1,1':2',1'':2'',1'''-Quaterphenyl

Other names:	1,1'-Biphenyl, 2,2'-diphenyl-
	2,2'-diphenyl-1,1'-biphenyl
	2,2'-diphenylbiphenyl
	O,O-Quaterphenyl
	o,o'-quaterphenyl
	o-quaterphenyl
	ortho-Quaterphenyl
Inchi:	InChI=1S/C24H18/c1-3-11-19(12-4-1)21-15-7-9-17-23(21)24-18-10-8-16-22(24)20-13-5-2
InchiKey:	YAVCXSHORWKJQQ-UHFFFAOYSA-N
Formula:	C24H18
SMILES:	c1ccc(-c2ccccc2-c2ccccc2-c2ccccc2)cc1
Mol. weight [g/mol]:	306.40
CAS:	641-96-3

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	8.52 ± 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	423.63		NIST Webbook
rinpol	423.63		NIST Webbook
rinpol	423.63		NIST Webbook
rinpol	423.63		NIST Webbook
rinpol	2365.00		NIST Webbook
rinpol	2365.00		NIST Webbook
rinpol	394.68		NIST Webbook
tb	693.20	K	NIST Webbook
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	813.64	J/mol×K	1146.33	Joback Method
cpg	803.00	J/mol×K	1099.48	Joback Method
cpg	791.51	J/mol×K	1052.62	Joback Method
cpg	778.96	J/mol×K	1005.77	Joback Method
cpg	765.15	J/mol×K	958.91	Joback Method
cpg	749.87	J/mol×K	912.06	Joback Method
cpg	732.93	J/mol×K	865.20	Joback Method
cps	359.10	J/mol×K	298.15	Isomerization effect on the heat capacities and phase behavior of oligophenyls isomers series
dvisc	0.0000827	Pa×s	802.83	Joback Method
dvisc	0.0001086	Pa×s	740.45	Joback Method
dvisc	0.0001500	Pa×s	678.08	Joback Method
dvisc	0.0002213	Pa×s	615.71	Joback Method
dvisc	0.0003563	Pa×s	553.33	Joback Method
dvisc	0.0006475	Pa×s	490.96	Joback Method
dvisc	0.0000654	Pa×s	865.20	Joback Method

Sources

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

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=C641963&Units=SI

Legend

cpg: Ideal gas 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