m,m-Quaterphenyl

Other names:	1,1'-Biphenyl, 3,3'-diphenyl- 1,1':3',1'':3'',1'''-Quaterphenyl 3,3'-Diphenylbiphenyl m-Quaterphenyl m-Tetraphenyl metaquaterphenyl
Inchi:	InChI=1S/C24H18/c1-3-9-19(10-4-1)21-13-7-15-23(17-21)24-16-8-14-22(18-24)20-11-5-2
InchiKey:	OWPJBAYCIXEHFA-UHFFFAOYSA-N
Formula:	C24H18
SMILES:	c1ccc(-c2cccc(-c3cccc(-c4ccccc4)c3)c2)cc1
Mol. weight [g/mol]:	306.40
CAS:	1166-18-3

Physical Properties

Property code	Value	Unit	Source
gf	581.58	kJ/mol	Joback Method
hf	384.49	kJ/mol	Joback Method
hfus	33.30	kJ/mol	Joback Method
hvap	79.45	kJ/mol	Joback Method
ie	8.51 ± 0.05	eV	NIST Webbook
log10ws	-9.28		Crippen Method
logp	6.688		Crippen Method
mcvol	253.980	ml/mol	McGowan Method
pc	2014.51	kPa	Joback Method
rinpol	2923.00		NIST Webbook
rinpol	472.81		NIST Webbook
rinpol	470.68		NIST Webbook
rinpol	472.81		NIST Webbook
tb	865.20	K	Joback Method
tc	1146.33	K	Joback Method
tf	490.96	K	Joback Method
vc	0.948	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	732.93	J/mol×K	865.20	Joback Method
cpg	749.87	J/mol×K	912.06	Joback Method
cpg	765.15	J/mol×K	958.91	Joback Method
cpg	778.96	J/mol×K	1005.77	Joback Method
cpg	791.51	J/mol×K	1052.62	Joback Method
cpg	803.00	J/mol×K	1099.48	Joback Method
cpg	813.64	J/mol×K	1146.33	Joback Method
cpl	553.50	J/mol×K	370.00	NIST Webbook
cps	359.50	J/mol×K	298.15	Isomerization effect on the heat capacities and phase behavior of oligophenyls isomers series
dvisc	0.0006475	Pa×s	490.96	Joback Method
dvisc	0.0003563	Pa×s	553.33	Joback Method
dvisc	0.0002213	Pa×s	615.71	Joback Method
dvisc	0.0001500	Pa×s	678.08	Joback Method
dvisc	0.0001086	Pa×s	740.45	Joback Method
dvisc	0.0000827	Pa×s	802.83	Joback Method
dvisc	0.0000654	Pa×s	865.20	Joback Method

Sources

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=C1166183&Units=SI

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

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

Isomerization effect on the heat capacities and phase behavior of oligophenyls isomers series: https://www.doi.org/10.1016/j.jct.2013.03.026

Legend

cpg: Ideal gas heat capacity

cpl: Liquid phase heat capacity

cps:	Solid phase 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
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume