Tetrapentacontane

Inchi: InChI=1S/C54H110/c1-3-5-7-9-11-13-15-17-19-21-23-25-27-29-31-33-35-37-39-41-43-45
InchiKey: OPRWEYHEIDHWGM-UHFFFAOYSA-N
Formula: C54H110
SMILES: CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
Mol. weight [g/mol]: 759.45
CAS: 5856-66-6

Physical Properties

Property code	Value	Unit	Source
gf	403.80	kJ/mol	Joback Method
hf	-1157.89	kJ/mol	Joback Method
hfus	135.62	kJ/mol	Joback Method
hvap	271.00 ± 1.70	kJ/mol	NIST Webbook
log10ws	-22.43		Crippen Method
logp	21.311		Crippen Method
mcvol	771.720	ml/mol	McGowan Method
pc	243.99	kPa	Joback Method
tb	1434.92	K	Joback Method
tc	2669.65	K	Joback Method
tf	368.00 ± 5.00	K	NIST Webbook
vc	3.059	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	4358.26	J/mol×K	2463.86	Joback Method
cpg	3675.15	J/mol×K	2052.28	Joback Method
cpg	3473.79	J/mol×K	1846.50	Joback Method
cpg	3321.89	J/mol×K	1640.71	Joback Method
cpg	3186.42	J/mol×K	1434.92	Joback Method
cpg	3958.96	J/mol×K	2258.07	Joback Method
cpg	4906.05	J/mol×K	2669.65	Joback Method
dvisc	0.0000242	Pa×s	698.34	Joback Method
dvisc	0.0000005	Pa×s	1434.92	Joback Method

dvisc	0.0000007	Pa×s	1312.16	Joback Method
dvisc	0.0000010	Pa×s	1189.39	Joback Method
dvisc	0.0000017	Pa×s	1066.63	Joback Method
dvisc	0.0000032	Pa×s	943.87	Joback Method
dvisc	0.0000076	Pa×s	821.10	Joback Method
hfust	177.20	kJ/mol	368.00	NIST Webbook
hvapt	155.00	kJ/mol	744.00	NIST Webbook
hvapt	271.00	kJ/mol	298.15	Hypothetical Thermodynamic Properties: Vapor Pressures and Vaporization Enthalpies of the Even n-Alkanes from C40 to C76 at T = 298.15 K by Correlation-Gas Chromatography. Are the Vaporization Enthalpies a Linear Function of Carbon Number?

Sources

Hypothetical Thermodynamic Properties: Vapor Pressures and Vaporization Enthalpies of the Even n-Alkanes from C40 to C76 at T = 298.15 K by Correlation-Gas Chromatography. Are the Vaporization Enthalpies a Linear Function of Carbon Number?	https://www.doi.org/10.1021/je7005852
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C5856666&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws

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
hfust:	Enthalpy of fusion at a given temperature
hvap:	Enthalpy of vaporization at standard conditions

hvapt:	Enthalpy of vaporization at a given temperature
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume