D-Glucose, 2,3,4,5,6-pentaacetate

Other names:	D-Glucose pentaacetate
	Glucose pentaacetate
	Pentaacetylglucose
	«alpha»-d-Glucose 2,3,4,5,6-pentaacetate
	d-Allose, pentaacetate (ester)
	Glucose acetate
Inchi:	InChI=1S/C16H22O11/c1-8(18)23-7-14(25-10(3)20)16(27-12(5)22)15(26-11(4)21)13(6-1
InchiKey:	UAOKXEHOENRFMP-UHFFFAOYSA-N
Formula:	C16H22O11
SMILES:	CC(=O)OCC(OC(C)=O)C(OC(C)=O)C(OC(C)=O)C(C=O)OC(C)=O
Mol. weight [g/mol]:	390.34
CAS:	3891-59-6

Physical Properties

Property code	Value	Unit	Source
chs	-7190.90 ± 1.60	kJ/mol	NIST Webbook
gf	-1195.04	kJ/mol	Joback Method
hf	-1704.27	kJ/mol	Joback Method
hfs	-2249.40 ± 1.70	kJ/mol	NIST Webbook
hfus	39.33	kJ/mol	Joback Method
hvap	102.16	kJ/mol	Joback Method
log10ws	-0.56		Crippen Method
logp	-0.525		Crippen Method
mcvol	275.070	ml/mol	McGowan Method
pc	1710.36	kPa	Joback Method
rinpol	2010.00		NIST Webbook
tb	993.83	K	Joback Method
tc	1217.09	K	Joback Method
tf	612.88	K	Joback Method
vc	1.044	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source

cpg	873.89	J/mol×K	993.83	Joback Method
cpg	881.71	J/mol×K	1031.04	Joback Method
cpg	887.72	J/mol×K	1068.25	Joback Method
cpg	891.89	J/mol×K	1105.46	Joback Method
cpg	894.17	J/mol×K	1142.67	Joback Method
cpg	894.52	J/mol×K	1179.88	Joback Method
cpg	892.89	J/mol×K	1217.09	Joback Method
dvisc	0.0002906	Pa×s	612.88	Joback Method
dvisc	0.0001574	Pa×s	676.37	Joback Method
dvisc	0.0000947	Pa×s	739.86	Joback Method
dvisc	0.0000618	Pa×s	803.36	Joback Method
dvisc	0.0000429	Pa×s	866.85	Joback Method
dvisc	0.0000313	Pa×s	930.34	Joback Method
dvisc	0.0000238	Pa×s	993.83	Joback Method

Sources

McGowan Method: http://link.springer.com/article/10.1007/BF02311772
NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C3891596&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

Legend

chs: Standard solid enthalpy of combustion
cpg: Ideal gas heat capacity
dvisc: Dynamic viscosity
gf: Standard Gibbs free energy of formation
hf: Enthalpy of formation at standard conditions
hfs: Solid phase 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
rinpol: Non-polar retention indices

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