Uridine

Other names:	1-((2R,3R,4S,5R)-3,4-dihydroxy-5-(hydroxymethyl)tetrahydrofuran-2-yl)pyrimidine-2,4(1H
	1-.beta.-D-ribofuranosyl-2,4(1H,3H)-pyrimidinedione
	1-«beta»-D-Ribofuranosyl-2,4(1H,3H)-pyrimidinedione
	1-«beta»-D-Ribofuranosyluracil
	NSC 20256
	Uracil riboside
	Uracil, 1-«beta»-D-ribofuranosyl-
	Uracil-1-«beta»-d-ribofuranoside
	Urd
	Uridin
	d-Ribosyl uracil
	«beta»-D-Ribofuranoside, 2,4(1H,3H)-pyrimidinedione-1
	«beta»-Uridine
Inchi:	InChI=1S/C9H12N2O6/c12-3-4-6(14)7(15)8(17-4)11-2-1-5(13)10-9(11)16/h1-2,4,6-8,12,1
InchiKey:	DRTQHJPVMGBUCF-XVFCMESISA-N
Formula:	C9H12N2O6
SMILES:	O=c1ccn(C2OC(CO)C(O)C2O)c(=O)[nH]1
Mol. weight [g/mol]:	244.20
CAS:	58-96-8

Physical Properties

Property code	Value	Unit	Source
affp	947.60	kJ/mol	NIST Webbook
affp	899.00	kJ/mol	NIST Webbook
basg	916.60	kJ/mol	NIST Webbook
log10ws	1.38		Crippen Method
logp	-3.334		Crippen Method
mcvol	158.230	ml/mol	McGowan Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source

cps	292.34	J/mol×K	298.15	Molar Heat Capacities of Some Derivatives of Uridine and 2'-Deoxyuridine
cps	294.26	J/mol×K	303.15	Molar Heat Capacities of Some Derivatives of Uridine and 2'-Deoxyuridine
cps	296.18	J/mol×K	308.15	Molar Heat Capacities of Some Derivatives of Uridine and 2'-Deoxyuridine
cps	298.10	J/mol×K	313.15	Molar Heat Capacities of Some Derivatives of Uridine and 2'-Deoxyuridine
cps	300.02	J/mol×K	318.15	Molar Heat Capacities of Some Derivatives of Uridine and 2'-Deoxyuridine
cps	301.93	J/mol×K	323.15	Molar Heat Capacities of Some Derivatives of Uridine and 2'-Deoxyuridine
cps	303.86	J/mol×K	328.15	Molar Heat Capacities of Some Derivatives of Uridine and 2'-Deoxyuridine
cps	305.77	J/mol×K	333.15	Molar Heat Capacities of Some Derivatives of Uridine and 2'-Deoxyuridine
cps	307.69	J/mol×K	338.15	Molar Heat Capacities of Some Derivatives of Uridine and 2'-Deoxyuridine
cps	309.61	J/mol×K	343.15	Molar Heat Capacities of Some Derivatives of Uridine and 2'-Deoxyuridine
cps	311.53	J/mol×K	348.15	Molar Heat Capacities of Some Derivatives of Uridine and 2'-Deoxyuridine
cps	313.45	J/mol×K	353.15	Molar Heat Capacities of Some Derivatives of Uridine and 2'-Deoxyuridine

cps	315.37	J/mol×K	358.15	Molar Heat Capacities of Some Derivatives of Uridine and 2'-Deoxyuridine
cps	317.29	J/mol×K	363.15	Molar Heat Capacities of Some Derivatives of Uridine and 2'-Deoxyuridine
cps	319.21	J/mol×K	368.15	Molar Heat Capacities of Some Derivatives of Uridine and 2'-Deoxyuridine
rhos	1600.00	kg/m3	298.15	Saturation molalities and standard molar enthalpies of solution of cytidine(cr), hypoxanthine(cr), thymidine(cr), thymine(cr), uridine(cr), and xanthine(cr) in H2O(l)

Sources

Volumetric properties of the nucleosides adenosine, cytidine, and uridine in aqueous solution at T = 298.15 K and P = (10 to 120) MPa:	https://www.doi.org/10.1016/j.jct.2012.12.028
The partial molar volumes at T = (298.15 to 313.15) K, and the partial molar heat capacities and expansions at T = 298.15 K of cytidine, uridine, and adenosine in aqueous solution:	https://www.doi.org/10.1016/j.jct.2008.01.020
Volumetric interaction coefficients for some nucleosides in aqueous solution:	https://www.doi.org/10.1016/j.jct.2012.12.014
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Solvation behavior of some nucleic acid bases and nucleosides in water and in aqueous guanidine hydrochloride solutions: Viscometric, Calorimetric and Spectroscopic approach:	https://www.doi.org/10.1016/j.jct.2015.11.029
Energetic characterization of a bioactive compound, Uridine:	https://www.doi.org/10.1016/j.jct.2018.04.013
Partial Molar Isentropic and Isothermal Compressions of the Nucleosides Adenosine, Cytidine, and Uridine in Aqueous Solution at 298.15 K:	https://www.doi.org/10.1021/je101264r
MIC Batch Method:	http://link.springer.com/article/10.1007/BF02311772
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Saturation molalities and standard molar enthalpies of solution of cytidine(cr), hypoxanthine(cr), thymidine(cr), thymine(cr), uridine(cr), and xanthine(cr) in H2O(l):	https://www.doi.org/10.1016/j.jct.2004.04.005
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C58968&Units=SI
Volumetric studies on nucleic acid bases and nucleosides in aqueous guanidine hydrochloride solutions at T = (298.15 to 318.15) K and at atmospheric pressure:	https://www.doi.org/10.1016/j.jct.2014.10.015
Molar Heat Capacities of Some Derivatives of Uridine and 2'-Deoxyuridine:	https://www.doi.org/10.1021/je800243y

Legend

affp:	Proton affinity
basg:	Gas basicity
cps:	Solid phase heat capacity
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
rhos:	Solid Density

Latest version available from:

https://www.chemeo.com/cid/66-294-3/Uridine.pdf

Generated by Cheméo on 2024-10-12 04:19:57.259044891 +0000 UTC m=+3287659.896014138.

Cheméo (https://www.chemeo.com) is the biggest free database of chemical and physical data for the process industry.