1,4-Decadiyne

Inchi: InChI=1S/C10H14/c1-3-5-7-9-10-8-6-4-2/h1H,4-6,8,10H2,2H3
InchiKey: PITHRTPWTQFONM-UHFFFAOYSA-N
Formula: C10H14
SMILES: C#CCC#CCCCCC
Mol. weight [g/mol]: 134.22
CAS: 929-53-3

Physical Properties

Property code	Value	Unit	Source
gf	459.19	kJ/mol	Joback Method
hf	314.47	kJ/mol	Joback Method
hfus	27.75	kJ/mol	Joback Method
hvap	39.86	kJ/mol	Joback Method
log10ws	-3.60		Crippen Method
logp	2.593		Crippen Method
mcvol	134.560	ml/mol	McGowan Method
pc	2859.68	kPa	Joback Method
tb	427.32	K	Joback Method
tc	625.25	K	Joback Method
tf	355.53	K	Joback Method
vc	0.519	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	259.37	J/mol×K	427.32	Joback Method
cpg	272.43	J/mol×K	460.31	Joback Method
cpg	284.89	J/mol×K	493.30	Joback Method
cpg	296.76	J/mol×K	526.29	Joback Method
cpg	308.07	J/mol×K	559.28	Joback Method
cpg	318.84	J/mol×K	592.26	Joback Method
cpg	329.09	J/mol×K	625.25	Joback Method

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	341.50 ± 0.50	K	0.70	NIST Webbook
tbrp	396.00 ± 1.00	K	2.30	NIST Webbook

Sources

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
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C929533&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l

Legend

cpg:	Ideal gas heat capacity
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
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
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume