Naphthalene, 1,2,3,4-tetrahydro-

Other names:	1,2,3,4-TETRAHYDRONAPHTHALENE
	BACTICIN
	BENZOCYCLOHEXANE
	NSC 77451
	Naphthalene-1,2,3,4-tetrahydride
	TETRALINE
	Tetrahydronaphthalene
	Tetralin
	Tetralina
	Tetranap
	tetralene
	«delta»(5,7,9)-Naphthantriene
	Â«deltaÂ»(5,7,9)-Naphthantriene
Inchi:	InChI=1S/C10H12/c1-2-6-10-8-4-3-7-9(10)5-1/h1-2,5-6H,3-4,7-8H2
InchiKey:	CXWXQJXEFPUFDZ-UHFFFAOYSA-N
Formula:	C10H12
SMILES:	c1ccc2c(c1)CCCC2
Mol. weight [g/mol]:	132.20
CAS:	119-64-2

Physical Properties

Property code	Value	Unit	Source
af	0.3030		KDB
affp	800.80	kJ/mol	NIST Webbook
affp	809.70	kJ/mol	NIST Webbook
basg	774.00	kJ/mol	NIST Webbook
basg	782.10	kJ/mol	NIST Webbook
chl	-5581.90	kJ/mol	NIST Webbook
chl	-5617.50 ± 2.10	kJ/mol	NIST Webbook
chl	-5621.54 ± 0.88	kJ/mol	NIST Webbook
chl	-5598.60	kJ/mol	NIST Webbook
gf	167.10	kJ/mol	KDB
hf	2.76	kJ/mol	KDB
hf	30.00	kJ/mol	NIST Webbook
hf	26.00 ± 2.00	kJ/mol	NIST Webbook
hfl	-32.60 ± 2.20	kJ/mol	NIST Webbook
hfl	-28.60 ± 1.00	kJ/mol	NIST Webbook

hfus	10.27	kJ/mol	Joback Method
hvap	58.60	kJ/mol	NIST Webbook
hvap	55.00 ± 1.00	kJ/mol	NIST Webbook
ie	8.44	eV	NIST Webbook
ie	9.14 ± 0.05	eV	NIST Webbook
ie	8.73	eV	NIST Webbook
ie	8.46 ± 0.02	eV	NIST Webbook
ie	8.47	eV	NIST Webbook
ie	8.48 ± 0.05	eV	NIST Webbook
ie	8.44	eV	NIST Webbook
ie	8.45 ± 0.02	eV	NIST Webbook
log10ws	-4.37		Aqueous Solubility Prediction Method
logp	2.565		Crippen Method
mcvol	117.140	ml/mol	McGowan Method
nfpaf	%!d(float64=2)		KDB
nfpah	%!d(float64=1)		KDB
pc	3650.00	kPa	KDB
pc	3750.00 ± 80.00	kPa	NIST Webbook
pc	3630.00 ± 25.00	kPa	NIST Webbook
pc	3700.00 ± 100.00	kPa	NIST Webbook
rhoc	330.51 ± 13.22	kg/m3	NIST Webbook
rhoc	323.90 ± 6.61	kg/m3	NIST Webbook
rhoc	300.10 ± 14.54	kg/m3	NIST Webbook
rinpol	1137.00		NIST Webbook
rinpol	197.04		NIST Webbook
rinpol	195.47		NIST Webbook
rinpol	195.21		NIST Webbook
rinpol	1153.00		NIST Webbook
rinpol	1136.00		NIST Webbook
rinpol	1141.00		NIST Webbook
rinpol	1169.00		NIST Webbook
rinpol	1164.00		NIST Webbook
rinpol	1137.00		NIST Webbook
rinpol	195.21		NIST Webbook
rinpol	1143.00		NIST Webbook
rinpol	1143.00		NIST Webbook
rinpol	1168.50		NIST Webbook
rinpol	1142.80		NIST Webbook
rinpol	1154.00		NIST Webbook
rinpol	1180.00		NIST Webbook
rinpol	1179.00		NIST Webbook
rinpol	1170.00		NIST Webbook
rinpol	1142.00		NIST Webbook

rinpol	1142.00	NIST Webbook
rinpol	1147.00	NIST Webbook
rinpol	1136.00	NIST Webbook
rinpol	1129.80	NIST Webbook
rinpol	1164.00	NIST Webbook
rinpol	1178.00	NIST Webbook
rinpol	1137.00	NIST Webbook
rinpol	1133.20	NIST Webbook
rinpol	1137.60	NIST Webbook
rinpol	1168.70	NIST Webbook
rinpol	1179.80	NIST Webbook
rinpol	1140.00	NIST Webbook
rinpol	1142.00	NIST Webbook
rinpol	1150.00	NIST Webbook
rinpol	1155.00	NIST Webbook
rinpol	1133.00	NIST Webbook
rinpol	1137.00	NIST Webbook
rinpol	1133.20	NIST Webbook
rinpol	1137.60	NIST Webbook
rinpol	1165.00	NIST Webbook
rinpol	1168.00	NIST Webbook
rinpol	1173.00	NIST Webbook
rinpol	1140.00	NIST Webbook
rinpol	1125.60	NIST Webbook
rinpol	1150.00	NIST Webbook
rinpol	1136.00	NIST Webbook
rinpol	1152.90	NIST Webbook
rinpol	1153.90	NIST Webbook
rinpol	1151.70	NIST Webbook
rinpol	1158.50	NIST Webbook
rinpol	1162.50	NIST Webbook
rinpol	1179.40	NIST Webbook
rinpol	1142.90	NIST Webbook
rinpol	1151.70	NIST Webbook
rinpol	1158.50	NIST Webbook
rinpol	1162.50	NIST Webbook
rinpol	1140.47	NIST Webbook
rinpol	1140.85	NIST Webbook
rinpol	1141.00	NIST Webbook
rinpol	1163.00	NIST Webbook
rinpol	1130.46	NIST Webbook
rinpol	1138.09	NIST Webbook
rinpol	1142.95	NIST Webbook
rinpol	1157.79	NIST Webbook

rinpol	1166.27	NIST Webbook
rinpol	1171.51	NIST Webbook
rinpol	1136.00	NIST Webbook
rinpol	1169.00	NIST Webbook
rinpol	1133.00	NIST Webbook
rinpol	1137.00	NIST Webbook
rinpol	1142.00	NIST Webbook
rinpol	1155.00	NIST Webbook
rinpol	1147.00	NIST Webbook
rinpol	1166.00	NIST Webbook
rinpol	1169.00	NIST Webbook
rinpol	1155.00	NIST Webbook
rinpol	1148.00	NIST Webbook
rinpol	1152.00	NIST Webbook
rinpol	1162.00	NIST Webbook
rinpol	1164.00	NIST Webbook
rinpol	1174.00	NIST Webbook
rinpol	1136.00	NIST Webbook
rinpol	1147.00	NIST Webbook
rinpol	1167.00	NIST Webbook
rinpol	1137.00	NIST Webbook
rinpol	1158.00	NIST Webbook
rinpol	1171.00	NIST Webbook
rinpol	1179.00	NIST Webbook
rinpol	1152.40	NIST Webbook
rinpol	1162.00	NIST Webbook
rinpol	1163.00	NIST Webbook
rinpol	1130.00	NIST Webbook
rinpol	1144.00	NIST Webbook
rinpol	1169.00	NIST Webbook
rinpol	1142.10	NIST Webbook
rinpol	1163.35	NIST Webbook
rinpol	1149.70	NIST Webbook
ripol	1525.00	NIST Webbook
ripol	1490.40	NIST Webbook
ripol	1476.00	NIST Webbook
ripol	1523.00	NIST Webbook
ripol	1517.00	NIST Webbook
ripol	1565.00	NIST Webbook
ripol	1565.00	NIST Webbook
ripol	1525.00	NIST Webbook
ripol	1525.00	NIST Webbook
ripol	1490.00	NIST Webbook
ripol	1523.00	NIST Webbook

sl	251.46	J/mol×K	NIST Webbook
tb	480.77	K	KDB
tb	481.45	K	Excess volumes, densities, speeds of sound and viscosities for the binary systems of diisopropyl ether with hydrocarbons at 303.15K
tc	721.70 ± 0.50	K	NIST Webbook
tc	719.90 ± 1.00	K	NIST Webbook
tc	721.00 ± 1.50	K	NIST Webbook
tc	720.00	K	KDB
tc	720.00 ± 1.00	K	NIST Webbook
tf	237.36 ± 0.03	K	NIST Webbook
tf	238.20 ± 0.60	K	NIST Webbook
tf	237.33 ± 0.20	K	NIST Webbook
tf	236.45 ± 0.50	K	NIST Webbook
tf	237.40	K	KDB
tf	238.73	K	Aqueous Solubility Prediction Method
tf	242.55	K	NIST Webbook
tf	237.17 ± 0.20	K	NIST Webbook
tf	237.31 ± 0.06	K	NIST Webbook
tf	237.33 ± 0.04	K	NIST Webbook
tt	237.34 ± 0.07	K	NIST Webbook
tt	237.35 ± 0.05	K	NIST Webbook
vc	0.408	m3/kmol	NIST Webbook
vc	0.408	m3/kmol	KDB
zc	0.2487620		KDB

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	241.23	J/mol×K	475.54	Joback Method
cpg	257.83	J/mol×K	514.30	Joback Method
cpg	273.25	J/mol×K	553.06	Joback Method
cpg	287.54	J/mol×K	591.82	Joback Method
cpg	300.80	J/mol×K	630.58	Joback Method
cpg	313.07	J/mol×K	669.34	Joback Method
cpg	324.45	J/mol×K	708.10	Joback Method
cpl	217.44	J/mol×K	298.15	NIST Webbook
dvisc	0.0009683	Pa×s	331.89	Joback Method
dvisc	0.0025839	Pa×s	260.06	Joback Method

dvisc	0.0014903	Pa×s	295.97	Joback Method
dvisc	0.0006844	Pa×s	367.80	Joback Method
dvisc	0.0005146	Pa×s	403.71	Joback Method
dvisc	0.0004053	Pa×s	439.63	Joback Method
dvisc	0.0003310	Pa×s	475.54	Joback Method
hfust	12.45	kJ/mol	237.36	NIST Webbook
hfust	12.45	kJ/mol	237.40	NIST Webbook
hfust	12.45	kJ/mol	237.40	NIST Webbook
hvapt	48.60	kJ/mol	423.00	NIST Webbook
hvapt	51.10	kJ/mol	396.00	NIST Webbook
hvapt	41.30 ± 0.10	kJ/mol	498.00	NIST Webbook
hvapt	37.60 ± 0.10	kJ/mol	552.00	NIST Webbook
hvapt	35.70 ± 0.10	kJ/mol	567.00	NIST Webbook
hvapt	44.10	kJ/mol	522.50	NIST Webbook
hvapt	32.00 ± 0.10	kJ/mol	604.00	NIST Webbook
hvapt	52.10	kJ/mol	384.00	NIST Webbook
hvapt	33.90 ± 0.10	kJ/mol	585.00	NIST Webbook
rfi	1.53919		298.15	KDB
rfi	1.54140		293.15	Densities, sound velocities, and refractive indexes of (tetralin + n-decane) and thermodynamic modeling by Prigogine-Flory-Patterson model
rfi	1.53670		303.15	Densities, sound velocities, and refractive indexes of (tetralin + n-decane) and thermodynamic modeling by Prigogine-Flory-Patterson model
rfi	1.53210		313.15	Densities, sound velocities, and refractive indexes of (tetralin + n-decane) and thermodynamic modeling by Prigogine-Flory-Patterson model
rfi	1.52740		323.15	Densities, sound velocities, and refractive indexes of (tetralin + n-decane) and thermodynamic modeling by Prigogine-Flory-Patterson model

rfi	1.52280	333.15	Densities, sound velocities, and refractive indexes of (tetralin + n-decane) and thermodynamic modeling by Prigogine-Flory-Patterson model
rfi	1.51800	343.15	Densities, sound velocities, and refractive indexes of (tetralin + n-decane) and thermodynamic modeling by Prigogine-Flory-Patterson model
rfi	1.54155	293.15	Thermodynamic modeling and experimental speeds of sound, densities, and refractive indexes of (tetralin + n-dodecane)
rfi	1.53687	303.15	Thermodynamic modeling and experimental speeds of sound, densities, and refractive indexes of (tetralin + n-dodecane)
rfi	1.54000	293.15	Densities, Viscosities, and Refractive Indices of Binary Mixtures of 1,2,3,4-Tetrahydronaphthalene with Some n-Alkanes at T = (293.15 to 313.15) K
rfi	1.52752	323.15	Thermodynamic modeling and experimental speeds of sound, densities, and refractive indexes of (tetralin + n-dodecane)
rfi	1.52274	333.15	Thermodynamic modeling and experimental speeds of sound, densities, and refractive indexes of (tetralin + n-dodecane)

rfi	1.51795	343.15	Thermodynamic modeling and experimental speeds of sound, densities, and refractive indexes of (tetralin + n-dodecane)	
rfi	1.54150	293.15	Densities, Sound Velocities, and Refractive Indexes of Tetralin + n-Hexadecane at (293.15, 303.15, 313.15, 323.15, 333.15, and 343.15) K	
rfi	1.53600	303.15	Densities, Viscosities, and Refractive Indices of Binary Mixtures of 1,2,3,4-Tetrahydronaphthalene with Some n-Alkanes at T = (293.15 to 313.15) K	
rfi	1.53220	313.15	Densities, Sound Velocities, and Refractive Indexes of Tetralin + n-Hexadecane at (293.15, 303.15, 313.15, 323.15, 333.15, and 343.15) K	
rfi	1.52750	323.15	Densities, Sound Velocities, and Refractive Indexes of Tetralin + n-Hexadecane at (293.15, 303.15, 313.15, 323.15, 333.15, and 343.15) K	
rfi	1.52270	333.15	Densities, Sound Velocities, and Refractive Indexes of Tetralin + n-Hexadecane at (293.15, 303.15, 313.15, 323.15, 333.15, and 343.15) K	

rfi	1.51790		343.15	Densities, Sound Velocities, and Refractive Indexes of Tetralin + n-Hexadecane at (293.15, 303.15, 313.15, 323.15, 333.15, and 343.15) K
rfi	1.53690		303.15	Densities, Sound Velocities, and Refractive Indexes of Tetralin + n-Hexadecane at (293.15, 303.15, 313.15, 323.15, 333.15, and 343.15) K
rfi	1.53216		313.15	Thermodynamic modeling and experimental speeds of sound, densities, and refractive indexes of (tetralin + n-dodecane)
rhol	973.00	kg/m3	293.00	KDB
rhol	952.93	kg/m3	313.15	Experimental high pressure speed of sound and density of (tetralin + n-decane) and (tetralin + n-hexadecane) systems and thermodynamic modeling
rhol	944.99	kg/m3	323.15	Experimental high pressure speed of sound and density of (tetralin + n-decane) and (tetralin + n-hexadecane) systems and thermodynamic modeling
rhol	937.04	kg/m3	333.15	Experimental high pressure speed of sound and density of (tetralin + n-decane) and (tetralin + n-hexadecane) systems and thermodynamic modeling

rhol	968.80	kg/m3	293.15	Density and Viscosity from 293.15 to 373.15 K, Speed of Sound and Bulk Modulus from 293.15 to 343.15 K, Surface Tension, and Flash Point of Binary Mixtures of Bicyclohexyl and 1,2,3,4-Tetrahydronaphthalene or Trans-decahydronaphthalene at 0.1 MPa
rhol	960.90	kg/m3	303.15	Density and Viscosity from 293.15 to 373.15 K, Speed of Sound and Bulk Modulus from 293.15 to 343.15 K, Surface Tension, and Flash Point of Binary Mixtures of Bicyclohexyl and 1,2,3,4-Tetrahydronaphthalene or Trans-decahydronaphthalene at 0.1 MPa
rhol	929.20	kg/m3	343.15	Densities and Viscosities for the Ternary System of 1,2,3,4-Tetrahydronaphthalene + Isopropylcyclohexane + Cyclopropanemethanol and Corresponding Binaries at T = (293.15 to 343.15) K
rhol	945.00	kg/m3	323.15	Density and Viscosity from 293.15 to 373.15 K, Speed of Sound and Bulk Modulus from 293.15 to 343.15 K, Surface Tension, and Flash Point of Binary Mixtures of Bicyclohexyl and 1,2,3,4-Tetrahydronaphthalene or Trans-decahydronaphthalene at 0.1 MPa

rhol	937.10	kg/m3	333.15	Density and Viscosity from 293.15 to 373.15 K, Speed of Sound and Bulk Modulus from 293.15 to 343.15 K, Surface Tension, and Flash Point of Binary Mixtures of Bicyclohexyl and 1,2,3,4-Tetrahydronaphthalene or Trans-decahydronaphthalene at 0.1 MPa
rhol	929.10	kg/m3	343.15	Density and Viscosity from 293.15 to 373.15 K, Speed of Sound and Bulk Modulus from 293.15 to 343.15 K, Surface Tension, and Flash Point of Binary Mixtures of Bicyclohexyl and 1,2,3,4-Tetrahydronaphthalene or Trans-decahydronaphthalene at 0.1 MPa
rhol	920.90	kg/m3	353.15	Density and Viscosity from 293.15 to 373.15 K, Speed of Sound and Bulk Modulus from 293.15 to 343.15 K, Surface Tension, and Flash Point of Binary Mixtures of Bicyclohexyl and 1,2,3,4-Tetrahydronaphthalene or Trans-decahydronaphthalene at 0.1 MPa

rhol	912.90	kg/m3	363.15	Density and Viscosity from 293.15 to 373.15 K, Speed of Sound and Bulk Modulus from 293.15 to 343.15 K, Surface Tension, and Flash Point of Binary Mixtures of Bicyclohexyl and 1,2,3,4-Tetrahydronaphthalene or Trans-decahydronaphthalene at 0.1 MPa
rhol	904.80	kg/m3	373.15	Density and Viscosity from 293.15 to 373.15 K, Speed of Sound and Bulk Modulus from 293.15 to 343.15 K, Surface Tension, and Flash Point of Binary Mixtures of Bicyclohexyl and 1,2,3,4-Tetrahydronaphthalene or Trans-decahydronaphthalene at 0.1 MPa
rhol	968.89	kg/m3	293.15	Densities and Viscosities for the Ternary System of 1,2,3,4-Tetrahydronaphthalene + Isopropylcyclohexane + Cyclopropanemethanol and Corresponding Binaries at T = (293.15 to 343.15) K
rhol	964.92	kg/m3	298.15	Densities and Viscosities for the Ternary System of 1,2,3,4-Tetrahydronaphthalene + Isopropylcyclohexane + Cyclopropanemethanol and Corresponding Binaries at T = (293.15 to 343.15) K

rhol	960.96	kg/m3	303.15	Densities and Viscosities for the Ternary System of 1,2,3,4-Tetrahydronaphthalene + Isopropylcyclohexane + Cyclopropanemethanol and Corresponding Binaries at T = (293.15 to 343.15) K
rhol	956.99	kg/m3	308.15	Densities and Viscosities for the Ternary System of 1,2,3,4-Tetrahydronaphthalene + Isopropylcyclohexane + Cyclopropanemethanol and Corresponding Binaries at T = (293.15 to 343.15) K
rhol	953.03	kg/m3	313.15	Densities and Viscosities for the Ternary System of 1,2,3,4-Tetrahydronaphthalene + Isopropylcyclohexane + Cyclopropanemethanol and Corresponding Binaries at T = (293.15 to 343.15) K
rhol	949.05	kg/m3	318.15	Densities and Viscosities for the Ternary System of 1,2,3,4-Tetrahydronaphthalene + Isopropylcyclohexane + Cyclopropanemethanol and Corresponding Binaries at T = (293.15 to 343.15) K

rhol	945.10	kg/m3	323.15	Densities and Viscosities for the Ternary System of 1,2,3,4-Tetrahydronaphthalene + Isopropylcyclohexane + Cyclopropanemethanol and Corresponding Binaries at T = (293.15 to 343.15) K
rhol	941.13	kg/m3	328.15	Densities and Viscosities for the Ternary System of 1,2,3,4-Tetrahydronaphthalene + Isopropylcyclohexane + Cyclopropanemethanol and Corresponding Binaries at T = (293.15 to 343.15) K
rhol	937.17	kg/m3	333.15	Densities and Viscosities for the Ternary System of 1,2,3,4-Tetrahydronaphthalene + Isopropylcyclohexane + Cyclopropanemethanol and Corresponding Binaries at T = (293.15 to 343.15) K
rhol	933.19	kg/m3	338.15	Densities and Viscosities for the Ternary System of 1,2,3,4-Tetrahydronaphthalene + Isopropylcyclohexane + Cyclopropanemethanol and Corresponding Binaries at T = (293.15 to 343.15) K

rhol	953.00	kg/m3	313.15	Density and Viscosity from 293.15 to 373.15 K, Speed of Sound and Bulk Modulus from 293.15 to 343.15 K, Surface Tension, and Flash Point of Binary Mixtures of Bicyclohexyl and 1,2,3,4-Tetrahydronaphthalene or Trans-decahydronaphthalene at 0.1 MPa
sfust	52.44	J/mol×K	237.36	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.38270e+01
Coeff. B	-3.96508e+03
Coeff. C	-5.94180e+01
Temperature range (K), min.	352.27
Temperature range (K), max.	525.05

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/T + C*ln(T) + D*T^2
Coeff. A	9.13922e+01
Coeff. B	-9.58531e+03
Coeff. C	-1.10009e+01
Coeff. D	4.80933e-06
Temperature range (K), min.	237.40
Temperature range (K), max.	720.15

Datasets

Viscosity, Pa*s

Temperature, K - Liquid	Pressure, kPa - Liquid	Viscosity, Pa*s - Liquid
298.15	100.00	0.0019800
298.15	40300.00	0.0029200
298.15	78600.00	0.0041530
298.15	80900.00	0.0042400
298.15	119800.00	0.0060000
298.15	120600.00	0.0060400
298.15	158900.00	0.0084900
298.15	190200.00	0.0112000
298.15	100.00	0.0019800
323.15	100.00	0.0012900
323.15	39900.00	0.0018300
323.15	80300.00	0.0025500
323.15	80600.00	0.0025500
323.15	120900.00	0.0034700
323.15	121000.00	0.0034800
323.15	161200.00	0.0047030
323.15	190600.00	0.0058330
323.15	100.00	0.0012900
348.15	100.00	0.0009200
348.15	41000.00	0.0012900
348.15	79700.00	0.0017300
348.15	80600.00	0.0017400
348.15	119500.00	0.0022700
348.15	121700.00	0.0023100
348.15	163000.00	0.0030270
348.15	190800.00	0.0036200
348.15	100.00	0.0009210
373.15	100.00	0.0006960
373.15	40500.00	0.0009630
373.15	80300.00	0.0012770
373.15	81100.00	0.0012800
373.15	122500.00	0.0016700
373.15	123000.00	0.0016800
373.15	160200.00	0.0020900
373.15	190600.00	0.0025000
373.15	100.00	0.0006960
398.15	100.00	0.0005410
398.15	40500.00	0.0007520
398.15	80600.00	0.0009890

398.15	81800.00	0.0010000
398.15	120800.00	0.0012700
398.15	159900.00	0.0015870
398.15	161000.00	0.0015900
398.15	200600.00	0.0019700
398.15	100.00	0.0005420
423.15	100.00	0.0004380
423.15	40500.00	0.0006100
423.15	81000.00	0.0008000
423.15	82200.00	0.0008070
423.15	120800.00	0.0010100
423.15	160800.00	0.0012500
423.15	161300.00	0.0012500
423.15	201000.00	0.0015300
423.15	100.00	0.0004380
448.15	100.00	0.0003620
448.15	40400.00	0.0005090
448.15	80400.00	0.0006640
448.15	81200.00	0.0006670
448.15	120200.00	0.0008330
448.15	160600.00	0.0010300
448.15	161200.00	0.0010300
448.15	200100.00	0.0012400
448.15	100.00	0.0003620

Reference *https://www.doi.org/10.1021/je800417q*

Sources

Speeds of Sound and Densities of Ternary and Quaternary Mixtures of Tetralin, Decalin, n-Decane, and n-Hexadecane: Experiments and Thermodynamic Modeling with PC-SAFT Equation of State.	https://www.doi.org/10.1021/acs.jced.6b00246
Prediction and Experimental Measurement of Refractive Index in Excess Volumes, densities, speeds of sound and viscosities for the binary systems of diisopropyl ether with hydrocarbons at 303.15K:	https://www.doi.org/10.1021/acs.jced.5b00251
Thermodynamic modeling with Joback Method	https://www.doi.org/10.1016/j.tca.2005.10.008
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Legend

af:	Acentric Factor
affp:	Proton affinity
basg:	Gas basicity
chl:	Standard liquid enthalpy of combustion
cpg:	Ideal gas heat capacity
cpl:	Liquid phase heat capacity
dvisc:	Dynamic viscosity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfl:	Liquid phase enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
hfust:	Enthalpy of fusion at a given temperature
hvap:	Enthalpy of vaporization at standard conditions
hvapt:	Enthalpy of vaporization at a given temperature
ie:	Ionization energy
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
nfpaf:	NFPA Fire Rating
nfpah:	NFPA Health Rating
pc:	Critical Pressure
pvap:	Vapor pressure
rfi:	Refractive Index
rhoc:	Critical density

rhol:	Liquid Density
rinpol:	Non-polar retention indices
ripol:	Polar retention indices
sfust:	Entropy of fusion at a given temperature
sl:	Liquid phase molar entropy at standard conditions
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
tt:	Triple Point Temperature
vc:	Critical Volume
zc:	Critical Compressibility