3,6,9,12,15,18,21,24,27-nonaoxanonacosane-1,29-

Other names: 2-[2-[2-[2-[2-[2-[2-[2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy]ethoxy]ethoxy]ethoxy]ethoxy]ethoxy]etho
Inchi: InChI=1S/C20H42O11/c21-1-3-23-5-7-25-9-11-27-13-15-29-17-19-31-20-18-30-16-14-28
InchiKey: DTPCFIHYWYONMD-UHFFFAOYSA-N
Formula: C20H42O11
SMILES: OCCOCCOCCOCCOCCOCCOCCOCCOCCOCCO
Mol. weight [g/mol]: 458.54
CAS: 5579-66-8

Physical Properties

Property code	Value	Unit	Source
gf	-1101.12	kJ/mol	Joback Method
hf	-1950.57	kJ/mol	Joback Method
hfus	66.42	kJ/mol	Joback Method
hvap	115.16	kJ/mol	Joback Method
log10ws	1.49		Crippen Method
logp	-0.880		Crippen Method
mcvol	357.230	ml/mol	McGowan Method
pc	1035.90	kPa	Joback Method
rinpol	3226.10		NIST Webbook
rinpol	3226.10		NIST Webbook
tb	1043.14	K	Joback Method
tc	1339.38	K	Joback Method
tf	636.87	K	Joback Method
vc	1.355	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	1271.07	J/mol×K	1043.14	Joback Method
cpg	1295.18	J/mol×K	1290.01	Joback Method
cpg	1300.19	J/mol×K	1240.64	Joback Method
cpg	1300.10	J/mol×K	1191.26	Joback Method
cpg	1295.10	J/mol×K	1141.89	Joback Method
cpg	1285.37	J/mol×K	1092.51	Joback Method

cpg	1284.90	J/mol×K	1339.38	Joback Method
dvisc	9.3182656e-08	Pa×s	1043.14	Joback Method
dvisc	0.0000001	Pa×s	975.43	Joback Method
dvisc	0.0000002	Pa×s	907.72	Joback Method
dvisc	0.0000004	Pa×s	840.00	Joback Method
dvisc	0.0000009	Pa×s	772.29	Joback Method
dvisc	0.0000021	Pa×s	704.58	Joback Method
dvisc	0.0000057	Pa×s	636.87	Joback Method

Sources

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C5579668&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
McGowan Method: http://link.springer.com/article/10.1007/BF02311772

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
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

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