2-Pentenoic acid, methyl ester, (E)-

Other names:	(E)-C2H5CH=CHC(O)OCH3
	Methyl ester of (E)-2-pentenoic acid
	Methyl (2E)-2-pentenoate
	Methyl 2-pentenoate, trans
	trans-2-Pentenoic acid methyl ester
Inchi:	InChI=1S/C6H10O2/c1-3-4-5-6(7)8-2/h4-5H,3H2,1-2H3/b5-4+
InchiKey:	MBAHGFJTIVZLFB-SNAWJCMRSA-N
Formula:	C6H10O2
SMILES:	CCC=CC(=O)OC
Mol. weight [g/mol]:	114.14
CAS:	15790-88-2

Physical Properties

Property code	Value	Unit	Source
gf	-154.06	kJ/mol	Joback Method
hf	-294.75	kJ/mol	Joback Method
hfus	14.28	kJ/mol	Joback Method
hvap	38.06	kJ/mol	Joback Method
log10ws	-1.05		Crippen Method
logp	1.126		Crippen Method
mcvol	98.540	ml/mol	McGowan Method
pc	3476.55	kPa	Joback Method
tb	417.13	K	Joback Method
tc	603.73	K	Joback Method
tf	224.46	K	Joback Method
vc	0.376	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	184.29	J/mol×K	417.13	Joback Method
cpg	227.98	J/mol×K	572.63	Joback Method
cpg	219.98	J/mol×K	541.53	Joback Method
cpg	211.61	J/mol×K	510.43	Joback Method

cpg	202.88	J/mol×K	479.33	Joback Method
cpg	193.78	J/mol×K	448.23	Joback Method
cpg	235.63	J/mol×K	603.73	Joback Method
dvisc	0.0002255	Pa×s	417.13	Joback Method
dvisc	0.0002879	Pa×s	385.02	Joback Method
dvisc	0.0003840	Pa×s	352.91	Joback Method
dvisc	0.0005428	Pa×s	320.80	Joback Method
dvisc	0.0008286	Pa×s	288.68	Joback Method
dvisc	0.0014062	Pa×s	256.57	Joback Method
dvisc	0.0027763	Pa×s	224.46	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=C15790882&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