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 interaction coefficients for some nucleosides in aqueous solution at T = 298.15 K:	https://www.doi.org/10.1016/j.jct.2012.12.014
Molar Heat Capacities of Some Derivatives of Uridine and 2'-Deoxyuridine:	https://www.doi.org/10.1021/je800243y
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
The partial molar volumes at T = (288.15 to 313.15) K, and the partial molal 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
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Volumetric studies on nucleic acid bases and nucleosides in aqueous guanidine hydrochloride solutions at T = (288.15 to 318.15) K and at atmospheric pressure:	https://www.doi.org/10.1016/j.jct.2014.10.015
Energetic characterization of a biogenic compound, Uridine: Partial Molar Isentropic and Isothermal Compressions of the Nucleosides Adenosine, Cytidine, and Uridine in Aqueous Solution at 298.15 K:	https://www.doi.org/10.1016/j.jct.2018.04.013
	https://www.doi.org/10.1021/je101264r
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
Volumetric properties of the nucleosides adenosine, cytidine, and uridine in aqueous solution at T=298.15K and P=(10 to120)MPa:	https://www.doi.org/10.1016/j.jct.2012.12.028
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C58968&Units=SI
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

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