Cyclodecene, (E)-

Other names:	trans-Cyclodecene
	(E)-Cyclodecene
Inchi:	InChI=1S/C10H18/c1-2-4-6-8-10-9-7-5-3-1/h1-2H,3-10H2/b2-1+
InchiKey:	UCIYGNATMHQYCT-OWOJBTEDSA-N
Formula:	C10H18
SMILES:	C1=CCCCCCCCC1
Mol. weight [g/mol]:	138.25
CAS:	2198-20-1

Physical Properties

Property code	Value	Unit	Source
gf	47.04	kJ/mol	Joback Method
hf	-141.93	kJ/mol	Joback Method
hfus	5.24	kJ/mol	Joback Method
hvap	39.57	kJ/mol	Joback Method
ie	8.91 ± 0.15	eV	NIST Webbook
ie	8.80	eV	NIST Webbook
log10ws	-3.76		Crippen Method
logp	3.677		Crippen Method
mcvol	136.600	ml/mol	McGowan Method
pc	3072.75	kPa	Joback Method
rinpol	1122.00		NIST Webbook
rinpol	1122.00		NIST Webbook
rinpol	1107.10		NIST Webbook
rinpol	1115.00		NIST Webbook
rinpol	1120.00		NIST Webbook
rinpol	1122.00		NIST Webbook
rinpol	1115.00		NIST Webbook
rinpol	1107.10		NIST Webbook
rinpol	1122.00		NIST Webbook
rinpol	1122.00		NIST Webbook
ripol	1577.90		NIST Webbook
ripol	1557.90		NIST Webbook
ripol	1539.80		NIST Webbook
tb	472.00 ± 2.00	K	NIST Webbook
tc	701.87	K	Joback Method
tf	200.76	K	Joback Method

vc	0.483	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	284.41	J/mol×K	468.66	Joback Method
cpg	307.04	J/mol×K	507.53	Joback Method
cpg	328.42	J/mol×K	546.40	Joback Method
cpg	348.57	J/mol×K	585.26	Joback Method
cpg	367.50	J/mol×K	624.13	Joback Method
cpg	385.21	J/mol×K	663.00	Joback Method
cpg	401.72	J/mol×K	701.87	Joback Method
dvisc	0.1110929	Pa×s	200.76	Joback Method
dvisc	0.0128316	Pa×s	245.41	Joback Method
dvisc	0.0028805	Pa×s	290.06	Joback Method
dvisc	0.0009633	Pa×s	334.71	Joback Method
dvisc	0.0004169	Pa×s	379.36	Joback Method
dvisc	0.0002152	Pa×s	424.01	Joback Method
dvisc	0.0001260	Pa×s	468.66	Joback Method

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	342.20	K	1.30	NIST Webbook

Sources

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C2198201&Units=SI

Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l

Crippen Method: https://www.chemeo.com/doc/models/crippen_log10ws

Joback Method: https://en.wikipedia.org/wiki/Joback_method

McGowan Method: http://link.springer.com/article/10.1007/BF02311772

Legend

cpg:	Ideal gas heat capacity
dvisc:	Dynamic viscosity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
hvap:	Enthalpy of vaporization at standard conditions
ie:	Ionization energy
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
rinpol:	Non-polar retention indices
ripol:	Polar retention indices
tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume