Triphenylacetic acid

Other names:	Benzeneacetic acid, «alpha»,«alpha»-diphenyl- «alpha»-Toluic acid, «alpha»,«alpha»-diphenyl- Acetic acid, triphenyl-
Inchi:	InChI=1S/C20H16O2/c21-19(22)20(16-10-4-1-5-11-16,17-12-6-2-7-13-17)18-14-8-3-9-15
InchiKey:	DCYGAPKNVCQNOE-UHFFFAOYSA-N
Formula:	C20H16O2
SMILES:	O=C(O)C(c1ccccc1)(c1ccccc1)c1ccccc1
Mol. weight [g/mol]:	288.34
CAS:	595-91-5

Physical Properties

Property code	Value	Unit	Source
gf	191.85	kJ/mol	Joback Method
hf	-20.10	kJ/mol	Joback Method
hfus	27.95	kJ/mol	Joback Method
hvap	89.07	kJ/mol	Joback Method
log10ws	-4.48		Crippen Method
logp	4.106		Crippen Method
mcvol	228.820	ml/mol	McGowan Method
pc	2574.11	kPa	Joback Method
tb	879.86	K	Joback Method
tc	1131.39	K	Joback Method
tf	638.00 ± 5.00	K	NIST Webbook
vc	0.846	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	671.66	J/mol×K	879.86	Joback Method
cpg	684.14	J/mol×K	921.78	Joback Method
cpg	695.57	J/mol×K	963.70	Joback Method
cpg	706.10	J/mol×K	1005.62	Joback Method
cpg	715.90	J/mol×K	1047.55	Joback Method
cpg	725.14	J/mol×K	1089.47	Joback Method

cpg	733.98	J/mol×K	1131.39	Joback Method
dvisc	0.0005178	Pa×s	507.59	Joback Method
dvisc	0.0001971	Pa×s	569.63	Joback Method
dvisc	0.0000907	Pa×s	631.68	Joback Method
dvisc	0.0000480	Pa×s	693.72	Joback Method
dvisc	0.0000282	Pa×s	755.77	Joback Method
dvisc	0.0000179	Pa×s	817.81	Joback Method
dvisc	0.0000122	Pa×s	879.86	Joback Method

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=C595915&Units=SI
Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l

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