* 9, 613, 1933.
611. Vohra, S. P., Kang, T.-L., Kobe, K. A., and McKetta, J. J., *J. Chem. Eng. Data* 7, 150, 1962.
612. Steele, W. V., Chirico, R. D., Knipmeyer, S. E., and Nguyen, A., *J. Chem. Eng. Data* 47, 689, 2002.
613. Chirico, R. D., Steele, W. V., Nguyen, A., Klots, T. D., and Knipmeyer, S. E., *J. Chem. Thermodyn.* 28, 797, 1996.
614. Mandel, H., and Ewbank, N., *Atomics International* NAA-S-R-5129, 1960.
615. Gallant, R. W., *Hydrocarbon Process.* 45, 161, 1966.
616. Altunin, V. V., Geller, V. Z., Kremenvskaya, E. A., Perel'shtein, I. I., and Petrov, E. K., *Thermophysical Properties of Freons, Methane Ser.*, Part 2, Vol. 9, NSRDS-USSR, Selover, T. B., Ed., Hemisphere, New York, 1987.
617. Toczylkin. L. S., and Young, C. L., *Aust. J. Chem.* 30, 1591, 1977.
618. Kordes, E., *Z. Elektrochem.* 58, 76, 1954.
619. Lewis, D. T., *J. Appl. Chem.* 3, 154, 1953.
620. Steele, W. V., Chirico, R. D., Nguyen, A., Hossenlopp, I. A., and Smith, N. K., *DIPPR Data Ser.* 1, 101, 1991.
621. Poot, W., and De Loos, T. W., *Fluid Phase Equilib.* 222–223, 255, 2004.
622. Poot, W., and De Loos, T. W., *Fluid Phase Equilib.* 210, 69, 2003.
623. Yata, J., Hori, M., Niki, M., Isono, Y., and Yanagitani, Y., *Fluid Phase Equilib.* 174, 221, 2000.
624. Fujiwara, K., Nakamura, S., and Noguchi, M., *J. Chem. Eng. Data* 43, 55, 1998.
625. Morrison, G., and Ward, D., *Fluid Phase Equilib.* 62, 65, 1991.
626. Piao, C. C., Sato, H., and Watanabe, K., *ASHRAE Trans.* 96, 132, 1990.
627. Piao, C. C., Sato, H., and Watanabe, K., *ASHRAE Trans.* 41, 132, 1989.
628. Kubota, H., Yamashita, T., Tanaka, Y., and Makita, T., *Int. J. Thermophys.* 10, 629, 1989.
629. Kabata, Y., Tanikawa, S., Uematsu, M., and Watanabe, K., *Int. J. Thermophys.* 10, 605, 1989.
630. Basu, R. S., and Wilson, D. P., *Int. J. Thermophys.* 10, 591, 1989.
631. Wilson, D. P., and Basu, R. S., *ASHRAE Trans.* 94, 2095, 1988.
632. Tatoh, J., Kuwabara, S., Sato, H., and Watanabe, K., *J. Chem. Eng. Data* 38, 116, 1993.
633. Lebedeva, E. S., and Khodeeva, S. M., *Zh. Fiz. Khim.* 41, 2081, 1967.
634. Renfrew, M. M., and Lewis, E. E., *Ind. Eng. Chem.* 38, 870, 1946.
635. Chari, N. C., Ph.D. Dissertation, Univ. Michigan, Ann Arbor, MI, 1960.
636. Steele, W. V., Chirico, R. D., Knipmeyer, S. E., and Smith, N. K., *Report*, NIPPR-360, NTIS Order No. DE89000709, Dec. 1988.
637. McGlashan, M. L., and McKinnon, I. R., *J. Chem. Thermodyn.* 9, 1205, 1977.
638. Cipollint, N. E., and Allen, A. O., *J. Chem. Phys.* 67, 131, 1977.
639. Hicks, C. P., and Young, C. L., *J. Chem. Soc., Faraday Trans. 1* 72, 122, 1976.
640. Hugill, J. A., and McGlashan, M. L., *J. Chem. Thermodyn.* 10, 85, 1978.
641. Bendtsen, J., *J. Raman Spectrosc.* 6, 306, 1977.
642. Abdulagatov, I. M., Polikhronidi, N. G., Bruno, T. J., Batyrova, R. G., and Stepanov, G. V., *Fluid Phase Equilib.* 263, 71, 2008.
643. Polikhronidi, N. G., Abdulagatov, I. M., Magee, J. W., and Batyrova, R. G., *J. Chem. Eng. Data* 46, 1064, 2001.
644. Goodwin, R. D., *J. Phys. Chem. Ref. Data* 18, 1565, 1989.
645. Akhundov, T. S., and Abdullaev, F. G., *Izv. Vyssh. Uchebn. Zaved., Neft Gaz* 12, 44, 1969.
646. Krase, N. W., and Goodman, J. B., *Ind. Eng. Chem.* 22, 13, 1930.
647. Buchowski, H., Janaszewski, B., and Teperek, J., *Bull. Acad. Pol. Sci., Ser. Sci. Chim.* 14, 403, 1966.
648. Sokolova, T. D., Prokof'eva, N. K., and Nisel'son, L. A., *Russ. J. Phys. Chem.* (*Engl. Transl.*) 47, 154, 1973.
649. Mastroianni, M. J., Stahl, R. F., and Sheldon, P. N., *J. Chem. Eng. Data* 23, 113, 1978.
650. Weber, L. A., and Defibaugh, D. R., *J. Chem. Eng. Data* 41, 1477, 1996.
651. Higashi, Y., and Ikeda, T., *Fluid Phase Equilib.* 125, 139, 1996.
652. Wang, H., Ma, Y., Lu, C., and Tian, Y., *J. Eng. Thermophys.* 14, 122, 1993.
653. Fukushima, M., *Nippon Reito Kyokai Ronbunshu* 10, 87, 1993.
654. Bier, K., Turk, M., and Zhai, J., *Vapour Pressure of Trifluoroethanol*, Insitut für Technische Thermodynamik und Kaltetechnik, Universität Karlsruhe (TH), D 7500 Karlsruhe l, FRG, 1991.
655. Bier, K., Tuerk, M., and Zhai, J., *Proc. Int. Inst. Ref., Comm. B1 Meet.*, Herzlia, Israel, pp. 129–139, 1990.
656. Zhang, C., Duan, Y. -Y., Shi, L., Zhu, M. -S., and Han, L. -Z., *J. Tsinghua Univ.* (*Sci. & Technol.*) 40, 77, 2000.
657. Duan, Y. -Y., Shi, L., Zhu, M. -S., and Han, L. -Z., *J. Tsinghua Univ.* (*Sci. & Technol.*) 40, 60, 2000.
658. Duan, Y. -Y., Shi, L., Sun, L. -Q., Zhu, M. -S., and Han, L. -Z., *Int. J. Thermophys.* 21, 393, 2000.
659. Duan, Y. -Y., Shi, L., Zhu, M. -S., and Han, L. -Z., *J. Chem. Eng. Data* 44, 501, 1999.
660. Khodeeva, S. M., and Gubochkin, I. V., *Russ. J. Phys. Chem.* (*Engl. Transl.*) 51, 998, 1977.
661. Diefenbacher, A., Crone, M., and Turk, M., *J. Chem. Thermodyn.* 30, 481, 1998.
662. Hori, K., Okazaki, S., Uematsu, M., and Watanabe, K., *Proc. 8th Symp. Thermophys. Prop.,* Vol. II, Sengers, J. V., Ed., ASME, New York, pp. 370–376, 1982.
663. Wagner, W., *Kaeltetech.-Klim.* 20, 238, 1968.
664. Hou, Y.-C., and Martin, J. J., *AIChE J.* 5, 125, 1959.
665. Day, H. O., and Felsing, W. A., *J. Am. Chem. Soc.* 72, 1698, 1950.
666. Kay, W. B., and Warzel, F. M., *Ind. Eng. Chem.* 43, 1150, 1951.
667. Beattie, J. A., and Edwards, D. G., *J. Am. Chem. Soc.* 70, 3382, 1948.
668. Akhundov, T. S., and Asadullaeva, N. N., *Izv. Vyssh. Uchebn. Zaved., Neft Gaz* 11, 83, 1968.
669. Akhundov, T. S., and Imanov, Sh. Yu., *Teplofiz. Svoistva Zhidk.* 48, 1970.