

SSC-Database

Software version = 5.81 Data version = 4.62

Experiment list contains 706 experiments for
(no ligands specified)

Metal : Tb+++

(no references specified)

(no experimental details specified)

e- HL Electron (442)
Electron;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	oth	none	25°C	0.0	U				1974J0b (951)	1
									K(Tb+3e=Tb(s))=-115.6(-2.28V)	
									K(Tb+e=Tb(II))=-59(-3.5V)	

Method: Literature evaluated data

Tb+++	oth	none	25°C	0.0	U				1952LAb (952)	2
									K(Tb+3e)=-121.2(-2390 mV)	

AsO4--- H3L Arsenate CAS 7778-39-4 (1557)
Arsenate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	sol	none	25°C	0.0	C				1992FIa (1162)	3
									Kso(TbAsO4)=-23.07	

Equilibrium monitored by EDTA and iodine titrations.

BrO3- HL Bromate (6017)
Bromate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	dis	NaClO4	20°C	0.10M	U T H			K1=0.54	1972RCa (2432)	4
									DH(K1)=-16.3 kJ mol-1; K1=0.76(2 C), 0.71(10 C), 0.48(30 C), 0.40(40 C)	

CO3-- H2L Carbonate CAS 465-79-6 (268)
Carbonate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	NaClO4	25°C	0.70M	C			K1=5.76	2004LBb (3390)	5
									K(Tb+HCO3=TbHCO3)=1.41	

Medium: 0.70 m NaClO4. Calculated for I=0, K1=7.46, B2=12.78,
K(Tb+HCO3=TbHCO3)=2.46, K(Tb+HL=TbL+H)=-2.87, K(Tb+2HL=TbL2+2H)=-7.88

Tb+++	dis	NaClO4	25°C	0.70M	C	I		K1=5.73 B2=10.26	1998LBb (3391)	6
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Method: H2O/tributylphosphate distribution and ICP-mass spectrometry.
 Values calculated for I=0.0 M, K1=7.71, B2=13.34.

Tb+++ dis NaCl04 25°C 0.70M C K1=5.79 B2=10.25 1993Lba (3392) 7
 K(Tb+HL)=1.84

Tb+++ sol none 25°C 0.0 C 1986FMa (3393) 8
 Kso(Tb2(CO3)3)=-34.86

Tb+++ sol none 25°C 0.0 C 1986HMa (3394) 9
 Kso(Tb2(CO3)3)=-34.86

Method: spectrophotometry.

Tb+++ dis oth/un 20°C 2.5M C 1979DBb (3395) 10
 B4=15.03

Media: 2.5 M (NH4)2NO3/hexane. Analysis by NAA. By competition with edta;
 K1(Tb(edta))=17.92 recalculated for I=2.5 from J.Am.Chem.Soc.,75 1953,4196

C6N6Fe--- H3L Ferricyanide (2491)
 Hexacyanoferrate (III); Fe(III)(CN)6---

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ cal none 25°C 0.00 M H K1=3.76 1972SCd (3693) 11
 DH(K1)=3.9 kJ mol-1, DS=85.4 J K-1 mol-1

Cl- HL Chloride CAS 7647-01-0 (50)
 Chloride;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ dis NaCl 25°C 1.0M C K1=-0.18 1997HTb (5764) 12
 Method: by solvent extraction from 1.0 M NaCl into CHCl3, 0.1 M
 1,1,1-trifluoro-4-(2-thienyl)-2,4-pentanedione.

Tb+++ cal non-aq 25°C 100% U H K1=2.63 B2=4.80 1991ITa (5765) 13
 K3=1.38
 K4=1.34

Medium: DMF, 0.2 M Et4NCl04. DH(K1)=15.5 kJ mol-1, DH(K2)=23.7, DH(K3)=25
 DH(K4)=31. DS(K1)=102, DS(K2)=121, DS(K3)=111 J K-1 mol-1

Tb+++ dis NaCl04 20°C 3.00M U K1=0.45 B2=0.26 1982FKb (5766) 14

Tb+++ sol NaCl04 25°C ? U K1=0.32 1982MAa (5767) 15

Tb+++ cal non-aq 25°C 100% U K1=2.11 B2=3.69 1980VCa (5768) 16
 Medium: diemthylacetamide

Tb+++ sp NaCl04 25°C 3.0M U K1=-0.01 1971KBf (5769) 17
 Medium: LiCl04

Tb+++ sol none 25°C 0.0 U 1961AEa (5770) 18
Kso(Tb(OH)2.5Cl0.5)=-21.8

I=0 corr. Unstable, apparant Kso

ClO3- HL Chlorate CAS 7790-93-4 (971)
Chlorate;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ dis NaClO4 20°C 0.10M U T H K1=0.00 1972RCa (6061) 19
DH(K1)=-17 kJ mol-1; K1=0.15(2 C), 0.18(10 C), -0.10(30 C)

F- HL Fluoride CAS 7644-39-3 (201)
Fluoride;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ ix oth/un 25°C 0.02M C T H K1=3.83 B2= 6.24 2004LMa (7217) 20
Medium: 0.025 M HNO3. Applying Pitzer parameters: at I=0, K1=10.12.
Data for 5 to 45 C. DH(K1)=7.2 kJ mol-1, DH(B2)=17.4.

Tb+++ ISE NaClO4 25°C 0.0 C I K1=4.37 2000LBa (7218) 21
Method: Fluoride ISE. Values calc. from data for I=0.015-0.70 M NaClO4.
At I=0.70 M, K1=3.424.

Tb+++ ix KNO3 25°C 0.02M C K1=3.82 B2= 6.31 1999SBc (7219) 22
Medium: 0.025 M HNO3. Additional method: ICP-MS.
Assumed K1(HF) = 3.03, derived from literature values.

Tb+++ dis NaClO4 25°C 0.68M U K1=3.32 B2=5.45 1993LBb (7220) 23

Tb+++ ISE none 25°C 0.0 C H K1=3.24 B2=6.66 1989MJa (7221) 24
Kso=-16.3
Also by conductivity and radiometry. DH(Kso)=27.4 kJ mol-1; DS=-222.8.

Tb+++ ISE R4N.X 25°C 0.50M C K1=3.24 B2=6.66 1989MJb (7222) 25

Tb+++ cal NaClO4 25°C 1.00M C H 1988GBa (7223) 26
DH(K1)=9.30 kJ mol-1; DS(K1)= 96.8 J mol-1 K-1

Tb+++ ISE NaCl 25°C 1.00M C K1=3.227 1985BBb (7224) 27

Tb+++ dis NaCl 25°C 1.00M U 1982BKa (7225) 28
B(TbF(OH))=10.76
B(TbF(OH)2)=17.26

Tb+++ sol none 25°C 0.0 C 1982MEa (7226) 29
Kso(TbF3)=-16.44

Methods: radiometry, conductivity and potentiometry.

DH(Kso)=27.39 kJ mol⁻¹, DS(Kso)=223 J K⁻¹ mol⁻¹.

Tb+++	gl	KCl	25°C	1.00M	U	M			1981KTb	(7227)	30
									K(TbEDTA+F)=1.79		
									K(Tb(EDTA)F+F)=0.48		
Tb+++	dis	NaCl	25°C	1.00M	U		K1=3.29	B2=5.43	1980BKa	(7228)	31
Tb+++	gl	NaCl	25°C	1.00M	U		K1=3.25	B2=5.32	1979BHa	(7229)	32
Tb+++	dis	NaClO4	25°C	1.00M	U	T H	K1=3.18		1975MHa	(7230)	33
									DH=-17.2 kJ mol ⁻¹ and DS=2.9 J mol ⁻¹ K ⁻¹ .		
Tb+++	EMF	NaClO4	25°C	1.0M	U	H	K1=3.42		1967WCa	(7231)	34
									By calorimetry: DH(K1)=31.4 kJ mol ⁻¹ , DS=170.5 J K ⁻¹ mol ⁻¹		

I03-		HL		Iodate					CAS 7782-68-5	(1257)	
									Iodate;		
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo	
Tb+++	dis	NaClO4	20°C	0.10M	U	T H	K1=0.82		1972RCa	(8557)	35
									DH(K1)=-9.6 kJ mol ⁻¹ ; K1=0.97(2 C), 0.88(10 C), 0.80(30 C), 0.72(40 C)		
Tb+++	sol	oth/un	25°C	0.0	U				1966FPb	(8558)	36
									Kso=-11.11		

I04-		HL		Periodate					CAS 13444-71-8	(6063)	
									Periodate;		
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo	
Tb+++	sol	oth/un	25°C	dil	U				1974L0a	(8615)	37
									Kso(Tb(H2IO6)(H2O)3)=-10.00		

Mo04--		H2L		Molybdate					(443)		
									Molybdate;		
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo	
Tb+++	con	oth/un	25°C	.001M	U		K1=4.51		1968DKc	(8758)	38

Mo12042U-----		H8L							(2922)		
									Uranium-12-molybdate;		
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo	
Tb+++	gl	oth/un	20°C	0.10M	U				1989SBb	(8782)	39
									B(TbHL)=8.07		
									B(TbH2L)=10.18		

NO3- HL Nitrate CAS 7697-37-2 (288)
Nitrate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	cal	NaClO4	25°C	2.0M	C	IH	K1=-0.55	1998BMb (9931)	40
DH(K1)=4.5 kJ mol-1. From Pitzer extrapolation to I=0.0, K1=0.23, DH(K1)=3.4 kJ mol-1									
Tb+++	dis	none	25°C	0.0	U		K1=1.38	1992MSb (9932)	41
Tb+++	dis	NaClO4	25°C	1.00M	U	T	K1=1.18	1975MHa (9933)	42
Tb+++	dis	none	55°C	0.0	U		K1=-0.03	1967KOb (9934)	43
Tb+++	dis	NaClO4	25°C	1.0M	U	I	K1=0.05	1965CSb (9935)	44
Medium: 1 M HClO4. K1=0.13(I=0.3), 0.88(0)									

OH- HL Hydroxide (57)
Hydroxide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	NaClO4	25°C	0.0	C	IH	*K1=-7.64	2000KBa (12218)	45
In 0.7 M NaClO4, *K1=-7.95. DH(*K1)=50 kJ mol-1.									
Tb+++	gl	NaCl	25°C	0.10M	U	I	*B(1,3)=-21.61	1999FBa (12219)	46
In 0.1 M Me4NCl, *B(1,3)=-22.32.									
Tb+++	dis	NaCl	25°C	1.00M	U		K1=7.41 B2=14.30	1981BKa (12220)	47
Tb+++	dis	NaClO4	?	0.10M	U		*K1=-5.2	1971GDb (12221)	48
Medium: LiClO4									
Tb+++	gl	NaClO4	25°C	0.30M	U		*K1=-8.16	1966FKa (12222)	49
Tb+++	sol	none	25°C	0.0	U		Kso=-25.8(50 days) Kso=-26.3(150 days)	1961AEa (12223)	50

P04--- H3L Phosphate CAS 7664-38-2 (176)
Phosphate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Tb+++ sol none 25°C 0.0 M 1997LBd (13337) 51
Kso(TbPO4)=-25.39

Calculated from data for 0.10 M HClO4 solution.

Tb+++ sol oth/un 25°C 0.0 C I 1993FKb (13338) 52
Kso(TbPO4)=-26.49

In synthetic seawater, Ks(TbPO4)=-23.89.

Tb+++ sol none 25°C 0.0 C 1991FBa (13339) 53
Kso(TbPO4)=-25.07

Tb+++ gl NaClO4 20°C 0.10M U K1=3.58 1974PJa (13340) 54

P207---- H4L Pyrophosphate CAS 2466-09-3 (198)
Diphosphate; from (HO)2PO.O.PO(OH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 25°C 0.50M U 1989APd (13659) 55
K(Tb+H2L)=4.52

Tb+++ kin none 25°C 0.0 U B2=20.50 1967SSo (13660) 56

P3010----- H5L CAS 10380-08-2 (1001)
Tripolyphosphate; from (HO)2PO.O.PO(OH).O.PO(OH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M U T H B2=9.1 1974KRa (13913) 57
K(Tb+2HL)=6.8

K(Tb+2HL)=7.1 and B2=9.3 (35 C), K(Tb+2HL)=6.6 and B2=8.8 (45 C)

DH(Tb+2HL)=-20 kJ mol⁻¹; DH(B2)=-28

SCN- HL Thiocyanate CAS 463-56-9 (106)
Thiocyanate;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ dis oth/un 25°C 1.0M C K1=0.44 1997HTb (15265) 58
Method: by solvent extraction from 1.0 M NaSCN into CHCl3, 0.1 M
1,1,1-trifluoro-4-(2-thienyl)-2,4-pentanedione.

Tb+++ cal non-aq 25°C 100% U H K1=1.8 B2=3.0 1992TIIa (15266) 59
K3=0.5

Medium: DMF, 0.2 M R4NX. DH(K1)=7.4 kJ mol⁻¹, DH(B2)=7, DH(B3)=15

Tb+++ dis R4N.X 30°C 1.00M U T K1=0.23 B2=0.34 1974KMa (15267) 60
Medium: NH4ClO4/NH4SCN, pH 2.8

SO4-- H2L Sulfate CAS 7664-93-9 (15)

Sulfate;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sol oth/un 25°C 0.66M C K1=1.92 2004SBb (16573) 61
Method: solubility of BaSO4 in 0.117 m TbCl3 solution.
Calculated for I=0, K1=3.59.

Tb+++ dis NaCl 25°C 1.00M U K1=1.38 1980BKb (16574) 62
B3=3.02

Tb+++ cal oth/un 25°C 0.0 U H 1974FPc (16575) 63
DH(K1)=15.5 kJ mol⁻¹, DS=121.3 J K⁻¹ mol⁻¹. In D2O: DH(K1)=13.8, DS=115.8

Tb+++ cal none 25°C 0.0 U H 1974POa (16576) 64
DH(K1)=19.7 kJ mol⁻¹

Tb+++ oth NaCl04 25°C 2.0M U K1=1.59 1973ABe (16577) 65
Method:luminiscence quenching

Tb+++ oth none 25°C 0.0 U K1=3.64 1973FPb (16578) 66
K1in=0.62

Method: ultrasonic absorption

Tb+++ cal oth/un 25°C 0.0 U H 1969FPa (16579) 67
DH(K1)=16.8 kJ mol⁻¹

Tb+++ cal oth/un 25°C 0.0 U H K1=3.47 B2=5.37 1969IEa (16580) 68
DH(K1)=15.1 kJ mol⁻¹, DH(K2)=3.2; DS(K1)=117.0 J K⁻¹ mol⁻¹, DS(K2)=47.2

Tb+++ ISE NaCl04 25°C 2.0M U H K1=1.27 B2=1.89 1967CCd (16581) 69
By calorimetry: DH(K1)=17.7 kJ mol⁻¹, DS=84.0 J K⁻¹ mol⁻¹; DH(K2)=6.7, DS=34

CH03F3S HL CAS 1493-13-6 (6755)
Trifluoromethanesulfonic acid; CF3SO3H

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp non-aq 25°C 100% U K3=2.58 1993BCc (17469) 70

Medium: MeCN

CH606P2 H4L Medronic acid CAS 1984-15-2 (2384)
Methanediphosphonic acid; CH2(P03H2)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 25°C 0.50M U K(Tb+H2L)=5.60 1989APd (18293) 71

Method: luminescence quenching

Tb+++ gl NaClO4 20°C 0.10M U K1=2.07 B2=3.66 1962KPa (20194) 82

C2H4O2S H2L Thioglycolic CAS 68-11-1 (596)
Mercaptoethanoic acid; HS.CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.20M U K1=5.51 B2=11.00 1998Pjb (20372) 83

Tb+++ gl NaClO4 20°C 0.10M U 1964PKa (20373) 84
K(Tb+HL)=1.96
K(TbHL+HL)=1.26

Tb+++ gl NaClO4 25°C 2.0M U 1962BCa (20374) 85
K(Tb+HL)=1.63
K(TbHL+HL)=0.8

C2H5NO2 HL Glycine CAS 56-40-6 (85)
2-Aminoethanoic acid; H2N.CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaCl 37°C 0.15M U K1=3.80 1995ZWb (21726) 86

Tb+++ gl KNO3 25°C 0.20M U M K1=6.15 1990LSb (21727) 87
K(Tb(phen)+L)=6.03

Tb+++ EMF KCl 25°C 1.0M U M 1977GMa (21728) 88
K(TbA+L)=3.97
K(TbA+HL)=3.03
K(TbA+H2L)=3.11

Method: Pt/H2 electrode. H3A is N-hydroxyethyl-1,2-diaminoethane-N,N',N'-triethanoic acid.

C2H6OS L DMSO CAS 67-68-5 (329)
Dimethylsulfoxide; (CH3)2.SO

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp non-aq 25°C 100% U 1992MBb (22125) 89
K8=0.9
K9=0.5

Medium: MeCN. Method: FT-IR and Raman spectroscopy

C2H6O2 L Ethyleneglycol CAS 107-21-1 (924)
1,2-Dihydroxyethane (Ethane-1,2-diol); HO.CH2.CH2.OH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 22°C 0.10M U 1972Mcd (22156) 90
K(TbH-1L+H)=7.20

C2H6O6P2 H4L (5706)
Ethene-1,1-diphosphonic acid; H2C:C(PO3H2)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 25°C 0.15M U I 1989AMa (22175) 91
K(Tb+H2L)=5.22

C2H8N2 L Ethylenediamine CAS 107-15-7 (23)
1,2-Diaminoethane; H2N.CH2.CH2.NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ ISE non-aq 25°C 100% C H K1=2.25 B2=3.89 1992CBa (23233) 92
B3=5.28

Medium: DMSO, 0.10 M Et4NClO4. By calorimetry, DH(K1)=-16.8, DH(B2)=-35.4,
DH(B3)=-71.6 kJ mol⁻¹.

Tb+++ gl KNO3 25°C 0.10M U TIH K1=5.52 B2=10.60 1986NSa (23234) 93
B(TbAL)=9.06

H2A=phthalic acid. DH(TbAL)=-46.4 kJ mol⁻¹, DS=63.39J K⁻¹ mol⁻¹

Tb+++ cal non-aq 23°C 100% U K1=10.4 B2=18.80 1969FMa (23235) 94
K3=6.2
K4=3.2

Medium: CH3CN

C2H8O7P2 H4L HEDPA CAS 2809-21-4 (436)
1-Hydroxyethane-1,1-diphosphonic acid; CH3.C(OH)(PO3H2)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp oth/un 25°C 0.70M U 1987APa (23399) 95
K(Tb+H2L)=5.69

C3H4O2 HL Acrylic acid CAS 79-10-7 (2044)
Propenoic acid; CH2:CH.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl oth/un 25°C ? U M K1=2.06 1998PAa (23997) 96
K(TbL+acac)=5.77
K(Tb(acac)L+acac)=4.46

Additional method: nmr. Medium not stated.

C3H4O3 HL Pyruvic acid CAS 127-17-3 (1152)

2-Oxopropanoic acid; CH3.CO.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	nmr	NaClO4	25°C	2.00M	U	H		K1=1.19	1980CCa (24074)	97
DH=-4.18 kJ mol ⁻¹ . Alternative method: Calorimetry.										

C3H4O4		H2L		Malonic acid				CAS 141-82-2	(79)	
Propanedioic acid; CH2(COOH)2										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	NaClO4	25°C	0.10M	U			K1=4.84 B2=7.95	1972DCc (24561)	98
Tb+++	gl	NaClO4	25°C	1.00M	U			K1=3.82 B2=6.38 B(TbHL)=6.37 B(TbHL2)=10.09	1971DGa (24562)	99

Tb+++	ix	NaClO4	25°C	0.15M	U			K(Tb+HL)=1.95 K(TbHL+HL)=1.04	1968KKc (24563)	100
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Tb+++	gl	KNO3	25°C	0.10M	U			K1=4.44 B2=7.15	1968PFa (24564)	101

C3H4O6		H2L						CAS 560-27-0	(4233)	
Dihydroxypropanedioic acid; HOOC.C(OH)2.COOH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	KCl	25°C	0.20M	U			K1=3.56	1973LPb (24633)	102

C3H5NO2		HL						(4234)		
Isonitrosoacetone; CH3.CO.CH:N.OH, anti-Pyruvic aldehyde oxime										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	diox/w	20°C	50%	U			K1=5.79	1971MAf (24650)	103
Medium: 50% dioxan, 0.1 M NaClO4										

C3H6N2O2		L		Methylglyoxime				CAS 2140-03-6	(2981)	
Methylglyoxime; CH3.C(:N.OH).CH:N.OH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	diox/w	20°C	50%	U			K1=6.79 B2=12.64	1971MAf (24812)	104
Medium: 50% dioxan, 0.1 M NaClO4										

C3H6O2		HL		Propionic acid				CAS 79-09-4	(35)	
Propanoic acid; CH3.CH2.COOH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	NaClO4	25°C	2.0M	U		K1=1.73 B2=3.10	1965CGa (25057)	105

Tb+++	gl	NaClO4	20°C	0.10M	U		K1=2.00 B2=3.59	1964PKa (25058)	106

C3H6O2S		H2L					Thiolactic acid CAS 79-42-5 (366)		
2-Mercaptopropanoic acid; CH3.CH(SH).COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	NaClO4	25°C	0.20M	U		K1=6.09 B2=11.43	1998PJa (25171)	107

Tb+++	gl	NaClO4	25°C	2.00M	U			1968CMA (25172)	108
K(Tb+HL)=1.65									

Tb+++	gl	NaClO4	31°C	2.0M	U			1963BCb (25173)	109
K(Tb+HL)=1.60									
K(TbHL+HL)=0.9									

C3H6O2S		H2L					CAS 107-96-0 (437)		
3-Mercaptopropanoic acid; HS.CH2.CH2.COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	NaClO4	25°C	2.00M	U			1968CMA (25227)	110
K(Tb+HL)=1.62									

Tb+++	gl	NaClO4	31°C	2.0M	U			1963BCb (25228)	111
K(Tb+HL)=1.79									
K(TbHL+HL)=1.3									

C3H6O3		HL					CAS 81598-26-7 (2521)		
3-Hydroxypropanoic acid; HO.CH2.CH2.COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	NaClO4	25°C	2.00M	U		K1=1.54	1969JCC (25280)	112

C3H6O3		HL					L-Lactic acid CAS 79-33-4 (82)		
L-2-Hydroxypropanoic acid; CH3.CH(OH).COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	NaClO4	25°C	0.20M	U		K1=2.65 B2=4.82	1964DVA (25548)	113
K3=1.07									
K4=0.44									

Tb+++	gl	NaClO4	20°C	0.10M	U		K1=2.90 B2=5.20	1964PKb (25549)	114
B3=6.35									

Tb+++ gl NaClO4 25°C 2.0M U K1=2.61 B2=4.73 1961CCa (25550) 115
K3=1.28

C3H6O3 HL Methoxyacetic CAS 625-45-6 (29)
Methoxyethanoic acid; CH3.O.CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 20°C 0.10M U K1=2.05 B2=3.00 1964PKa (25608) 116

C3H7NO2 HL Alanine CAS 56-41-7 (86)
2-Aminopropanoic acid; H2N.CH(CH3).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaCl 37°C 0.15M U M K1=3.86 1995ZWb (26272) 117
B(TbH2(gly)L)=21.78

Tb+++ gl KNO3 25°C 0.20M U M K1=6.85 1990LSb (26273) 118
K(Tb(phen)+L)=6.77

Tb+++ gl KNO3 25°C 0.10M U K1=4.7 1967EMb (26274) 119

C3H7NO2S H2L Cysteine CAS 52-90-4 (96)
2-Amino-3-mercaptopropanoic acid; H2N.CH(CH2.SH)COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 20°C 0.0 U T K1=7.925 B2=15.52 1980SDc (26839) 120

Extrapolated from data for I=0.10-1.0 M. Data for 35 and 45 C.
DH(K1)=-5.76 kJ mol⁻¹, DS=132 J K⁻¹ mol⁻¹; DH(K2)=-11.5, DS=106.

C3H7NO3 HL Serine CAS 56-45-1 (49)
2-Amino-3-hydroxypropanoic acid; H2N.CH(CH2.OH)COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl oth/un 25°C 0.10M U K1=3.77 1965PGe (27181) 121

C3H8O2 L Propyleneglycol CAS 57-55-6 (2025)
Propan-1,2-diol; CH3.CH(OH).CH2(OH)

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 22°C 0.10M U 1972MCd (27685) 122
K(TbH-1L+H)=7.15

C3H8O3 L Glycerol CAS 56-81-5 (2707)
Propane-1,2,3-triol; HO.CH2.CH(OH).CH2.OH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 22°C 0.10M U 1972Mcd (27750) 123
K(TbH-1L+H)=6.95

Tb+++ gl NaCl 25°C 0.10M U 1970PKe (27751) 124
K(TbH-1L+H)=6.93

C3H12NO9P3 H6L NTPA CAS 6419-19-8 (2920)
Nitrilotris(methylenephosphonic acid); N(CH2PO3H2)3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M U K1=13.20 B2=22.53 2002KAa (28590) 125

Tb+++ gl KNO3 25°C 0.10M C 1991SKb (28591) 126
K(TbL+H)=7.34
K(TbHL+H)=5.48

C4H2O4 H2L Squaric acid CAS 2892-51-5 (439)
3,4-Dihydroxy-3-cyclobutene-1,2-dione;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ cal NaClO4 25°C 0.10M U H K1=2.87 B2=4.21 19760Ca (28665) 127
DH(K1)=9.1 kJ mol⁻¹, DS=85 J K⁻¹ mol⁻¹; DH(B2)=14.4, DS=129

Tb+++ gl NaClO4 25°C 0.10M C H K1=2.874 B2= 4.20 19760Cb (28666) 128
By calorimetry: DH(K1)=9.12 kJ mol⁻¹, DS(K1)=85.3 J K⁻¹ mol⁻¹;
DH(B2)=14.4, DS(B2)=129.

C4H4N2O5 H2L Thiobarbituric CAS 504-17-6 (4279)
4,6-Dihydroxy-2-mercaptopyrimidine, 2-thiobarbituric acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl oth/un 25°C 0.10M U K1=2.980 1987TSb (28897) 129

C4H4N2O3 H2L Barbituric acid CAS 67-52-7 (2818)
2,4,6-Trihydroxypyrimidine; C4HN2(OH)3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl oth/un 25°C 0.10M U T H K1=4.32 1987TSb (28920) 130
30 C:K=3.77; 35 C: 3.54. DH=-146 kJ mol⁻¹, DS=-393 J K⁻¹ mol⁻¹

C4H4O4 H2L Maleic acid CAS 110-16-7 (111)
cis-Butenedioic acid; HOOC.CH:CH.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	oth/un	25°C	?	U	M		K1=3.64 K(TbL+acac)=5.07 K(Tb(acac)L+acac)=4.35	1998PAa (29137)	131

Additional method: nmr. Medium not stated.

Tb+++	gl	KNO3	25°C	0.10M	U	T	HM	K1=5.48 B(TbAL)=9.16	1986NSa (29138)	132
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H2A=phthalic acid. DH(TbAL)=-45.1 kJ mol⁻¹, DS=24.0 J K⁻¹ mol⁻¹

Tb+++	gl	NaClO4	25°C	0.10M	U			K1=3.74	1973CDc (29139)	133
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Tb+++	gl	NaClO4	25°C	0.10M	U			K1=3.75 B2=5.83	1970RFa (29140)	134
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C4H4O4 H2L Fumaric acid CAS 110-17-8 (289)
trans-Butenedioic acid; HOOC.CH:CH.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	NaClO4	25°C	0.10M	C			K1=2.57 B(TbHL)=6.03 K(Tb+HL)=1.95	1986LCa (29220)	135

Tb+++	gl	KNO3	25°C	0.10M	U	T	H	K1=3.10 B(TbAL)=6.24	1986NSa (29221)	136
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H2A=phthalic acid. DH(TbAL)=-39.9 kJ mol⁻¹, DS=14.4 J K⁻¹ mol⁻¹

Tb+++	gl	NaClO4	25°C	0.10M	U			K1=2.77	1973CDc (29222)	137
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C4H5NO5 H2L (7375)
Oxalohydroxamic acid; HOOC.CO.CH2.CO.NHOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	KNO3	25°C	0.1M	M			K1=11.24 B2=21.71 K3=10.00	1989LWa (29316)	138

C4H6O2 HL Methylacrylic (6992)
2-Methylpropenoic acid; CH2:C(CH3)COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	KCl	25°C	0.10M	U			K1=2.35	1995PAa (29705)	139

C4H6O4 H2L Succinic acid CAS 110-15-6 (112)
1,4-Butanedioic acid; HOOC.CH2.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Tb+++ gl KNO3 25°C 0.10M U T HM K1=3.76 B2=6.84 1986NSa (30050) 140
B(TbAL)=7.31
H2A=phthalic acid. DH(TbAL)=-42.8 kJ mol⁻¹, DS=-3.6 J K⁻¹ mol⁻¹

Tb+++ ix NaClO4 25°C 0.15M U 1968KKc (30051) 141
K(Tb+HL)=1.66
K(TbHL+HL)=1.5

C4H6O4 H2L Me-Malonic Acid CAS 516-15-2 (816)
Methylpropanedioic acid; HOOC.CH(CH3).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 25°C 0.20M U K1=4.31 B2=6.74 1975PLa (30138) 142

C4H6O4S H2L Thiodiacetic CAS 123-93-3 (140)
2,2'-Thiodiglycolic acid, Thiodiethanoic acid; HOOC.CH2.S.CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 1.00M U K1=2.52 B2=4.12 1973DGa (30233) 143
B(TbHL)=5.21
B(TbHL2)=7.30

C4H6O4S H3L Thiomalic acid CAS 70-49-5 (109)
2-Mercaptosuccinic acid, 2-Sulfanyl-1,4-butanedioic acid; HOOC.CH(SH).CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.20M U K1=5.97 B2=11.26 1998PJb (30366) 144

C4H6O5 H2L Malic acid CAS 617-48-1 (393)
2-Hydroxybutane-1,4-dioic acid, Hydroxy-succinic acid; HOOC.CH2.CH(OH).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 30°C 0.10M U M 1984AIa (30734) 145
K(Tb(EDTA)+L)=2.146

Tb+++ gl KNO3 20°C 0.10M U 1980SDa (30735) 146
B(TbHL)=8.92

Tb+++ gl KNO3 20°C 0.10M U K1=4.45 B2=7.32 1980SDB (30736) 147
K(Tb+HL)=1.01

Tb+++ gl NaClO4 25°C 0.10M U K1=4.77 B2=8.03 1970RFa (30737) 148

C4H6O5 H2L Diglycolic acid CAS 110-99-6 (243)
Di(carboxy)methyl ether, 2,2'-Oxydiethanoic acid; HOOC.CH2.O.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	KCl	25°C	1.0M	U	M			1988KTa (30934)	149
K(Tb(edta)+L)=2.20										
Tb+++	EMF	NaClO4	20°C	1.00M	U			K1=5.42 B2=10.08 B3=13.41	1972G0a (30935)	150
Tb+++	cal	NaClO4	25°C	1.0M	C	H			1963GRd (30936)	151
DH(K1)=3.20 kJ mol ⁻¹ , DS(K1)=113 J K ⁻¹ mol ⁻¹ ; DH(B2)=-7.895, DS(B2)=164; DH(B3)=-18.68, DS(B3)=190.										
Tb+++	EMF	NaClO4	20°C	1.00M	U			K1=5.23 B2=9.98 B3=13.25	1963GTa (30937)	152

Method: quinhydrone electrode

C4H6O6 H2L L-Tartaric acid CAS 87-69-4 (92)
L-Tartaric acid, L-2,3-Dihydroxybutanedioic acid; HOOC.CH(OH).CH(OH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	alc/w	25°C	50%	U	I		K1=5.57	1972SSj (31367)	153
Medium: 0-50% EtOH, 0.05 M. 50% EtOH, I=0: K1=7.25										

Tb+++ gl KCl 24°C 0.20M U K1=3.33 1966DDa (31368) 154

C4H7NO3 HL CAS 543-24-8 (3586)
N-Acetylglycine; CH3.CO.NH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	dis	NaClO4	25°C	1.00M	U	T H		K1=1.65	1971RCa (31509)	155
K1(5 C)=1.42, K1(15 C)=1.53, K1(35 C)=1.74. DH=18.0 kJ mol ⁻¹ , DS=92										

C4H7NO4 H2L Aspartic acid CAS 56-84-8 (21)
Aminobutanedioic acid; H2N.CH(CH2.COOH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	NaClO4	30°C	0.10M	U	I		K1=5.45 B2=10.12	1984YLa (31949)	156

Tb+++ oth NaClO4 25°C 0.10M U M 1983BRb (31950) 157
K(TbA2+L)=0.75
K(TbB2+L)=1.33
K(TbC2+L)=1.16
K(TbD2+L)=1.62

H2A=Pyridine-2,6-dicarboxylic acid, H2B=Oxydiacetic acid, H2C=Iminodiethanoic acid, H2D=Sulfosalicylic acid. Using polarized luminescence spectroscopy

Tb+++	gl	KCl	25°C	0.10M	U			K1=5.80 B2=10.28	1968DRb (31951)	158
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C4H7NO4 H2L IDA CAS 142-73-4 (118)
Iminodiethanoic acid; HN(CH2.COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 25°C 1.0M U M 1988Kta (32366) 159
K(Tb(edta)+L)=4.37

Tb+++ gl NaClO4 25°C 0.20M U M K1=7.06 B2=12.74 1988VSc (32367) 160
K(Tb(HEDTA)+L)=5.86
K(Tb(CDTA)+L)=4.84
K(Tb(DTPA)+L)=4.50

Tb+++ gl NaClO4 25°C 0.20M U M K1=7.06 B2=12.74 1987Vsb (32368) 161
K(Tb(nta)+L)=6.13
K(Tb(edta)+L)=4.68

Tb+++ EMF KCl 25°C 1.0M U M 1977Gma (32369) 162
K(TbA+L)=5.36
K(TbA+H2L)=1.08
K(TbA+H3L)=2.47

Method: Pt/H2 electrode. H3A is N-hydroxyethyl-1,2-diaminoethane-N,N',N'-triethanoic acid.

Tb+++ gl alc/w 25°C 1.0M U I K1=6.97 B2=12.90 1976TBb (32370) 163
K(Ce+3L)=17.9

Medium:1 M LiCl in 60% MeOH/H2Ov/v; in 100%H2O K1=5.94;B2=10.92; B3=15.50
Also data for EtOH, Dioxane, Acetone mixed solvents

Tb+++ cal KNO3 20°C 0.10M U HM 1971Gkb (32371) 164
K(TbA+L)=3.98

DH(TbA+L)=-33.89 kJ mol-1, DS=-39.3 J K-1 mol-1. DH(TbAL)=-38.53, DS=288.
H4A=EDTA

Tb+++ gl KNO3 25°C 0.10M U M K1=6.78 B2=12.24 1962THa (32372) 165
Ternary complexes with N-(2-hydroxyethyl)diaminoethane-triethanoic acid

C4H8N2O2 H2L Dimethylglyoxim CAS 95-45-4 (2032)
2,3-Butanedione dioxime, Dimethylglyoxime; CH3.(C:NOH).(C:NOH).CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 20°C 50% U K1=8.11 B2=15.29 1971MAf (32551) 166
Medium: 50% v/v dioxan, 0.1 M NaClO4

C4H8N2O3 HL Asparagine CAS 70-47-3 (17)
2-Aminobutanedioic acid 4-amide; H2N.CH(CH2.CO.NH2).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 30°C 0.10M U K1=3.92 B2=6.88 1984YLa (32731) 167

C4H8N2O4 H2L HDA CAS 19247-05-3 (1025)

Hydrazine-N,N'-diethanoic acid; HOOC.CH2.NH.NH.CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 60°C 0.10M U K1=6.51 B2=11.07 1978NBa (33094) 168

B3=13.85

C4H8N2O4 H2L CAS 39156-77-9 (3008)

Hydrazine-N,N-diethanoic acid; H2N.N(CH2.COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 30°C 0.10M U M 1984AIa (33114) 169

K(Tb(EDTA)+L)=2.922

C4H8O2 HL Isobutyric acid CAS 79-31-2 (573)

2-Methylpropanoic acid; CH3.CH(CH3).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 2.00M U H K1=1.73 B2=3.12 1965CGa (33248) 170

By calorimetry: DH(K1)=18.4 kJ mol⁻¹, DS=94.5 J K⁻¹ mol⁻¹; DH(K2)=6.3, DS=47

Tb+++ gl NaClO4 25°C 0.50M U K1=1.82 B2=2.84 1964SPa (33249) 171

C4H8O2S HL CAS 627-04-3 (3007)

S-Ethylthioethanoic acid; CH3.CH2.S.CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 31°C 2.0M U K1=1.53 B2=2.53 1963BCb (33414) 172

C4H8O3 HL CAS 594-61-6 (81)

2-Hydroxy-2-methylpropanoic acid; (CH3)2C(OH).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ ix NaClO4 25°C 0.10M U I K1=2.85 B2=5.41 1971ALb (33521) 173

B3=7.00

B4=7.84

Range of ionic strength 0-0.7. K1(0.0)=2.83, B2=6.32, B3=8.64, B4=10.05,
K1(0.7)=2.86, B2=4.91, B3=6.06, B4=6.60

Tb+++ ix alc/w 25°C 83% U I K1=4.90 B2=8.65 1968ALa (33522) 174

B3=11.25

B4=13.25

Medium: MeOH/H2O. K1(0%)=2.82, B2=5.33, B3=6.89, B4=8.16. K1(50%)=3.74, B2=6.81, B3=8.86, B4=10.24

Tb+++ gl NaClO4 25°C 0.20M U K1=2.92 B2=5.24 1964DVa (33523) 175
K3=1.62
K4=1.23

Tb+++ gl NaClO4 20°C 0.10M U K1=3.107 B2=5.63 1964PKb (33524) 176
B3=7.43

Tb+++ gl NaClO4 25°C 0.50M U K1=2.87 B2=5.21 1964SPa (33525) 177
B3=6.19

Tb+++ gl NaClO4 25°C 2.0M U K1=2.83 B2=5.25 1961CCa (33526) 178
K3=1.78

C4H8O4 HL CAS 21620-60-0 (2326)
2,3-Dihydroxy-2-methylpropanoic acid; HO.CH2.C(OH)(CH3).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M C K1=3.04 B2=5.42 1975PFb (33686) 179
K3=1.63

C4H8O5 HL CAS 56309-80-9 (2365)
2,3-Dihydroxy-2-hydroxymethylpropanoic acid; HO.CH2.C(CH2.OH)(OH).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ EMF KNO3 25°C 0.10M U K1=3.02 B2=5.45 1976PKb (33713) 180
K3=2.00

Tb+++ gl NaClO4 25°C 0.50M U K1=2.71 B2=4.88 1964SPa (33714) 181
B3=6.58

C4H11N L Butylamine CAS 109-73-9 (159)
1-Aminobutane; CH3.CH2.CH2.CH2.NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ cal non-aq 25°C 100% U H K1=4.04 B2=7.24 1997CDa (34772) 182
B3=9.39
B4=10.81

Medium: MeCN. DH(K1)=-33.9 kJ mol⁻¹, DS=36; DH(B2)=-66.9, DS=86;
DH(B3)=-98, DS=148; DH(B4)=-120, DS=196

C4H13N3 L Dien CAS 111-40-0 (584)
1,4,7-Triazaheptane, 2,2'Iminobis(ethylamine), diethylenetriamine;
NH2.(CH2)2.NH.(CH2)2.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	EMF	NaClO4	25°C	100%	C	H	K1=5.73 B2= 9.70	2000CDa (35816)	183

Medium: DMF, 0.10 M Et4N[CF3SO3]. Method: Ag/Ag+ electrode.
By calorimetry: DH(K1)=-47.6, DH(B2)=-104.8 kJ mol-1.

Tb+++	ISE	non-aq	25°C	100%	C	H	K1=3.32 B2=6.07	1993CCb (35817)	184
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Medium: DMSO, 0.1 M Et4NClO4. Method: Ag+ ISE. By calorimetry, DH(K1)=-28.3 kJ mol-1, DS=-31; DH(B2)=-71.9, DS=125.

C5H2O5 H2L Croconic acid CAS 488-86-8 (1643)
4,5-Dihydroxycyclopent-4-ene-1,2,3-trione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	cal	NaClO4	25°C	0.10M	U	H	K1=2.94 B2=4.93	1978COa (35950)	185

DH(K1)=9.99 kJ mol-1, DS=89.9; DH(K2)=1.84, DS=44.3

C5H4NO2Cl H2L CAS 53223-89-9 (5916)
5-Chloropyridine-2,3-diol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	diox/w	35°C	50%	U		K1=8.75	1984SSd (36037)	186

C5H4N2O2 HL CAS 98-97-5 (1879)
Pyrazine-2-carboxylic acid; cyclo(-CH:CH.N:C(COOH).CH:N-)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	EMF	NaClO4	25°C	1.0M	C		K1=2.77 B2= 4.83 B3=6.82	1983KKb (36065)	187

Method: Pt/quinhydrone electrode.

C5H4N2O3S H2L Thioorotic acid (4335)
1,2,3,6-Tetrahydro-2-thio-6-oxo-4-pyrimidinecarboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	oth/un	20°C	0.15M	U		K1=4.5	1987DBa (36078)	188

C5H4N2O4 H2L Orotic acid CAS 65-86-1 (624)
1,2,3,6-Tetrahydro-2,6-dioxo-4-pyrimidinecarboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	oth/un	20°C	0.15M	U		K1=6.0	1987DBa (36121)	189

C5H4O3 HL CAS 488-93-7 (1166)
Furan-3-carboxylic acid; C4H3O.COOH

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     cal NaClO4 25°C 2.00M U  H   K1=1.60      1976YCa (36311) 190
DH=6.32 kJ mol-1 and DS=52.72 J mol-1 K-1.
*****
C5H6O4          H2L  Itaconic acid  CAS 97-65-4 (398)
Methylenesuccinic acid; HOOC.CH2.C(:CH2).COOH
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     gl  KCl    25°C 0.20M U          K1=3.05      1989MFa (37452) 191
                                K(Tb+HL)=1.87
*****
C5H7NO3          HL                      (4313)
Isonitrosoacetylacetone; HO.N:CH.CO.CH2.CO.CH3
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     gl  diox/w 20°C 50% U          K1=4.78  B2=8.18  1971MAf (37533) 192
Medium: 50% v/v dioxan, 0.1 M NaClO4
*****
C5H8N2O3          H2L                      (4317)
Methylacetylglyoxime; CH3.C(:N.OH).C(:N.OH).CO.CH3
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     gl  diox/w 20°C 50% U          K1=5.76  B2=10.65  1971MAf (37710) 193
*****
C5H8O2          HL  Acetylacetone  CAS 123-54-6 (164)
Pentane-2,4-dione; CH3.CO.CH2.CO.CH3
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     gl  KCl    25°C 0.10M U          K1=5.79  B2=10.30  1995PAa (38091) 194
                                K3=3.44
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-----
Tb+++     dis NaClO4 25°C 1.0M C          B2=10.00      1989ALa (38092) 195
                                B3=13.34
                                B4=15.26
Method: extraction of 160Tb from 1.0 M NaClO4 into benzene/HL.
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-----
Tb+++     gl  NaClO4 20°C 0.10M U  M          1973TZa (38093) 196
                                K(Tb(EDTA)+L)=3.60
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-----
Tb+++     gl  R4N.X 25°C 0.10M U  M          1972FGa (38094) 197
                                K(Tb(EDTA)+L)=2.62
Medium: NH4Cl
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-----
Tb+++     gl  alc/w  ?  50% U  I  K1=7.20      1971KOa (38095) 198
-----

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Medium: 5-80% MeOH, 0.005 TbCl3, 0.005 HL. K1(5%)=6.13; K1(80%)=8.29

Tb+++ gl oth/un 30°C 0.10M U K1=6.02 B2=10.63 1960GFa (38096) 199
K3=3.41

C5H8O4 H2L CAS 601-75-2 (479)

Ethylpropanedioic acid; HOOC.CH(C2H5).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 25°C 0.20M U K1=4.87 1989ZPa (38251) 200

In 70.4% v/v EtOH/H2O: K1 = 6.31

C5H8O4 H2L CAS 498-21-5 (2234)

Methylsuccinic acid; HOOC.CH2.CH(CH3).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.10M U K1=3.22 B2=5.05 1970RFa (38269) 201

C5H8O7 H2L CAS 40120-71-6 (3022)

2,3,4-Trihydroxypentanedioic acid, Trihydroxyglutaric acid; HOOC.(CH(OH))3.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 24°C 0.20M U K1=3.68 1966DDa (38441) 202

C5H9NO2 HL Proline CAS 147-85-3 (44)

Pyrrolidine-2-carboxylic acid; C4H8N.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.10M U B2=5.62 1981ZLa (38645) 203

C5H9NO3 HL Hydroxyproline CAS 51-35-4 (416)

4-Hydroxy-2-pyrrolidinecarboxylic acid; C4H7N(OH)(COOH)

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaCl 37°C 0.15M U K1=3.58 1997GMa (38753) 204

Tb+++ gl NaClO4 25°C 0.10M U B2=5.20 1981ZLa (38754) 205

C5H9NO4 H2L MIDA CAS 4408-64-4 (190)

N-Methyliminodiethanoic acid; CH3.N(CH2.COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 25°C 0.10M U K1=6.99 B2=12.58 1980MGc (39287) 206

B3=15.38

B(Tb+20H+L)=17.91

C5H10N2O3 HL Glutamine CAS 56-85-9 (18)
2-Aminopentanedioic acid 5-amide; H2N.CH(CH2.CH2.CO.NH2)COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaCl 37°C 0.15M U M K1=3.67 1997NZa (39838) 207
B(TbH2(glu)L)=22.87

C5H10O3 HL CAS 3739-30-8 (3612)
2-Hydroxy-2-methylbutanoic acid, Methylene glycolic acid; CH3.CH2.C(OH)(CH3)COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M U K1=3.10 B2=5.58 1969PCa (40264) 208
K3=1.73

C5H10O3 HL CAS 617-31-2 (474)
2-Hydroxypentanoic acid; CH3.CH2.CH2.CH(OH).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 1.0M U K1=2.53 1968GCa (40287) 209

C5H10O4 HL CAS 4767-03-7 (4297)
2,2-Bis(hydroxymethyl)propanoic acid; CH3.C(CH2OH)2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.10M U K1=2.30 B2=3.90 1970RDa (40304) 210
K3<1

C5H10O4 HL CAS 19860-56-1 (2327)
2,3-Dihydroxy-2-methylbutanoic acid; CH3.CH(OH).C(OH)(CH3).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M C K1=3.04 B2=5.39 1975PFb (40319) 211
K3=1.56

C5H10O5 L D-Ribose CAS 50-69-1 (512)
D-Ribose;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ cal none 25°C 0.0 U H K1=0.49 1993MLa (40357) 212
DH(K1)=-11.5 kJ mol⁻¹, TDS=-8.7

C5H11NO2 HL Valine CAS 72-18-4 (43)

2-Amino-3-methylbutanoic acid; H₂N.CH(CH(CH₃)₂).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	KNO ₃	25°C	0.20M	U	M		K ₁ =6.50 K(Tb(phen)+L)=6.25	1990LSb (40760)	213

Tb+++	gl	KCl	25°C	0.10M	U	T		K ₁ =4.00	1974BFa (40761)	214

C ₅ H ₁₁ N ₀ ₂		HL				Nor-Valine		CAS 760-78-1	(689)	
2-Aminopentanoic acid; CH ₃ .CH ₂ .CH ₂ .CH(NH ₂).COOH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	KNO ₃	27°C	0.10M	M	TI		K ₁ =6.36	1996ALa (40848)	215
For I = 0.05, K ₁ =6.41; I=0.15, K ₁ =6.14. Also data for 32 and 37 C.										

C ₆ H ₅ N ₀ ₂		HL				Picolinic acid		CAS 98-98-6	(391)	
2-Pyridine-carboxylic acid; C ₅ H ₄ N.COOH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	KNO ₃	25°C	0.20M	U	M		K ₁ =4.88	1987LSc (42602)	216
K(Tb(nta)+L)=4.32, K(Tb(edta)+L)=4.22.										

Tb+++	gl	NaClO ₄	25°C	0.50M	U			K ₁ =3.79 B ₂ =7.11 B ₃ =9.67	1977GGb (42603)	217

Tb+++	gl	KNO ₃	25°C	0.10M	U			K ₁ =4.08 B ₂ =7.56 K ₃ =2.76 K ₄ =2.18	1968PIa (42604)	218

Tb+++	gl	KNO ₃	25°C	0.10M	U			K ₁ =4.15 B ₂ =7.62 B ₃ =10.6	1964THb (42605)	219

C ₆ H ₅ N ₀ ₂		HL				Nicotinic acid		CAS 59-67-6	(419)	
3-Pyridine-carboxylic acid; C ₅ H ₄ N.COOH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	NaClO ₄	25°C	0.20M	U			K ₁ =2.09	1973FDa (42688)	220

C ₆ H ₅ N ₀ ₄		H ₂ L				4-Nitrocatechol		CAS 3316-09-4	(890)	
1,2-Dihydroxy-4-nitrobenzene; O ₂ N.C ₆ H ₃ (OH) ₂										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	KNO ₃	25°C	0.10M	U			K ₁ =9.51 B ₂ =16.66	1981BDa (42944)	221

C ₆ H ₅ N ₀ ₄		H ₂ L						CAS 3163-07-3	(2711)	

2,4-Dihydroxy-1-nitrobenzene; O2N.C6H3(OH)2

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     sp  KCl    25°C 0.10M M I      K1=6.19      1989PEa (42960) 222
*****
C6H5O4Br          L                      CAS 40838-32-2 (1084)
6-Bromo-5-hydroxy-2-(hydroxymethyl)-4H-pyran-4-one;
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     sp  KCl    25°C 0.10M U          K1=5.40      1987PLa (43116) 223
*****
C6H5O4I          L                      (1085)
6-Iodo-5-hydroxy-2-hydroxymethyl-4H-pyran-4-one;
-----
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     sp  KCl    25°C 0.10M U          K1=5.51      1987PLa (43158) 224
*****
C6H6N2O4          HL  Methylorotic  CAS 706-36-2 (2611)
3N-Methyl-2,4-dihydroxypyrimidine-6-carboxylic acid, methylorotic acid;
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     gl  oth/un 20°C 0.15M U          K1=6.2       1987DBa (43475) 225
*****
C6H6O2          H2L  Catechol      CAS 120-80-9 (534)
1,2-Dihydroxybenzene, pyrocatechol; HO.C6H4.OH
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     gl  NaClO4 25°C 0.20M U          K1=9.78      1998PjB (43838) 226
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```
Tb+++     gl  KNO3   25°C 0.10M U TIH      K1=8.82  B2=14.85  1986NSa (43839) 227
                      B(TbAL)=11.81
H2A=phthalic acid. DH(TbAL)=-46.3 kJ mol-1, DS=70.9 J K-1 mol-1
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```

```
Tb+++     gl  KNO3   25°C 0.05M M I      K1=10.50  B2=20.28  1981BDc (43840) 228
Also data for I=0.2 and 0.35 M. At I=0, K1=11.11, K2=10.20.
-----
```

```
Tb+++     gl  NaClO4 25°C 0.10M U T      K1=10.83  B2=20.43  1979NDa (43841) 229
At 45 C, K1=10.13, K2=9.27. Medium ionic strength not stated.
*****
C6H6O3          H3L  Pyrogallol    CAS 87-66-1 (696)
1,2,3-Trihydroxybenzene; C6H3(OH)3
-----
```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     gl  NaClO4 25°C 0.20M U          K1=10.58      1998PjB (43983) 230
-----
```

C6H6O4 HL Kojic acid CAS 501-30-4 (1800)
5-Hydroxy-2-(hydroxymethyl)-4H-pyran-4-one;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp KCl 25°C 0.10M C I K1=6.153 1987PEa (44245) 231
In 0.087 M KCl, K1=6.187.

C6H6O8S2 H4L Tiron CAS 149-45-1 (104)
4,5-Dihydroxybenzene-1,3-disulfonic acid; (HO)2.C6H2(SO3H)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M U TIH K1=14.56 B2=28.21 1980BDd (44496) 232
Data for I=0.05-0.2 M and for I=0.10 M (35 C). Also DH and DS values.

Tb+++ gl NaClO4 25°C 0.50M C K1=12.69 B2=21.69 1976LAb (44497) 233
B(TbHL2)=29.44

Tb+++ gl NaClO4 25°C 0.10M U K1=14.14 1970SSi (44498) 234
K(Tb+HL)=5.71

C6H7N L Aniline CAS 62-53-3 (583)
Aminobenzene, aniline; C6H5.NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp non-aq 25°C 100% U HM 1982KNa (44881) 235
K(TbA3+L)=2.42

Medium: CCl4. HA=dipivaloylmethane

C6H7NO HL 2-Aminophenol CAS 95-55-6 (2868)
2-Amino-1-hydroxybenzene; HO.C6H4.NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M U TIH K1=6.28 B2=10.98 1986NSa (44937) 236
B(TbAL)=13.44

H2A=phthalic acid. DH(TbAL)=-67.2 kJ mol⁻¹, DS=31.8 J K⁻¹ mol⁻¹

Tb+++ gl mixed 25°C 50% U I K1=3.82 B2=6.66 1969BCa (44938) 237

Medium: 50% DMSO, 0.12 M NaClO4. In 0.12 M NaClO4, 50% dioxan: K1=5.14,
K2=4.24. Medium: 0.12 NaClO4, 50% EtOH: K1=4.65, K2=3.61

C6H7N3O L Isonicotinic hy CAS 54-85-3 (1267)
Pyridine-4-carboxylic acid hydrazide; C5H4N.CO.NH.NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 15°C 0.10M U K1=8.40 1980ZMa (45132) 238

C6H8O4 H2L CAS 2583-25-7 (958)
2-Allylpropanedioic acid; HOOC.CH(CH2.CH:CH2).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 25°C 0.20M U K1=4.07 1989ZPa (45475) 239
In 70.4% v/v EtOH/H2O: K1 = 6.00

C6H8O6 H2L Ascorbic acid CAS 50-81-7 (285)
Ascorbic acid (Vitamin C);

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 2.00M U IH K(Tb+HL)=1.52 1988HSa (45661) 240

DH=6.0 kJ mol⁻¹, DS=49.2 J K⁻¹ mol⁻¹
In 0.1 M NaClO4: K=1.7, DH=3.8 kJ mol⁻¹, DS=45 J K⁻¹ mol⁻¹

C6H8O6S H3L CAS 99-68-3 (3692)
(Carboxymethylthio)butanedioic acid; HOOC.CH(S.CH2.COOH).CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.10M U TIH K1=4.01 B2=7.26 1986AJc (45715) 241
DH(K1)=-5.7 kJ mol⁻¹, DS=54.7 J K⁻¹ mol⁻¹; DH(K2)=-6.3, DS=41.4

Tb+++ gl NaClO4 30°C 0.10M U IH K1=3.88 B2=7.13 1983ASa (45716) 242
DH(K1)=-4.9 kJ mol⁻¹, DH(K2)=-6.3

C6H8O7 H3L Citric acid CAS 77-92-9 (95)
2-Hydroxypropane-1,2,3-tricarboxylic acid; HOOCCH2.CH(OH)(COOH).CH2COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 1.0M M 1986SZb (46269) 243
K(Tb+H3L=TbHL+2H)=-2.86
K(Tb+H3L=TbL+3H)=-6.21
K(Tb+H3L=TbH-1L+4H)=-11.94
K(Tb+2H3L=TbH2L2+4H)=-7.07

K(Tb+2H3L=TbL2+6H)=-14.54, K(Tb+2H3L=TbH-2L2+8H)=-29.2,
K(Tb+2H3L=TbH-3L2+9H)=-28.3, K(Tb+2H3L=TbH-4L2+10H)=-38.2.

Tb+++ gl KNO3 25°C 0.10M U M 1975TDa (46270) 244
B(Tb(IDA)L)=10.2

Tb+++ dis NaClO4 25°C 0.15M U 1973HHc (46271) 245
K(Tb+HL+L)=11.19

Tb+++ gl alc/w 25°C 25% U I K1=8.62 1972BKd (46272) 246
 Medium: EtOH/H2O, 0.05 M (NaCl,NaClO4). 0%, K1=7.75; 50%, K1=9.75

Tb+++ ix NaCl 25°C 0.10M U K1=7.15 B2=12.18 197200a (46273) 247
 K(Tb+HL)=5.54
 K(Tb+2HL)=8.69

Tb+++ dis oth/un 25°C 0.10M U K1=7.88 B2=11.86 1971GBa (46274) 248
 K(Tb+2H3L=Tb(HL)2+4H)=-6.4
 K(Tb+2H3L=TbHL2+5H)=-10.75

Tb+++ oth oth/un 25°C 0.10M U K1=7.80 B2=11.00 1971STe (46275) 249
 K(TbL+HL)=2.50

Constants obtained by survey of literature data

Tb+++ sol NaClO4 25°C 0.10M U K1=8.1 1966SSg (46276) 250
 Kso=-11.82

 C6H8O7 H3L (6770)
 Carboxymethoxysuccinic acid; HOOC.CH2.O.CH(COOH)CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ EMF NaClO4 25°C 1.00M U K1=6.20 B2=10.64 1991WPb (46336) 251

 C6H9NO6 H3L NTA CAS 139-13-9 (191)
 Nitrilotriethanoic acid; N(CH2.COOH)3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ ISE NaClO4 25°C 0.10M C I K1=11.43 1997LBb (47036) 252
 Method: Cu ISE and competitive complexation by Cu. Data for 0.1-5.0 M.
 At I=0.0 M, K1=13.34.

Tb+++ ISE KNO3 25°C 0.10M C K1=11.53 1980NSf (47037) 253
 Competitive method using Cd ion-selective electrode.

Tb+++ gl KNO3 20°C 1.0M C K2=8.28 1978GHb (47038) 254

Tb+++ gl NaClO4 25°C 0.50M U K1=11.25 1977GGb (47039) 255

Tb+++ EMF KCl 25°C 1.0M U M 1977GMa (47040) 256
 K(TbA+L)=6.12
 K(TbA+H2L)=1.60
 K(TbA+H3L)=2.02
 K(TbA+H4L)=3.47

Method: Pt/H2 electrode. H3A is N-hydroxyethyl-1,2-diaminoethane-N,N',N'-triethanoic acid.

Tb+++ cal KNO3 20°C 0.10M U HM 1971GKb (47041) 257

K(TbA+L)=4.65
H4A=EDTA. DH(TbA+L)=-35.52 kJ mol⁻¹, DS=-32.2 J K⁻¹ mol⁻¹.

Tb+++ gl oth/un 20°C 0.20M U 1970VMa (47042) 258
B(Tb(OH)L)=6.35

Tb+++ gl KNO3 25°C 0.10M U T H T K1=11.59 B2=20.97 1962MFb (47043) 259
15 C: K1=11.60, K2=9.53; 20 C: 11.58, 9.45; 30 C: 11.64, 9.32; 35 C: 11.65;
9.25; 40 C: 11.67, 9.20. DH(K1)=7.2 kJ mol⁻¹, DS=246; DH(K2)=-21.8, DS=106

Tb+++ vlt KNO3 20°C 0.10M U 1957N0a (47044) 260
K(Tb2L3)=37.20

C6H10O3 HL CAS 16841-19-3 (3649)
1-Hydroxycyclopentanecarboxylic acid; HO.C5H8.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.10M U K1=2.898 B2=5.26 1966PRb (47997) 261
K3=1.73
K4=1.23

C6H10O6 H2L CAS 23243-68-7 (242)
1,2-Bis(carboxymethoxy)ethane; HOOC.CH2.O.CH2.CH2.O.CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ oth NaClO4 25°C 0.10M U K1=4.77 1984AFa (48354) 262
Laser excitation spectroscopy, competition method.

Tb+++ gl NaClO4 25°C 1.00M C H K1=4.75 B2=7.90 1974GGa (48355) 263
B3=8.69
B(TbHL2)=9.74

C6H10O8 H2L Saccharic acid CAS 87-73-0 (1191)
D-2,3,4,5-Tetrahydroxy-1,6-hexanedioic acid, Glucaric acid; HOOC.(CHOH)4.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.10M U M K1=4.54 1997PPb (48488) 264
K(Tb(edta)+L)=4.08

C6H11NO5 H2L HIMDA CAS 93-62-9 (192)
N-(2-Hydroxyethyl)iminodiethanoic acid; HO.CH2.CH2.N(CH2.COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 20°C 1.00M U K1=8.22 B2=16.17 1974CMd (48794) 265
K(TbL2(OH)+H)=10.48

Tb+++ oth NaNO3 20°C 0.10M U M K1=9.0 B2=17.05 1966JMc (48795) 266
Method: paper electrophoresis. Ternary complexes with HEDTA

Tb+++ vlt KCl 25°C 0.10M U B2=16.42 1965DTa (48796) 267

Tb+++ ISE KNO3 25°C 0.10M U K1=9.08 B2=17.27 1963TLa (48797) 268

C6H12N2O4 H2L EDDA CAS 5657-17-0 (119)
1,2-Diaminoethane-N,N'-diethanoic acid; HOOC.CH2.NH.CH2.CH2.NH.CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 1.00M C H K1=8.26 B2=15.05 1974GGa (49272) 269
B(TbH2L)=17.65

Tb+++ gl KNO3 25°C 0.10M U K1=8.18 B2=14.70 1962THb (49273) 270

C6H12O2 HL CAS 142-62-1 (964)
Hexanoic acid; CH3.(CH2)4.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaCl 20°C 0.10M U K1=3.03 1986GKb (49428) 271

C6H12O3 HL DiEtGlycolic CAS 3639-21-2 (421)
2-Ethyl-2-hydroxybutanoic acid; (C2H5)2.C(OH).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ EMF NaClO4 25°C 1.0M U K1=3.01 B2=5.08 1965TVa (49466) 272
K3=1.37
K4=0.53

Method: quinhydrone electrode

C6H12O4 HL CAS 1112-33-0 (1246)
2,3-Dihydroxy-2,3-dimethylbutanoic acid; (CH3)2.C(OH).C(OH)(CH3).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M U K1=3.31 B2=5.88 1979PPa (49500) 273
K3=1.54

C6H12O7 HL Gluconic acid CAS 526-95-4 (904)
D-Gluconic acid, 2,3,4,5,6-Pentahydroxyhexanoic acid; HO.CH2(CHOH)4.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ EMF alc/w 25°C 50% U K1=4.68 1966KRb (49763) 274
Medium: 50% MeOH

Tb+++ gl KCl 25°C 0.20M U K1=2.34 B2=4.67 1963K0c (49764) 275

C6H13NO2 HL Leucine CAS 61-90-5 (47)
2-Amino-4-methylpentanoic acid; H2N.CH(CH2.CH(CH3)2)COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.20M U M K1=6.15 1990LSb (50109) 276
K(Tb(phen)+L)=5.99

C6H13NO2 HL Norleucine CAS 616-06-8 (602)
2-Aminoheptanoic acid (2-Aminocaproic acid) CH3.(CH2)3.CH(NH2).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 22°C 0.10M M K1=4.84 B2=9.38 1991DTa (50194) 277

C6H13NO4 HL Bicine CAS 150-25-4 (2124)
N,N-Bis(2-hydroxyethyl)glycine; (HO.CH2.CH2)2N.CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 20°C 0.10M U K1=5.43 B2=10.49 1982RFa (50409) 278

Tb+++ gl KCl 30°C 0.10M U K1=5.48 B2=9.20 1973MSe (50410) 279

Tb+++ gl alc/w 20°C 50% U I K1=6.69 1970KRa (50411) 280
Medium: 0-80% MeOH, 0.03 M KCl. K1(0%)=5.53, K1(20%)=6.1, K1(80%)=7.8

Tb+++ oth NaNO3 20°C 0.10M U K1=8.0 B2=14.30 1966JMc (50412) 281
Method: paper electrophoresis

C6H13N3O3 HL Citrulline (579)
2-Amino-5-ureidovaleic acid; H2N.CO.NH.CH2.CH2.CH2.CH(NH2).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaCl 37°C 0.15M U M K1=2.89 1997GMa (50588) 282
B(TbHL)=11.15
B(TbH2AL)=24.59

Ligand is DL-citrulline. HA is L-hydroxyproline.

C6H18N4 L Tren CAS 4097-89-6 (817)
2,2',2''-Triaminotriethylamine; (H2N.CH2.CH2)3N

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ ISE non-aq 25°C 100% C H K1=4.75 B2=5.95 1993CCb (52210) 283
Medium: DMSO, 0.1 M Et4NClO4. Method: Ag+ ISE. By calorimetry, DH(K1)=-45.2
kJ mol-1, DS=-61; DH(B2)=-69.0, DS=-118.

C7H5O2F HL CAS 456-22-4 (5710)
4-Fluorobenzoic acid; F.C6H4.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.10M C H K1=1.89 1986CLc (53262) 291
DH=9.6 kJ mol⁻¹, DS=68 J K⁻¹ mol⁻¹

C7H5O6BrS H2L (1626)
3-Bromo-5-sulfosalicylic acid; Br.C6H2(OH)(COOH).SO3H

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.10M C T 1993ALa (53376) 292
B(1,1,1)=12.42
B(1,0,1)=7.47
B(1,0,2)=12.61
B(1,-2,1)=-8.25

B(p,q,r); pTb+qH+rL=(Tb)pHqLr

C7H6O2 HL Tropolone CAS 533-75-5 (3129)
2-Hydroxycyclohepta-2,4,6-trien-1-one;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M U K1=7.15 B2=13.18 1969CMB (53693) 293
K3=4.82
K4=3.38

C7H6O2 HL Benzoic Acid CAS 65-85-0 (462)
Benzenecarboxylic acid; C6H5.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ cal NaClO4 25°C 0.10M U H K1=1.95 B2=3.65 1982CBc (53857) 294
DH1= 9.3 kJ mol⁻¹, DS1= 68 J K⁻¹ mol⁻¹

Tb+++ gl alc/w 25°C 99% U K1=6.70 B2=11.36 1974BPb (53858) 295
K3=2.76

C7H6O3 H2L Salicylic acid CAS 69-72-7 (14)
2-Hydroxybenzoic acid, Salicylic acid; HO.C6H4.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.1M C H 1996HYa (54301) 296
By calorimetry: DH(K1)=3.02 kJ mol⁻¹, DH(B2)=4.43 J K⁻¹ mol⁻¹

Tb+++ gl NaClO4 25°C 0.10M C T 1989HMa (54302) 297
K(Tb+HL)=1.95

K(TbHL+HL)=1.91

Tb+++ gl KNO3 25°C 0.10M U TIH T K1=10.11 1986NSa (54303) 298
B(TbAL)=15.69

H2A=phthalic acid. DH(TbAL)=-40.8 kJ mol⁻¹, DS=163.4 J K⁻¹ mol⁻¹

Tb+++ gl alc/w 25°C 100% U K1=6.15 B2=10.92 1973BPd (54304) 299
K3=3.42

Medium: 99.9% MeOH, 0.1 M NaCl

C7H6O3 H2L CAS 99-06-9 (1370)

3-Hydroxybenzoic acid; HO.C6H4.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.10M C 1988LLa (54389) 300
K(Tb+HL)=1.95

Tb+++ gl alc/w 25°C 99% U K1=6.78 B2=11.76 1974BPb (54390) 301
K3=3.55

C7H6O3 H2L CAS 99-96-7 (1371)

4-Hydroxybenzoic acid; HO.C6H4.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.10M C 1988LLa (54433) 302
K(Tb+HL)=2.15

Tb+++ gl alc/w 25°C 99% U K1=6.90 B2=12.04 1974BPb (54434) 303
K3=3.24

C7H6O4 H3L Protocatechuic CAS 99-50-3 (875)

3,4-Dihydroxybenzoic acid; C6H3(OH)2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.20M U K1=10.36 1998PJb (54702) 304

C7H6O6S H3L CAS 5965-83-3 (399)

5-Sulfosalicylic acid, 2-Hydroxy-5-sulfobenzoic; HO3S.C6H3(OH).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 20°C 0.10M U T K1=7.80 1982DBa (55049) 305

Tb+++ gl NaClO4 20°C 1.0M U K1=6.95 B2=12.86 1972CBb (55050) 306

Tb+++ sp NaClO4 20°C 0.10M U K1=8.42 B2=14.61 1968KTb (55051) 307
K(Tb+HL)=2.47

 C7H6O9S2 H3L CAS 56507-30-3 (2659)
 3,5-Disulfosalicylic acid; (HO3S)2.C6H2(OH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	NaClO4	25°C	0.50M	C	T		K1=8.74 B2=14.42	1976LAc (55102)	308

 C7H7NO2 HL Anthranilic CAS 118-92-3 (1589)
 2-Aminobenzoic acid, Anthranilic acid; H2N.C6H4.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	NaClO4	25°C	0.10M	C			K1=2.28 B2=4.40	1989HMa (55263)	309
Tb+++	gl	alc/w	25°C	100%	U			K1=7.25 B2=13.10 K3=3.06 K4=2.82	1973PBb (55264)	310

Medium: 99.9% MeOH, 0.1 M NaCl

Tb+++	gl	non-aq	25°C	100%	U			K1=7.25 B2=13.10 K3=3.06 K4=2.82	1970BBh (55265)	311
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Medium: MeOH, 0.1 M NaCl

 C7H7NO2 HL CAS 150-13-0 (1376)
 4-Aminobenzoic acid; H2N.C6H4.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	KCl	25°C	0.20M	U			K1=2.39	1977EBa (55394)	312

 C7H7NO3 H2L CAS 89-73-6 (204)
 2-Hydroxybenzohydroxamic acid (salicylhydroxamic acid); HO.C6H4.CO.NHOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	KNO3	25°C	0.1M	M			K1=11.49 B2=22.09 K3=10.02	1989LWa (55611)	313

 C7H7NO6S H3L CAS 6201-86-1 (7899)
 3-Amino-5-sulfosalicylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	KCl	25°C	0.20M	M	T H		K1=8.27 K(Tb+OH+L)=15.75	1991BPb (55695)	314

DH(K1)=-97 kJ mol⁻¹, DS(K1)=-163 J K⁻¹ mol⁻¹. DH(Tb(OH)L)=-250,
 DS(Tb(OH)L)=-533. Also data for 35, 45 and 55 C.

C7H8O2 H2L Methylcatechol CAS 452-86-8 (525)
1,2-Dihydroxy-4-methylbenzene; CH3.C6H3(OH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl mixed 25°C 50% U I K1=4.25 B2=8.22 1969BCb (56078) 315
Medium: 50% DMSO, 0.12 M NaClO4. In 50% dioxan, 0.12 M NaClO4: K1=5.51,
K2=4.49; 50% EtOH, 0.12 M NaClO4: K1=5.00, K2=3.78

C7H8O4 HL Methyl kojic CAS 1506-07-8 (2686)
3-Hydroxy-6-(hydroxymethyl)-2-methyl-4H-pyran-4-one;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp KCl 25°C 0.10M M I K1=6.55 1986PLb (56134) 316

C7H8O5 HL CAS 2029-29-4 (2687)
3-Hydroxy-2,6-bis(hydroxymethyl)-4H-pyran-4-one;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp KCl 25°C 0.10M M I K1=6.19 1986PLb (56153) 317

C7H10O4 H2L CAS 5802-62-3 (71)
Cyclopentane-1,1-dicarboxylic acid; C5H8.(COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M U K1=4.26 B2=6.78 1971PJb (56736) 318

C7H11NO4 H2L CAS 499-82-1 (3163)
Piperidine-2,6-dicarboxylic acid; C5H9N(COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M U K1=6.16 B2=11.59 1963THb (56813) 319

C7H11NO6 H3L MNTA (1026)
Nitrilo(2-propanoic)-diethanoic acid; HOOC.CH(CH3).N(CH2.COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 20°C 0.10M U K1=12.26 B2=21.89 1974RMg (56919) 320

C7H12O3 HL CAS 609-69-8 (3731)
2-Hydroxycyclohexanecarboxylic acid; HO.C6H10.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 1.0M U K1=2.25 B2=4.26 1967STd (57268) 321

C7H12O4 H2L CAS 510-20-3 (482)
Diethylpropanedioic acid (Diethylmalonic acid); HOOC.C(C2H5)2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	KNO3	25°C	0.10M	U			K1=4.63 B2=7.24	1968PFa (57372)	322

C7H12O6 HL Quinic acid CAS 77-95-2 (2578)
1,3,4,5-Tetrahydroxycyclohexane-1-carboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	EMF	NaClO4	25°C	1.0M	U			K1=2.68 B2=4.73 K3=1.50 K4=0.84	19670Ta (57412)	323

Method: quinhydrone electrode

C7H13NO6 H2L CAS 32013-58-4 (6079)
N-(2,3-Dihydroxypropyl)iminodiethanoic acid; HO.CH2.CH(OH).CH2.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	KNO3	20°C	0.10M	U			K1=8.70 B2=16.63	1980RPa (57620)	324

C7H14O3 HL CAS 65311-45-1 (6266)
3-Hydroxy-3,4-dimethyl-pentanoic acid; CH3.CH2.C(OH)(CH3).CH(CH3).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	NaClO4	25°C	0.10M	C			K1=2.81 B2=4.60	1976SPa (57880)	325

C7H15NO4 HL CAS 41244-51-3 (4459)
N,N-Bis(2'-hydroxyethyl)alanine; (HO.CH2.CH2)2.N.CH(CH3)COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	KNO3	20°C	0.10M	U			K1=5.28 B2=10.04	1982RFa (57943)	326

C8H5N5O6 H3L Murexide (453)
Purpuric acid (Murexide is ammonium salt);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	sp	NaNO3	25°C	0.10M	U			K1=3.87	19850Ha (58538)	327
Tb+++	sp	NaClO4	30°C	0.10M	C			K1eff=5.016	1978BKd (58539)	328

Medium pH 5.4 (acetate).

Tb+++ sp alc/w 12°C 50% U 1972BLa (58540) 329
K(Tb+H2L)=4.68

Medium: 50% EtOH, 0.1 M NaClO4

Tb+++ sp KNO3 12°C 0.10M U 1965GEa (58541) 330
K(Tb+H2L)=3.95

C8H5O2F3S HL TTA CAS 326-91-0 (165)
4,4,4-Trifluoro-1-(2-thienyl)butane-1,3-dione; F3C.CO.CH2.CO.C4H3S

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ cal non-aq 25°C 100% C H 2004MIa (58680) 331
Method: calorimetric titration. Medium: chloroform. DH(TbL3+A)=8.0 kJ
mol-1, DS=84 J K-1 mol-1; DH(TbL3+2A)=5.5, DS=124. HA is benzoic acid.

Tb+++ gl alc/w 22°C 80% U K1=6.43 B2=12.08 1995MTa (58681) 332
K3=4.71

Medium: 0.1 M NaClO4 in 80% (v/v) EtOH/H2O.

Tb+++ gl mixed 25°C 50% U K1=5.85 1980SBc (58682) 333
Medium: 50% MeCN

C8H6O4 H2L Phthalic acid CAS 88-99-3 (113)
Benzene-1,2-dicarboxylic acid; C6H4(COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M U K1=4.17 B2=7.42 1986NSa (59017) 334

Tb+++ gl NaClO4 30°C 0.10M U K1=4.06 B2=7.15 1966KPb (59018) 335

C8H6O4 H2L Isophthalic aci CAS 212-91-5 (1619)
Benzene-1,3-dicarboxylic acid; C6H4(COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ cal NaClO4 25°C 0.10M U H K1=2.64 1982CBc (59061) 336
DH= 12.77 kJ mol-1, DS= 93 J K-1 mol-1

C8H7NO2 HL CAS 532-54-7 (4363)
Isonitrosoacetophenone, Phenylglyoxal 2-oxime;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 20°C 50% U K1=6.14 B2=11.65 1971MAf (59108) 337

Medium: 50% v/v dioxan, 0.1 M NaClO4

C8H7NO3 HL (7376)
benzoylhydroxamic acid; C6H5COCONHOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.1M M K1=10.25 B2=19.67 1989LWa (59129) 338
K3=9.50

C8H7O2Cl HL CAS 1450-74-4 (6325)
2-Hydroxy-5-chloro-acetophenone; Cl(HO)C6H3.CO.CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl alc/w 25°C 20% M TIH K1=6.275 2000KDa (59223) 339
K(Tb(egta)+L)=3.485

Medium contains 0.1 M NaNO3. Data for 0.05, 0.15 M NaNO3 and 35 and 45 C.
At I=0, K1=6.492, K(Tb(egta)+L)=3.652. DH(Tb(egta)L)=-15.9 kJ mol-1.

C8H8N2O2 HL Phenylglyoxime (3222)
Phenylglyoxime; C6H5.C(:N.OH).CH:N.OH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 20°C 50% U K1=7.12 B2=13.35 1971MAF (59343) 340
Medium: 50% dioxan, 0.1 M NaClO4

C8H8N4OS L (6097)
2-Acetylpyridinethiosemicarbazone; C5H4N.CO.CH:N.NH.CS.NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl alc/w 25°C 75% C I K1=7.81 B2=15.20 1988GSa (59413) 341
In 75%(v/v) ethanol/water; 0.1 M NaClO4. I=0.2 M: K1=7.86, K2=7.25;
I=0.05 M: K1=8.06, K2=7.43; I=0.02 M: K1=8.06, K2=7.67

C8H8O2 HL 2-Acetylphenol CAS 118-93-4 (1888)
2-Hydroxyacetophenone; HO.C6H4.CO.CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl alc/w 25°C 20% M TIH K1=6.615 2000KDa (59471) 342
K(Tb(egta)+L)=4.484

Medium contains 0.1 M NaNO3. Data for 0.05, 0.15 M NaNO3 and 35 and 45 C.
At I=0, K1=6.840, K(Tb(egta)+L)=4.688. DH(Tb(egta)L)=-19.4 kJ mol-1.

C8H8O2 HL Phenylacetic CAS 103-82-2 (1361)
Phenylethanoic acid; C6H5.CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.1M C H K1=1.82 1996HYa (59564) 343
By calorimetry: DH(K1)=14.86 kJ mol-1

Tb+++ gl NaClO4 25°C 0.10M C H K1=1.82 1990HYa (59565) 344
By calorimetry: DH(K1)=14.8 J K-1 mol-1

C8H8O3 H2L CAS 490-78-8 (6324)
2,5-Dihydroxyacetophenone; (HO)2C6H3.CO.CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl alc/w 25°C 20% M TIH K1=6.429 2000KDa (59684) 345
K(Tb(egta)+L)=4.661

Medium contains 0.1 M NaNO3. Data for 0.05, 0.15 M NaNO3 and 35 and 45 C.
At I=0, K1=6.632, K(Tb(egta)+L)=4.885. DH(Tb(egta)L)=-18.9 kJ mol-1.

C8H8O3 HL o-Anisic acid CAS 579-75-9 (2337)
2-Methoxybenzoic acid; CH3O.C6H4.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.10M M H K1=1.93 1988CLb (59753) 346
DH=9.03 kJ mol-1, DS=67 J K-1 mol-1

Tb+++ gl alc/w 25°C 42% U K1=3.0 1983PMa (59754) 347

C8H8O3 HL Mandelic Acid CAS 611-72-3 (80)
2-Phenyl-2-hydroxyethanoic acid; C6H5.CH(OH).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.10M C K1=3.01 B2=5.25 1989HMa (59876) 348

Tb+++ gl NaClO4 25°C 2.0M U T K1=2.52 1972DCb (59877) 349

C8H8O3 HL m-Anisic acid CAS 586-38-9 (2804)
3-Methoxybenzoic acid; CH3O.C6H4.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.10M M H K1=2.02 1988CLb (59919) 350
DH=11.2 kJ mol-1, DS=76 J K-1 mol-1

C8H8O3 HL p-Anisic acid CAS 100-09-4 (1373)
4-Methoxybenzoic acid; CH3O.C6H4.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.10M M H K1=2.00 1988CLb (59964) 351
DH=11.2 kJ mol-1, DS=76 J K-1 mol-1

C8H8O4 HL CAS 520-45-6 (4478)

3-Acetyl-2-hydroxy-6-methylpyran-4-one, Dehydroethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	diox/w	35°C	50%	U			K1=4.63 B2=8.45	1971MAa (60098)	352
Medium: 50% dioxan, 0.1 M NaClO4										

C8H9NO4		H2L						(4520)		
Dehydroethanoic acid oxime;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	diox/w	35°C	50%	U			K(Tb+HL)=4.45 K(Tb+2HL)=8.08	1971MAa (60504)	353
Medium: 50% dioxan, 0.1 M NaClO4										

C8H9N3O2		L						CAS 7254-31-4 (1266)		
Acylnicotinoyl hydrazide; C5H4N.CO.NH.NH.CO.CH3										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	NaClO4	25°C	0.10M	U			K1=13.85 B2=24.95	1980ZMa (60573)	354

C8H10N6O2S2		H2L						(2746)		
2,5-Dihydroxybenzoquinone bis-thiosemicarbazone;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	diox/w	30°C	50%	C	TIH		K1=5.89 B2=11.53	1989GDa (60820)	355
DH(K1)=-147.28 kJ mol-1										

C8H10O4		L						CAS 34241-51-5 (5701)		
3-Acetyl-6-methylhydropyrane-2,4-dione;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	alc/w	22°C	20%	U			K1=4.61 B2=8.10 K3=3.12	1988ZTa (60855)	356

C8H10O5		H2L						CAS 145-73-7 (138)		
7-Oxa-bicyclo[2.2.1]-heptan-2,3-dicarboxylic acid;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	KCl	30°C	0.10M	C			K1=5.90 B2=10.05	1996SZa (60876)	357
For the -5-en-2-exo isomer, K1=6.23, B2=11.01.										

C8H11NO8		H4L						CAS 7408-20-0 (2608)		
Amino-di(butanedioic acid);HN(CH(COOH)CH2.COOH)2										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	KCl	25°C	0.10M	U			K1=11.95 B2=18.34 B(TbHL)=15.98	1979BEb (61218)	358

C8H12N2O3		H2L						Barbital	CAS 57-44-3 (2744)	
5,5-Diethylbarbituric acid, Veronal, Barbitone;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	oth/un	25°C	0.10M	U			K1=2.929	1987TSb (61443)	359

C8H12N2O8		H4L						CAS 35039-85-1 (4537)		
1,2-Diaminoethane-N,N'-dimalonic acid; (HOOC)2.CH.NH.CH2.CH2.NH.CH(COOH)2										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	KNO3	20°C	0.10M	U			K1=12.53 B2=17.37	1975DPa (61525)	360

Tb+++	gl	KNO3	25°C	0.10M	U			K1=11.44	1972GBd (61526)	361
By polarography K1=11.33										

C8H12O4		H2L						CAS 1076-97-9 (2224)		
Cyclohexane-1,4-dicarboxylic acid; C6H10.(COOH)2										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	NaClO4	25°C	0.10M	M	H		K1=4.34	1986CDb (61716)	362
DH=17.1 kJ mol ⁻¹ , DS=141 J K ⁻¹ mol ⁻¹										

C8H13NO6		H3L						(3835)		
2-Amino-2-carboxypropane-N,N-diethanoic acid; HOCC(CH3)2N(CH2COOH)2										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	KNO3	20°C	0.10M	U			K1=9.62 B2=17.02	1974RMg (61771)	363

C8H13NO6		H3L						(5681)		
2-Aminobutanoic-N,N-diethanoic acid; CH3CH2CH(COOH)N(CH2COOH)2										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	KNO3	20°C	0.10M	U			K1=11.29 B2=19.95	1974RMg (61796)	364

C8H16O4		L						12-Crown-4	CAS 294-93-9 (174)	
1,4,7,10-Tetraoxacyclododecane; cyclo(-0.(CH2.CH2.0)3.CH2.CH2-)										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo

Tb+++ ISE non-aq 25°C 100% U K1=5.15 B2=6.09 1982MDa (62729) 365
Medium: propylene carbonate

C8H18N2O10P2 H6L CAS 2310-83-0 (5667)
1,2-Diaminoethane-N,N-diethanoic-N',N'-dimethylphosphonic acid;
(HOOC.CH2)2NCH2CH2N(CH2.PO3H2)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ g1 KNO3 25°C 0.10M U K(Tb+H2L)=7.50 1976TIa (62921) 366

C8H18O4 L Triglyme CAS 112-49-2 (2358)
1,2-Bis(methoxyethoxy)ethane; CH3O.C2H4O.CH2.CH2.OC2H4.OCH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ g1 non-aq 25°C 100% C K1=3.90 1989BPa (62998) 367
Medium: anhydrous propylene carbonate, 0.1 M Et4NClO4

C9H5NOI2 HL CAS 83-73-8 (3280)
5,7-Di-iodo-8-hydroxyquinoline;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ g1 diox/w 35°C 75% U K1=7.10 B2=13.05 1971MAb (63571) 368
K3=5.35

Medium: 75% v/v dioxan, 0.1 M NaClO4

C9H6NO4BrS H2L CAS 3062-37-1 (3889)
7-Bromo-8-hydroxyquinoline-5-sulfonic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ g1 NaClO4 25°C 0.10M U K1=5.32 B2=10.09 1973MAa (63704) 369
K3=4.1

C9H6NO4IS H2L Ferron CAS 547-91-1 (275)
7-Iodo-8-hydroxyquinoline-5-sulfonic acid; (HO)(HO3S)C9H4NI

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ g1 NaClO4 25°C 0.10M U I K1=5.67 B2=10.72 1987BCd (63829) 370
B3=15.30

Data also in 42% MeOH, 51.1% EtOH, 61.4% dioxan

Tb+++ g1 oth/un 20°C 0.10M U K1=6.29 1977SKd (63830) 371

C9H6O6 H3L Hemimellitic ac CAS 569-51-7 (1621)
1,2,3-Benzenetricarboxylic acid; C6H3.(COOH)3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.10M U H K1=4.92 1994CRa (63977) 372
K(Tb+HL)=2.77

DH(K1)=20.3 kJ mol⁻¹; DS=162 J K⁻¹ mol⁻¹

C9H7NO HL Oxine CAS 148-24-3 (504)
8-Hydroxyquinoline (8-quinolinol);

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M U TIH K1=7.48 B2=13.92 1986NSa (64352) 373
B(TbAL)=15.96

H2A=phthalic acid. DH(TbAL)=-60.4 kJ mol⁻¹, DS=103.0 J K⁻¹ mol⁻¹

Tb+++ sol none RT 0.0 U 1981FCa (64353) 374
Kso(TbL3)=-32.09

Method: spectrophotometry.

Tb+++ gl oth/un 20°C 0.10M U K1=7.25 1977SKd (64354) 375

C9H7NO4S H2L Sulfoxine CAS 84-88-8 (448)
8-Hydroxyquinoline-5-sulfonic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ cal KNO3 20°C 0.10M U HM K(TbA+L)=4.50 1971GKb (64581) 376

DH(TbA+L)=-23.03 kJ mol⁻¹, DS=7.52 J K⁻¹ mol⁻¹

DH(TbAL): DH=-27.67, DS=334.4. H4A=EDTA

C9H7N3O2S H2L TAR CAS 2246-46-0 (707)
4-(2'-Thiazolylazo)-resorcinol; C3H2NS.N:N.C6H3(OH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp NaNO3 25°C 0.10M C K1=8.10 1985OHb (64728) 377
K(Tb+HL)=4.71
K(TbL+H)=6.05

C9H8N2O4 HL (6786)
4-Oxo-5-hydroxylamino-7-methyl-4H-pyrano(2,3-b)pyridine-8-oxide;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl mixed 25°C 50% M K1=3.76 B2=6.75 1991CCc (64819) 378
Medium:1:1 DMF-water;0.1 M NaClO4

C9H8O4 H2L CAS 15872-28-3 (8407)

Bicyclo[2.2.1]hepta-2,5-diene-2,3-dicarboxylic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 30°C 0.10M U K1=4.35 B2= 8.02 1996SZa (64982) 379

C9H1003 HL CAS 1878-49-5 (1600)
2-Phenyl-2-methoxyethanoic acid; C6H5.CH(OCH3)COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaCl04 25°C 0.10M C K1=2.19 B2=3.97 1989HMa (65467) 380

C9H1003 HL Tropic acid CAS 529-64-6 (1601)
2-Phenyl-3-hydroxypropanoic acid; HO.CH2.CH(COOH)C6H5

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaCl04 25°C 0.10M C K1=2.07 B2=4.00 1989HMa (65481) 381

C9H1004 H2L (7232)
Bicyclo[2.2.1]hept-5-en-2-endo,3-cis-dicarboxylic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 30°C 0.10M C K1=4.16 B2=7.09 1996SZa (65578) 382
For the -2,5-dien-2-exo isomer, K1=4.35, B2=8.02.

C9H1004 H2L CAS 3853-88-1 (5687)
endo-cis-Bicyclo-[2,2,1]-5-hepten-2,3-dicarboxylic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaCl04 24°C 0.10M U K1=4.39 B2= 8.02 1986ZBa (65593) 383
K(Tb+HL)=1.48

C9H1005 H2L CAS 54384-22-4 (8406)
1-Methyl-(exo,exo)-7-oxabicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 30°C 0.10M U K1=5.02 B2= 8.02 1996SZa (65610) 384

C9H1005 H2L (7233)
1-Methyl-7-oxa-bicyclo[2.2.1]hept-5-en-2-exo,3-cis-dicarboxylic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 30°C 0.10M C K1=5.02 B2=8.02 1996SZa (65625) 385

C9H10O8 H4L CAS 3724-52-5 (1264)
cis-1,2,3,4-Cyclopentanetetracarboxylic acid; C5H6.(COOH)4

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaCl04 30°C 0.20M U T K1=10.55 1979NSb (65651) 386
K1=10.67 when T=40.
K1=10.85 when T=50.

C9H11NO2 HL Phenylalanine CAS 63-91-2 (2)
2-Amino-3-phenylpropanoic acid; H2N.CH(CH2.C6H5)COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaCl 25°C 0.15M U H K1=3.61 1992ZNa (65976) 387
By calorimetry: DH(K1)=3.35 kJ mol⁻¹, DS(K1)=80.37 J K⁻¹ mol⁻¹.

Tb+++ gl KCl 25°C 0.10M U K1=4.3 B2=7.80 1972BFe (65977) 388

C9H11NO3 H2L Tyrosine CAS 60-18-4 (4)
2-Amino-3-(4-hydroxyphenyl)propanoic acid; HO.C6H4.CH2.CH(NH2).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 25°C 0.10M U K(Tb+HL)=4.35
K(TbHL+HL)=4.3

C9H12N2O10 H5L CAS 80921-06-8 (2924)
2,3-Diaminopropanoic-N,N'-di-1,3-propanedioic acid;
(HOOC)2CH.NH.CH(COOH).CH2.NH.CH(COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ ISE KNO3 25°C 0.10M U K1=12.52 1983KBd (66747) 390
Hg-electrode.

C9H13NO6 H3L (3881)
2,6-Dicarboxypiperidyl-N-ethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M U K1=10.85 B2=18.89 1968TKe (66895) 391

C9H15NO6 H3L (7177)
2-Aminopentanoic-N,N-diethanoic acid; C3H7C(COOH)N(CH2COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 20°C 0.10M U K1=11.05 B2=19.54 1974RMg (67415) 392

C9H16N2O6 H3L MEDTA CAS 40423-02-7 (5717)
N-Methyldiaminoethane-N,N',N'-triethanoic acid; HOOC.CH2.N(CH3)CH2.CH2.N(CH2.COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ cal NaClO4 25°C 0.50M M IH K1=12.93 1986RCa (67645) 393
DH=-10.1 kJ mol⁻¹, DS=214 J K⁻¹ mol⁻¹

C9H16O4 H2L CAS 1636-27-7 (485)
Dipropylpropanedioic acid (Di-n-propylmalonic acid);

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M U K1=4.73 B2=7.48 1968PFa (67779) 394

C10H5O2F7S L (6996)
1-(2-Thienyl)-3-heptafluoropropylpropane-1,3-dione; C3F7.C(=O)CH2C(=O)C4H3S

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl alc/w 22°C 80% U K1=6.22 B2=11.73 1995MTa (68434) 395
K3=5.13

Medium: 0.1 M NaClO4 in 80% (v/v) EtOH/H2O.

C10H6O8 H4L Pyromellitic Ac CAS 89-05-4 (519)
Benzene-1,2,4,5-tetracarboxylic acid; C6H2.(COOH)4

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.10M U H K1=4.75 1994CRa (68530) 396
K(Tb+HL)=3.77

DH(K1)=24.2 kJ mol⁻¹, DS=172 J K⁻¹ mol⁻¹; DH(Tb+HL)=9.1, DS=103

C10H7NO2 HL CAS 131-91-9 (2668)
1-Nitroso-2-naphthol, alpha-Nitroso-beta-naphthol;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp KCl 25°C 0.10M M I K1=4.34 1976PEa (68593) 397

C10H7NO2 HL CAS 132-53-6 (2524)
2-Nitroso-1-naphthol;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M U K1=5.81 B2=11.08 1982LPc (68661) 398

C10H7NO5S H2L CAS 14090-74-5 (2676)
1-Nitroso-2-hydroxynaphthalene-7-sulfonic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 25°C 0.10M M K1=4.42 1979LSb (68819) 399

C10H7NO5S H2L (4766)
1-Nitroso-2-hydroxynaphthalene-6-sulfonic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp KCl 25°C 0.10M C K1=4.42 1973PMb (68855) 400

C10H7NO5S H2L CAS 31005-79-9 (1814)
2-Nitroso-1-hydroxynaphthalene-8-sulfonic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp KCl 25°C 0.10M M K1=5.33 1978PPb (68952) 401

C10H7NO8S2 H3L CAS 52664-45-6 (1627)
2-Nitroso-1-hydroxynaphthalene-4,6-disulfonic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaCl 25°C 0.10M U K1=3.480 B2=6.135 1974SAa (69055) 402

C10H7NO8S2 H3L CAS 50332-99-3 (1628)
2-Nitroso-1-hydroxynaphthalene-4,7-disulfonic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaCl 25°C 0.10M U K1=3.651 B2=6.194 1974SAa (69065) 403

C10H7N5O5 HL CAS 102964-51-2 (6212)
5-(2'-Nitrophenylazo)barbituric acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 25°C 75% U K1=5.25 B2=10.24 1986MIa (69102) 404

C10H7O2F3 HL CAS 326-06-7 (196)
3-Benzoyl-1,1,1-trifluoroacetone; CF3.CO.CH2.CO.C6H5

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl alc/w 22°C 80% U K1=6.93 B2=12.61 1995MTa (69163) 405
K3=5.56
Medium: 0.1 M NaClO4 in 80% (v/v) EtOH/H2O.

C10H8N2 L 2,2'-Bipyridyl CAS 366-18-7 (25)

2,2'-Bipyridine; (C5H4N)2

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Tb+++      sp non-aq 25°C 100% C T      K1=2.70      2005SYa (69649) 406
In ethylacetate; At 50 C K1=2.36
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Tb+++      gl KNO3   25°C 0.10M U TIH      K1=4.29      B2=7.26      1986NSa (69650) 407
                                           B(TbAL)=11.44
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H2A=phthalic acid. DH(TbAL)=-46.4 kJ mol⁻¹, DS=63.4 J K⁻¹ mol⁻¹

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C10H8N4O3      HL      CAS 43168-60-1 (6209)
5-Phenylazobarbituric acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++      gl diox/w 25°C 75% U      K1=5.74      B2=11.10     1986MIa (69736) 408
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```
C10H8O2      H2L      CAS 92-44-4 (1658)
2,3-Dihydroxynaphthalene;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++      gl NaClO4 20°C 0.10M U      M      1973PAc (69779) 409
                                           K(TbA+L)=7.71, H4A=EDTA
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C10H8O5S      H3L      DHNSA      (877)
2,3-Dihydroxynaphthalene-6-sulfonic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++      gl NaClO4 25°C 0.50M C      K1=10.20     B2=18.10     1976LAd (69863) 410
                                           B(TbHL2)=25.04
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C10H8O8S2      H4L      Chromotropic ac CAS 148-25-4 (1875)
1,8-Dihydroxynaphthalene-3,6-disulfonic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++      gl KCl    25°C 0.10M M I      1974MLa (69968) 411
                                           K(Tb+HL)=2.41
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C10H9NO4S      H2L      CAS 29021-67-8 (3926)
2-Methyl-8-hydroxyquinoline-5-sulfonic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++      gl NaClO4 30°C 0.10M U TI      K1=5.46      B2=10.52     1988BCd (70203) 412
                                           B3=14.50
in 42.5% MeOH-water: K1=6.41, B2=12.33, B3=16.93
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51.8% EtOH-water: K1=6.83, B2=12.91, B3=17.70

C10H9N3OS HL CAS 60321-26-8 (4671)
2-(2-Thiazolylazo)methylphenol; C3H2NS.N:N.C6H3(CH3)OH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp diox/w 25°C 10% U K1=9.65 1973KSd (70367) 413
Medium: 10% dioxan, 0.1 M KNO3

C10H10O2 HL Benzoylacetone CAS 93-91-4 (197)
1-Phenylbutane-1,3-dione; C6H5.CO.CH2.CO.CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl alc/w 25°C 80% U K1=8.27 B2=14.71 1967DZa (70776) 414
K3=4.41

Medium: 80% MeOH, 0.1 M NaCl

Tb+++ gl alc/w 24°C 80% U K1=8.27 B2=14.71 1967DZb (70777) 415
K3 = 4.41

Medium: 80% v/v MeOH/H2O, 0.1 M NaCl

C10H10O6 H2L CAS 5411-14-3 (2394)
1,2-Phenylenedioxodiethanoic acid; C6H4(O.CH2.CO.OH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.10M M K1=4.30 B2=6.65 1977HCb (70861) 416

C10H11NO3 HL (1960)
N-Hydroxyacetoacetanilide; CH3.CO.CH2.CO.N(OH).C6H5

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 20°C 82% U K1=7.14 B2=13.28 1979KSb (70945) 417
K3=5.97

C10H11N5O L CAS 105507-56-0 (8131)
N-Methylisatin-beta-amidinohydrazone;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 30°C 50% C TIH K1=5.89 B2=10.28 1986SGc (71096) 418
Medium: 50% v/v dioxan/H2O, 0.10 M NaClO4. Data for 0.02-0.20 M NaClO4

and 30-50 C. DH(K1)=55.5 kJ mol⁻¹, DS=296 J K⁻¹ mol⁻¹; DH(K2)=58.4, DS=277

C10H11O2F7 HL CAS 17587-22-3 (1252)
1,1,1,2,2,3,3-Heptafluoro-7,7-dimethyl-4,6-octanedione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	dis	R4N.X	25°C	0.10M	U		B2=13.4 B3=19.4 B(TbL3(OH))=24.9	1970SBa (71116)	419

Medium: Et4NClO4

C10H12N2O4 H2L CAS 16598-05-3 (967)
2-Pyridylmethyliminodiethanoic acid; C5H4N.CH2.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	KNO3	25°C	0.10M	U		K1=8.87 B2=17.04	1964THa (71276)	420
C10H12O2		HL					CAS 1946-74-3 (202)		
3-Isopropyltropolone;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	alc/w	24°C	80%	U		K1=9.1 B2=16.70 K3=6.3 K4=4.9	1968DZb (71607)	421

Medium: 80% MeOH, 0.1 M NaCl

C10H12O4 HL CAS 5936-18-9 (2743)
2-Hydroxy-3,4-dimethoxyacetophenone; (HO)(CH3)2C6H2.CO.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	diox/w	15°C	50%	C T H		K1=9.21 B2=16.85	1987GBa (71658)	422
K1(35, 40, 50 C) = 7.86, 7.80, 7.68 respectively. DH(K1)=-29.41 kJ mol ⁻¹									
C10H16N2O8		H4L		EDDS			CAS 52759-67-8 (1100)		
1,2-Diaminoethane-N,N'-di-1,4-butanedioic acid; (CH2.NH.CH(COOH)CH2.COOH)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	KCl	25°C	0.10M	U		K1=13.04 K(Tb+HL)=6.67	1980MMe (73185)	423

Tb+++	gl	KNO3	20°C	0.10M	U		K1=13.72	1975DPa (73186)	424
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Tb+++	vlt	KNO3	25°C	0.10M	U		K1=13.51	1971BGb (73187)	425
C10H16N2O8		H4L		EDTA			CAS 60-00-4 (120)		
1,2-Diaminoethane-N,N,N',N'-tetraethanoic acid, Sequestric acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	KCl	25°C	1.0M	U			1984BKc (74192)	426

$$K(\text{TbL}+\text{H})=0.90$$

Tb+++ gl NaClO4 20°C 0.02M U M 1982MPd (74193) 427
 $K(\text{TbL}+\text{PO}_4)=3.52$

Tb+++ vlt KNO3 20°C 0.10M U K1=18.09 1978NLb (74194) 428

Tb+++ gl NaClO4 25°C 0.50M U K1=16.59 1977GGb (74195) 429

Tb+++ gl KCl 25°C 1.00M U K2=3.35 1976BKa (74196) 430
 $K(\text{TbL}+\text{HL})=2.30$
 $K(2\text{TbL}+\text{L})=6.23$

Tb+++ sp KCl 25°C 0.10M U K2=3.35 1975BKa (74197) 431
 $K(2\text{TbL}+\text{L})=6.23$
 $K(\text{TbL}+\text{HL})=2.30$

Tb+++ EMF KCl 25°C 0.10M U T 1974BKb (74198) 432
 $K(\text{TbL}+\text{H})=1.2$

Tb+++ gl KCl 25°C 1.0M C K2=3.35 1974BKe (74199) 433
 $K(\text{TbL}+\text{HL})=2.30$
 $K(2\text{TbL}+\text{L}=\text{Tb}_2\text{L}_3)=6.23$

Tb+++ gl KNO3 25°C 0.10M U T M 1973TRb (74200) 434
 $K(\text{TbL}+\text{HA})=3.95$
 $K(\text{TbL}+\text{A})=5.54$

$K(\text{TbL}+\text{HA})(2\text{ C})=4.20$, $K(35\text{ C})=4.01$, $K(45\text{ C})=3.82$, $K(\text{TbL}+\text{A})(2\text{ C})=5.85$,
 $K(35\text{ C})=5.41$, $K(45\text{ C})=5.32$, H5A=tripolyphosphoric acid

Tb+++ gl KNO3 25°C 0.10M U T M 1973TRb (74201) 435
 $K(\text{TbL}+\text{A})=5.4$

$K(2\text{ C})=5.5$, $K(35\text{ C})=5.3$, $K(45\text{ C})=5.2$, H4A=adenosine triphosphate

Tb+++ sp KCl 25°C 0.10M U 1972BKb (74202) 436
 $K(\text{TbL}+\text{H})=1.78$

Tb+++ cal KNO3 20°C 0.10M U 1971GKb (74203) 437
 $K(\text{TbL}(\text{H}_2\text{O})_x=\text{TbL}(\text{H}_2\text{O})_{x-1}+\text{H}_2\text{O})=1.0$

Tb+++ gl NaClO4 25°C 0.10M U M 1969AIb (74204) 438
 $K(\text{TbL}+\text{A})=7.18$, H4A=tiron

Tb+++ dis oth/un 25°C ? U K1=17.29 1969PJa (74205) 439
 Method: paper electrophoresis. Medium: pH=1.86

Tb+++ ix KCl 25°C 0.10M U H K1=17.32 1959BDb (74206) 440
 $\text{DH}(K_1)=6.3\text{ kJ mol}^{-1}$, $\text{DS}=353\text{ J K}^{-1}\text{ mol}^{-1}$

Tb+++ gl oth/un 20°C 0.01M U K1=17.67 1955WSa (74207) 441

Polarography also used

Tb+++ gl KCl 20°C 0.10M U I T K1=17.6 1954SGa (74208) 442
By polarography, 0.1 M KNO3, K1=17.81 or 17.93

Tb+++ gl KCl 20°C 0.10M U I T K1=17.25 1953WSa (74209) 443
By polarography K1=17.4. In 0.1 M KNO3 K1=17.38

C10H16N5O13P3 H4L ATP CAS 56-65-5 (403)
Adenosine-5'-triphosphoric acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 20°C 0.20M U T H K1=7.34 B2=11.27 1993VLa (74829) 444
K(Tb(nta)+L)=4.50
K(Tb(edta)+L)=4.22

Data for 30, 40 C. DH(K1)=18.2 kJ mol⁻¹, DS(K1)=203 J K⁻¹ mol⁻¹. DH(K2)=
25.9, DS(K2)=164; DH(Tb(nta)+L)=18.2, DS=144; DH(Tb(edta)+L)=19.1, DS=146.

Tb+++ kin oth/un 25°C 0.05M C K1=7.03 1983Mcc (74830) 445
Method: inhibition of the hexokinase reaction, pH 8.0 (0.05 M TAPS).

Tb+++ gl KNO3 35°C 0.10M U M K(Tb(EDTA)+L)=5.3 1972TRc (74831) 446

C10H17N3O6S H3L Glutathione CAS 70-18-8 (333)
Glutamyl-cysteinyglycine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.10M U TIH K1=7.391 2003GSb (75146) 447
Values for 0.05-0.2 M NaClO4, 15-45 C and 10-30% MeOH/H2O, 20% EtOH/H2O,
20% DMF/H2O. At I=0, K1=8.300. DH(K1)=-37.1 kJ mol⁻¹, DS(K1)=-34.

C10H18N2O7 H3L HEDTA CAS 150-39-0 (392)
N-(Hydroxyethyl)diaminoethane-N,N',N'-triethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.50M U K1=14.82 1977GGb (75505) 448

Tb+++ EMF KCl 25°C 1.0M U K2=4.06 1977GMa (75506) 449
K(TbL+HL)=2.42
K(TbL+H4L)=1.96

Method: Pt/H2 electrode.

Tb+++ EMF KCl 25°C 1.0M U M K(Tb(edta)+L)=3.28 1977GMa (75507) 450
K(Tb(edta)+HL)=2.02
K(Tb(edta)+H2L)=1.29

Method: Pt/H2 electrode.

Tb+++ gl NaClO4 20°C 0.10M U 1974PJa (75508) 451
 K(TbL+A)=3.58
 K(TbL+B)=3.72
 HA=pentane-2,4-dione, B=1-phenylbutane-1,3-dione

Tb+++ gl NaClO4 25°C 1.0M U 1973NMa (75509) 452
 K2=3.27
 K(TbL+HL)=2.43
 K(TbL+H3L)=0.97

Tb+++ gl oth/un 20°C ? U 1971MNa (75510) 453
 K(TbL+H3L)=0.31
 K(TbL+H2L)=0.41
 K(TbL+HL)=2.16
 K(TbL+L)=3.46

Tb+++ gl KNO3 25°C 0.10M U M 1963TLb (75511) 454
 K(TbL+A)=5.18
 K(TbL+B)=4.73
 H2L=iminodiethanoic acid, H2B=hydroxyiminodiethanoic acid

Tb+++ EMF oth/un 20°C 0.10M U K1=15.55 1962PMa (75512) 455

Tb+++ gl KNO3 15°C 0.10M U T H K1=15.47 1961MFb (75513) 456
 K1=15.41(20 C), 15.32(25 C), 15.28(30 C), 15.34(35 C), 15.23(40 C)
 DH(K1)=-14.2 kJ mol⁻¹(25 C), DS=246 J K⁻¹ mol⁻¹

Tb+++ gl KNO3 25°C 0.10M U K1=15.1 1956SPa (75514) 457

 C10H20N2O4 H2L (4753)
 N,N'-Diethylethylenedinitrilo-N,N'-diethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M U K1=7.0 1973PSb (75785) 458

 C10H20O5 L 15-Crown-5 CAS 33100-27-5 (576)
 1,4,7,10,13-Pentaoxacyclopentadecane; cyclo(-(O.CH2.CH2)5-)

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ dis non-aq 25°C 100% U B2=7.91 1990NIa (76135) 459
 B2=extraction eq.constant: M+3P+2(S)=ML2P3(S); solvent(S)=CH2Cl2, P=picrate

Tb+++ gl non-aq 25°C 100% C K1=7.10 1989BPa (76136) 460
 Medium: anhydrous propylene carbonate, 0.1 M Et4NClO4

Tb+++ ISE non-aq 25°C 100% U K1=5.96 B2=7.66 1982MDa (76137) 461
 Medium: propylene carbonate

 C10H22O5 L Tetraglyme CAS 143-24-8 (121)
 2,5,8,11,14-Pentaoxapentadecane; (CH3.O.CH2.CH2.O.CH2.CH2.)20

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ ISE non-aq 25°C 100% C K1=3.80 1986BDa (76475) 462
 Medium: propylene carbonate, 0.1 M Et4NClO4

 C11H8O3 L CAS 1133-72-8 (2614)
 2-Aceto-1,3-indandione;

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 30°C 75% U T K1=3.95 B2=7.76 1984APa (77045) 463

Tb+++ gl mixed 22°C 60% U K1=3.93 B2=7.48 1979JMa (77046) 464
 K3=3.17

Medium: 60% acetone/H2O

 C11H8O3 HL CAS 483-35-6 (3347)
 2-Hydroxy-3-methyl-1,4-naphthoquinone;

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 35°C 75% M K1=5.39 B2=9.42 1986SSc (77079) 465

 C11H8O4 HL CAS 7555-37-5 (4812)
 3-Acetyl-4-hydroxycoumarin

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 35°C 50% U K1=3.88 B2=6.81 1971MAa (77186) 466

Medium: 50% dioxan, 0.01 M NaClO4

 C11H8O6S H3L CAS 66695-90-7 (1996)
 1-Hydroxy-4-sulfo-2-naphthoic acid;

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.10M C K1=8.81 B2=14.96 1979LAb (77234) 467

K(Tb+HL)=2.34

 C11H8O6S H3L CAS 15509-36-1 (2658)
 3-Hydroxy-7-sulfo-2-naphthoic acid;

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.10M C K1=7.71 1976MLb (77256) 468

K(Tb+HL)=2.44

C11H8O9S2 H4L CAS 67097-84-1 (1995)
1-Hydroxy-4,7-disulfo-2-naphthoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	cal	NaClO4	25°C	0.10M	C	H		K1=8.85 B2=14.7 K(Tb+HL)=1.94	1986LLc (77287)	469

DH(Tb+HL)=6.2 kJ mol⁻¹, DS=58 J K⁻¹ mol⁻¹

C11H9N04 H2L CAS 4321-82-7 (4829)
3-Acetyl-4-hydroxycoumarin oxime;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	diox/w	35°C	50%	U			K(Tb+HL)=3.63 K(Tb+2HL)=6.40	1971MAa (77429)	470

Medium: 50% dioxan, 0.01 M NaClO4

C11H9N3O2 H2L PAR CAS 1141-59-9 (636)
4-(2'-Pyridylazo)-1,3-dihydroxybenzene; C5H4N.N:N.C6H3(OH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	sp	NaNO3	25°C	0.10M	C			K1=10.25 K(Tb+HL)=4.28 *K(TbHL)=-6.33	19840Ha (77584)	471

Medium pH 4.8-6.3.

Tb+++	sp	KCl	20°C	0.10M	U			K(Tb+HL)=3.43	1971EKa (77585)	472
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C11H9N3O3 HL HNQS CAS 62331-38-8 (6194)
2-Hydroxy-1,4-naphthoquinone monosemicarbazone; C10H5(OH)(O):N.NH.CO.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	diox/w	35°C	75%	U	TI		K1=5.45 B2=8.88	1987SSb (77615)	473

At I=0.1 M. At 35 C, I=0.05, K1=5.27, K2=4.67; I=0.01, K1=6.04, K2=4.90,
At 40 C, I=0.1 M, K1=4.94, K2=4.06; at 45 C, I=0.1 M, K1=4.75, K2=3.99

C11H10N4O3 HL CAS 92265-24-2 (6211)
5-(2'-Methylphenylazo)barbituric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	diox/w	25°C	75%	U			K1=5.51 B2=10.56	1986MIa (77734)	474

C11H10N4O4 HL CAS 92265-26-4 (6210)

5-(2'-Methoxyphenylazo)barbituric acid;

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     gl  diox/w 25°C 75% U          K1=5.83  B2=11.39  1986MIa (77749) 475
*****
C11H12N2O2          HL          CAS 103314-23-4 (6182)
2-(N-2-Pyrrolidimino)benzoic acid; C4H7N:N.C6H4.COOH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     gl  NaCl04 25°C 0.10M U TIH    B2=13.78          1986GSb (78023) 476
35 C: B2=13.95; 45 C:B2=14.00. DH(B2)=-20.0 kJ mol-1, DS=202 J K-1 mol-1
*****
C11H12N2O2          HL    Tryptophan          CAS 73-22-3 (3)
2-Amino-3-(3-indolyl)propanoic acid; H2N.CH(CH2.C8H6N)COOH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     gl  KCl    25°C 0.10M U T H    K1=4.8           1976BFc (78235) 477
For 55C K1= 4.30
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Tb+++     gl  KCl    25°C 0.10M U          K1=5.0  B2=9.70  1972BFe (78236) 478
*****
C11H12N2O5S          HL          CAS 56475-09-3 (8410)
3-(4'-Sulfophenylhydrazo)-pentane-2,4-dione;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     gl  oth/un 30°C 0.10M U          B2=21.94          1985EEb (78328) 479
Medium: not stated. For 3'-sulfophenylhydrazo-, B2=21.99; for 2'-sulfo-
phenylhydrazo-, B2=24.19; for 4'-methyl-2'-sulfophenylhydrazo-, B2=23.26.
*****
C11H13NO3           H2L          CAS 63467-38-9 (1961)
4-Methyl-N-hydroxyacetoacetanilide; CH3.CO.CH2.CO.N(OH).C6H4.CH3
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     gl  diox/w 20°C 82% U          K1=7.26  B2=13.57  1979KSb (78502) 480
K3=6.14
*****
C11H13NO4           L          CAS 15658-60-3 (4587)
Diethyl 2,6-pyridinedicarboxylate; Dipicolinic acid diethyl ester;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     sp  non-aq 20°C 100% C          K1=6.9  B2=13.50  1997RPa (78538) 481
B3=17.3
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Medium: acetonitrile.

C11H13NO4S HL CAS 58943-48-9 (1411)
N-Acetylacetylidene-orthanilic acid; HO3S.C6H4.N:C(CH3).CH2.CO.CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ EMF NaClO4 25°C 0.10M U K1=19.30 1982MSc (78597) 482

C11H13NO5 H3L HBIDA CAS 7372-13-6 (1603)
N-(2-Hydroxybenzyl)iminodiethanoic acid; HO.C6H4.CH2.N(CH2.CO.OH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M C K1=13.88 B2=24.73 1989YSa (78641) 483
K(Tb+HL)=5.87
K(Tb+2HL)=12.45

Tb+++ gl KNO3 20°C 0.10M U K1=14.04 B2=24.70 1983MSc (78642) 484

C11H14N2O4 H2L (1880)
N-(6-Methyl-2-pyridylmethyl)iminodiethanoic acid; CH3C5H3NCH2N(CH2COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M U K1=7.16 B2=12.10 1964THa (78893) 485

C11H18N2O8 H4L PDTA CAS 4408-81-5 (1655)
1,2-Diaminopropane-N,N,N',N'-tetraethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ vlt KNO3 20°C 0.10M U K1=14.22 1981NSc (79340) 486

Tb+++ EMF KNO3 25°C 0.10M U K1=16.20 1980KBc (79341) 487

Tb+++ vlt KNO3 20°C 0.10M U K1=18.66 1978NLb (79342) 488

Tb+++ vlt KNO3 20°C 0.10M U K1=18.64 1964ICb (79343) 489

C11H18N2O8 H4L CAS 38539-29-0 (2573)
1,3-Diaminopropane-N,N'-di(1,4-butanedioic acid)

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M U K1=10.46 1976GKd (79373) 490

C11H18N2O9 H4L HDPTA CAS 3148-72-9 (431)
1,3-Diamino-2-hydroxypropane-N,N,N',N'-tetraethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M M K1=14.55 1986PLc (79578) 491

C11H18N2O9 H4L CAS 668-21-1 (2562)
2-Hydroxy-1,3-diaminopropane-N,N'-di(1,4-butanedioic) acid

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M U K1=11.58 1976GKd (79605) 492

C11H18O9 H3L CAS 64020-00-4 (8225)
1,1,1-Tris(carboxymethoxymethyl)ethane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl R4N.X 25°C 0.10M C K1=7.0 2001Vsa (79677) 493
Medium: 0.10 M Me4NCl. Also data for N-ethyl-, N-phenyl-, N-NH2-,
N,N-dibenzyl- and N-CH2OCH2COOH- derivatives.

C11H20O4 H2L CAS 2283-16-1 (2854)
2,2-Dibutylpropanedioic acid; HOOC.C(C4H9)2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M U K1=4.70 B2=7.45 1968PFa (79772) 494

C12H7O2F7 L (6994)
1-Heptafluoropropyl-3-phenylpropane-1,3-dione; C3F7.CO.CH2.CO.C6H5

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl alc/w 22°C 80% U K1=6.24 B2=11.65 1995MTa (80191) 495
K3=4.85
Medium: 0.1 M NaClO4 in 80% (v/v) EtOH/H2O.

C12H8N2 L Phenanthroline CAS 66-71-7 (144)
1,10-Phenanthroline;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ dis non-aq 25°C 100% C HM 1998YHa (80519) 496
K(TbA3+L)=7.84
Method: solvent extraction from 0.10 M NaClO4 into CHCl3. HA is
1-(2-thienyl)-4,4,4-trifluoro-1,3-butanedione. DH(TbA3+L)=3.6 kJ mol⁻¹.

C12H10N6O4S H2L CAS 77327-19-6 (8343)
2-[4-Amino-3-(1,2,4-triazolylazo)]naphthol-4-sulphonic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 30°C 0.10M U T H B2=13.15 1982GMb (80788) 497

B3=18.96

Data for 40 and 50 C. Also DH and DS values.

C12H11N3O5 HL (6787)

2-Hydroxy-1-naphthaldehyde thiosemicarbazone;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 20°C 75% U I K1=7.79 B2=14.83 1992SSc (80896) 498
Medium: 75% v/v dioxan/H2O; 0.1 M NaClO4

C12H11N3O2 HL CAS 50536-09-5 (6323)

2-Hydroxy-1-naphthaldehyde-semicarbazone; HO.C10H6.CH:N.NH.CO.NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 20°C 75% U I K1=9.315 B2=16.915 1992SSc (80925) 499
Medium: 75% v/v dioxan/H2O; 0.1 M NaClO4

C12H12N03Cl HL (1055)

2-Chloro-4-dimethylamino-benzylidenepyruvic acid; (CH3)2N.C6H3Cl.CH:CH.CO.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp NaClO4 25°C 0.50M U K1=2.014 1987MSa (80975) 500

C12H12N2O3 HL Nalidixic acid CAS 389-08-2 (1401)

1-Ethyl-1,4-dihydro-7-methyl-4-oxo-1,8-naphthyridine-3-carboxylic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl alc/w 22°C 0.1M U K1=6.80 B2=12.73 2000TBb (81082) 501
K3=4.75

Medium: 0.1 M NaClO4 in 70% v/v EtOH/H2O

C12H13N03 HL (1054)

4-Dimethylamino-benzylidenepyruvic acid; (CH3)2N.C6H4.CH:CH.CO.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp NaClO4 25°C 0.50M U K1=2.173 1987MSa (81205) 502

C12H18N2O5S H2L CAS 80459-15-0 (1595)

2-Nitroso-5-(N-propyl-3-sulfopropylamino)phenol;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M C K1=5.81 1988YSa (81820) 503

C12H18N2O8 H4L CAS 76079-31-7 (2587)

trans-1,2-Diaminocyclohexane-N,N'-di(propanedioic acid)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	EMF	KNO3	25°C	0.10M	U			K1=14.09	1985SGa (81879)	504
Tb+++	EMF	KNO3	25°C	0.10M	U			K1=15.38 B2=20.78	1980SGb (81880)	505

C12H20N2O8 H4L CAS 1798-13-6 (4935)										
1,2-Diaminobutane-N,N,N',N'-tetraethanoic acid; (HOOC.CH2)2N.CH2.CH(C2H5).N(CH2.COOH)2										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	vlt	KNO3	20°C	0.10M	U			K1=19.03	1968NLa (82035)	506

C12H20N2O8 H4L CAS 40623-42-5 (1101)										
1,2-Diaminoethane-N,N'-di(2-pentane-1,5-dioic acid); (CH2NHCH(COOH)CH2CH2COOH)2										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	KNO3	20°C	0.10M	U			K1=8.88 B2=12.88	1975DPa (82100)	507
Tb+++	gl	KNO3	25°C	0.10M	U			K1=8.62	1973GBd (82101)	508

C12H20N2O8 H4L CAS 61368-60-3 (3389)										
1,2-Diaminoethane-N,N'-diethanoic-N,N'-di-2-propanoic acid;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	vlt	KNO3	20°C	0.10M	U			K1=15.57	1976NKa (82146)	509

C12H20N2O8 H4L CAS 40623-42-5 (3388)										
1,2-Diaminoethane-N,N'-diethanoic-N,N'-dipropanoic acid;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	NaClO4	25°C	0.10M	U	IH		K1=13.50 B(Tb+HL)=6.32	1988RNa (82179)	510
DH(K1)=2.37 kJ mol ⁻¹ , DH(Tb+HL)=31.9, DS(K1)=266 J K ⁻¹ mol ⁻¹										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	vlt	R4N.X	30°C	0.01M	C			K1=15.66	1981GMh (82180)	511
Method: polarography, using Cd as indicator ion. Medium: 0.01 M Et4NBr. *****										
C12H20N2O8 H4L CAS 2458-58-4 (922)										
1,4-Diaminobutane-N,N,N',N'-tetraethanoic acid; (HOOC.CH2)2N.(CH2)4.N(CH2.COOH)2										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	NaClO4	25°C	0.50M	M	H		K1=10.41	1985CBa (82237)	512

K(TbL+H)=6.47

K(TbHL+H)=5.24

DH(K1)=28.6 kJ mol⁻¹, DS=295 J K⁻¹ mol⁻¹ (by calorimetry)

C12H20N2O8 H4L BDTA CAS 868-43-9 (1742)

DL-2,3-Diaminobutane-N,N,N',N'-tetraethanoic acid;

(HOOC.CH2)2N.CH(CH3).CH(CH3).N(CH2.COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp NaClO4 20°C 0.10M U K1=19.15 1971ISa (82337) 513

Tb+++ vlt oth/un 20°C 0.10M U K1=19.45 1966DMa (82338) 514

Tb+++ vlt KNO3 20°C 0.10M U K1=19.45 1966NSb (82339) 515

C12H20N2O8 H4L CAS 22968-57-6 (3992)

meso-2,3-Diaminobutane-N,N,N',N'-tetraethanoic acid;

(HOOC.CH2)2N.CH(CH3).CH(CH3).N(CH2.COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp NaClO4 20°C 0.10M U K1=17.02 1971ISa (82422) 516

Tb+++ vlt oth/un 20°C 0.10M U K1=16.72 1966DMa (82423) 517

C12H20N2O8S H4L TEDTA CAS 923-74-0 (3394)

2,2'-Thiobis(ethyliminodiethanoic acid); S(CH2.CH2.N(CH2.COOH)2)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M C K1=14.83 1985TPa (82475) 518

C12H20N2O9 H4L EEDTA CAS 923-73-9 (2112)

Oxa-bis(ethyleneimino)diethanoic acid; ((HOOC.CH2)2N.CH2.CH2)2O

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ EMF KNO3 20°C 0.10M U K1=18.31 1962MMc (82566) 519

C12H20O8N2 H4L (6908)

2-Methyl-1,2-diaminopropane-N,N,N',N'-tetraethanoic acid;

(HOOC.CH2)2N.CH2.C(CH3)2.N(CH2.COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ vlt KNO3 20°C 0.10M C K1=17.18 1978NLa (82682) 520

C12H21NO6 H3L (7209)

1-Carboxy-1-aminoheptane-N,N-diethanoic acid; HOOC.CH(C6H13)N(CH2.COOH)2

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     gl  alc/w  20°C  40%  U           K1=11.19      1985LBc (82706) 521
Medium: 40% v/v MeOH/H2O, 0.1 M KNO3
*****
C12H24N4O4          H2L                      (7343)
1,4,7,10-Tetraazacyclododecane-1,7-bis(ethanoic acid);
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     gl  R4N.X  25°C  0.10M C           K1=12.93      1998CCb (83093) 522
*****
C12H24O6           L    18-Crown-6          CAS 17455-13-9 (577)
1,4,7,10,13,16-Hexaoxacyclooctadecane;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     dis non-aq 25°C 100% U           B2=8.16      1990NIa (83649) 523
B2=extraction eq.constant: M+3P+2(S)=ML2P3(S); solvent(S)=CH2Cl2, P=picrate
-----
Tb+++     gl  non-aq 25°C 100% C           K1=7.99      1989BPa (83650) 524
Medium: anhydrous propylene carbonate, 0.1 M Et4NC104
*****
C12H26N2O4          L    Cryptand 2,2      CAS 23978-55-4 (925)
4,7,13,16-Tetraoxa-1,10-diazacyclooctadecane;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     gl  alc/w  25°C 100% C           K1=8.29      1983ANb (83904) 525
The equilibration took 7-12 days. Medium: MeOH, 0.05 M Et4NC104
*****
C12H26O6           L    Pentaglyme          CAS 1191-87-3 (2498)
2,5,8,11,14,17-Hexaoxaoctadecane; (CH3.O.CH2.CH2.O.CH2.CH2.O.CH2.)2
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     gl  non-aq 25°C 100% C           K1=5.14      1989BPa (84024) 526
Medium: anhydrous propylene carbonate, 0.1 M Et4NC104
*****
C12H28N2O9P2        H4L                      (7242)
1,4,10-Trioxa-7,13-diazacyclopentadecane-7,13-diylldimethylenediphosphonic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     gl  R4N.X  25°C  0.10M U           K1=13.14      1996BJa (84166) 527
                                K(Tb+HL)=10.00
                                K(Tb+H2L)=5.60
Medium: 0.1 M Me4NCl
*****

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C12H30N6 L CAS 296-35-5 (143)
1,4,7,10,13,16-Hexaazacyclooctadecane; cyclo(-(NH.CH2.CH2)6-)

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaNO3 25°C 0.20M C K1=8.50 1991KKa (84356) 528

Tb+++ gl NaCl 20°C 0.10M C K1=10.0 1988SJb (84357) 529

C13H502F13S L (6997)
1-(2-Thienyl)-3-tridecafluorohexylpropane-1,3-dione; C6F13.CO.CH2.CO.C4H3S

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl alc/w 22°C 80% U K1=5.52 B2=10.87 1995MTa (84462) 530
K3=4.64

Medium: 0.1 M NaClO4 in 80% (v/v) EtOH/H2O.

C13H9F02S HL CAS 43191-66-8 (6154)
1-(2'-Thienyl)-3"-fluoro-2"-hydroxyphenyl)-prop-1-one-2-ene;
C4H3S.CH:CH.CO.C6H3(OH)F

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 30°C 0.10M U K1=5.12 1989SHa (84519) 531

C13H9N3OS L (6217)

Acenaphthenequinone Monothiosemicarbazone; C12H6O:N.NH.CS.NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 25°C 75% U TI K1=9.11 B2=17.41 1986SSd (84626) 532

Medium: 0.1 M NaClO4. 30 C: K1=9.16, K2=8.54; 40 C: K1=9.02, K2=8.44; 50 C:
K1=8.64, K2=7.71; I=0.01 M: K1= 9.85, K2=9.31; I=0.05: K1=9.44, K2=8.96

C13H11N2O3F3 HL (5563)

3-(2-Acetylphenylhydrazone)-1,1,1-trifluoropentane-2,4-dione;
CF3.CO.C(CO.CH3):N.HN.C6H4.COCH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 30°C 75% U K1=8.75 B2=16.20 1988ESb (85254) 533

C13H12N2O3S HL (6203)

Salicylidenesulfanilamide, 4-(N-(2-Hydroxybenzylene))aminosulanilamide;
H2NSO2C6H4N:CHC6H4OH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl oth/un 25°C 0.10M U K1=12.289 1987KSc (85366) 534

 C13H12N4O L Diphenylcarbaz. CAS 538-62-5 (1195)
 Diphenylcarbazone; C6H5.NH.NH.CO.N:N.C6H5

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

 Tb+++ EMF alc/w 20°C 50% U K1=3.55 1971MAc (85419) 535
 Medium: 50% EtOH, 0.1 M NaClO4

 C13H12N4S L Dithizone CAS 60-10-6 (1801)
 Diphenylthiocarbazone; C6H5.NH.NH.CS.N:N.C6H5

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

 Tb+++ EMF alc/w 20°C 50% U K1=1.95 1971MAc (85475) 536
 Medium: 50% EtOH, 0.1 M NaClO4

 C13H14N2O3 HL (4940)
 3-(2-Acetylphenylhydrazone)pentane-2,4-dione; (CH3.CO)2C:N.NH.C6H4(CO.CH3)

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

 Tb+++ gl diox/w 30°C 75% U K1=10.97 B2=20.75 1988ESb (85617) 537

 C13H15N06 H3L (4999)
 2-Benzylnitriilotriethanoic acid;

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

 Tb+++ oth oth/un 25°C 0.10M U K2=9.01 1962HKa (85745) 538

 C13H19N03 H2L (2031)
 2-(1-(2-Hydroxyphenyl)-ethylimine)-3-methylbutanoic acid;

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

 Tb+++ gl NaClO4 25°C 0.10M U TIH K1=11.75 B2=21.60 1980SSc (86060) 539

 C13H20N2O8 H4L CAS 123064-92-6 (7929)
 trans-1,3-Cyclopentanediaminotetraethanoic acid;

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

 Tb+++ gl KCl 25°C 1.0M U K1=13.38 1989CMb (86128) 540
 K(TbHL+H)=3.54
 K(TbL+H)=4.00

 C13H22N2O8 H4L CAS 1798-14-7 (921)
 (Pentamethylenedinitrilo)tetraethanoic acid; ((HOOC.CH2)2N.CH2.CH2)2CH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	KNO3	25°C	0.10M	C		K1=10.53 K(Tb+HL)=6.89	1982PPd (86207)	541

C13H22N2O8		H4L					CAS 1198-14-7	(5004)	
1,2-Diaminopentane-N,N,N',N'-tetraethanoic acid; (HOOCCH2)2NCH2CH(C3H7)N(CH2COOH)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	vlt	KNO3	20°C	0.10M	U		K1=19.02	1974NLa (86237)	542

C13H22N2O8		H4L					(7164)		
2,4-Diaminopentane-N,N,N',N'-tetraethanoic acid; (HOOCCH2)2NCH(CH3)CH2CH(CH3)N(CH2COOH)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	KNO3	20°C	0.10M	U		K1=12.47	1981NSc (86265)	543
By polarography K1=12.53									

C13H22N2O8		H4L					(5003)		
3-Methyl-1,2-diaminobutane-N,N,N',N'-tetraethanoic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	vlt	KNO3	20°C	0.10M	U		K1=18.97	1968NLb (86292)	544

C13H22N2O9		H4L			DETAP		CAS 36829-96-6	(5602)	
Bis(2-aminoethyl)ether-N,N,N'-triethanoic acid-N'-(3-propanoic acid);									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	KNO3	25°C	0.10M	C		K1=15.16 K(Tb+HL)=9.43	1985PLa (86311)	545

C14H8O4		H2L			Alizarin		CAS 72-48-0	(1058)	
1,2-Dihydroxyanthraquinone;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	oth/un	25°C	0.10M	U		K1=12.23	1981EIa (86650)	546

C14H8O4		H2L			Quinizarin		CAS 81-64-1	(1060)	
1,4-Dihydroxyanthraquinone;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	sp	alc/w	20°C	50%	U		K(Tb+HL)=7.1	1982Kmd (86666)	547

Medium: 50% v/v EtOH/H2O

C14H8O7S H3L DASA CAS 83-61-4 (950)
1,2-Dihydroxyanthraquinone-3-sulfonic acid, Alizarin Red S;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 25°C 0.05M U B2=16.26 1994HFa (86758) 548
B(TbH-1L)=7.5

Tb+++ gl NaClO4 25°C 0.20M U M K1=10.34 1987Vsa (86759) 549
K(Tb(cdta)+L)=6.74, K(Tb(dtpa)+L)=5.12.

Tb+++ sp oth/un 25°C ? U K(?)=9.1 1967SAa (86760) 550

C14H10NO2F HL CAS 87221-43-0 (6155)
1-(2'-Pyridyl)-3-(3-fluoro-2-hydroxyphenyl)-prop-1-ene-2-ene;
C5H4N.CH:CH.CO.C6H3(OH)F

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 30°C 0.10M U K1=5.27 1989SHa (86889) 551

C14H12N2O3 H2L CAS 4870-46-6 (3432)
2-Hydroxy-5-methyl-2'-carboxy-azobenzene; HO.C6H3(CH3).N:N.C6H4.CO0H

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 25°C 50% U I K1=3.80 B2=7.37 1985ANA (87223) 552

C14H13NO4S H2L (3660)
2-Aminobenzenesulfonic acid 2-hydroxyacetophenone Schiff base;
HSO3.C6H4.N:C(CH3).C6H4.OH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.10M U T H K1=6.45 B2=11.13 1978GKb (87581) 553
Data for 25-35 C and I=0.01-0.10 M. At I=0.0 M, DH(K1)=42.2 kJ mol⁻¹,
DS(K1)=355 J K⁻¹ mol⁻¹.

C14H15N2O3Cl H2L (8285)
5,5'-Dimethylcyclohexane-2-(2'-hydroxy-4'-chlorophenyl)hydrazono-1,3-dione;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl mixed 30°C 0.10M U T H K1=11.98 B2=22.31 1988TRb (87726) 554
Medium: 0.1 M KNO3 in 75% v/v isopropanol/water

C14H15O4P HL CAS 843-24-3 (2134)

Di(4-methylphenyl)phosphoric acid; (CH₃C₆H₅)₂P(O)OH

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     kin oth/un 25°C 0.02M U          K1=3.47      1974Gmc (87797) 555
*****
C14H16N2O2S          HL          CAS 189231-67-2 (8475)
2-Thiophenylhydrazodimedone;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     gl diox/w 25°C 75% C T H      K1=13.42 B2=25.22 1997EIa (87875) 556
Medium: 75% v/v dioxane/H2O, 0.10 M KNO3. Data for 10-40 C. DH(K1)=-6.83
kJ mol-1, DS(K1)=-8.39 J K-1 mol-1; DH(K2)=-6.61, DS(K2)=-9.45.
*****
C14H16N2O3          H2L          (8284)
5,5'-Dimethylcyclohexane-2-(2'-hydroxyphenyl)hydrazono-1,3-dione;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     gl mixed 30°C 0.10M U T H      K1=12.16 B2=22.70 1988TRb (87893) 557
Medium: 0.1 M KNO3 in 75% v/v isopropanol/water
*****
C14H16N2O8          H4L          CAS 40774-59-2 (1901)
1,2-Diaminobenzene-N,N,N',N'-tetraethanoic acid; C6H4(N(CH2.COOH)2)2
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     gl NaClO4 25°C 1.00M C H      K1=14.46      1992YNa (87970) 558
By calorimetry: DH(K1)=12.3 kJ mol-1, DS=318 J K-1 mol-1
*****
C14H19NO7          HL          (6775)
16-Nitro-3,6,9,12-tetraoxabicyclo[12.3.1]octadeca-1(18),14,16-trien-18-ol;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Tb+++     gl R4N.X 25°C 0.10M C          K1=3.25      1990CBe (88154) 559
*****
C14H20O5          L      Benzo15-crown-5 CAS 14098-44-3 (608)
2,3-Benzo-1,4,7,10,13-pentaoxacyclopentadeca-2-ene;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Tb+++     dis non-aq 25°C 100% U          B2=7.77      1990NIa (88379) 560
B2=extraction eq.constant: M+3P+2(S)=ML2P3(S); solvent(S)=CH2Cl2, P=picrate
*****
C14H22N2O8          H4L      cis-1,3-CDTA      CAS 92681-23-7 (2847)
cis-1,3-Diaminocyclohexane-N,N,N',N'-tetraethanoic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Tb+++ gl KCl 25°C 1.0M U K1=7.82 1987CMe (88449) 561
K(TbHL+H)=5.18
K(TbL+H)=7.19

C14H22N2O8 H4L cis-1,4-CDTA CAS 92681-25-9 (2848)
cis-1,4-Diaminocyclohexane-N,N,N',N'-tetraethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 25°C 1.0M U K1=8.80 1987CMe (88463) 562
K(TbHL+H)=5.75
K(TbL+H)=6.28

C14H22N2O8 H4L CDTA CAS 482-54-2 (200)
trans-1,2-Diaminocyclohexane-N,N,N',N'-tetraethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 25°C 1.0M U K1=19.62 1987CMe (88785) 563
K(TbL+H)=1.38

Tb+++ gl KCl 25°C 1.00M U K1=19.62 1984MFa (88786) 564

Tb+++ gl NaClO4 25°C 0.50M U K1=18.52 1977GGb (88787) 565

Tb+++ EMF KNO3 25°C 0.10M U T H K1=19.30 1962MHa (88788) 566
DH(K1)=20.9 kJ mol⁻¹, DS=439 J K⁻¹ mol⁻¹. At 20 C: K(TbL+H)=2.11

Tb+++ vlt KNO3 20°C 0.10M U K1=19.50 1954SGa (88789) 567

C14H22N2O8 H4L trans-1,3-CDTA CAS 92681-24-8 (2849)
trans-1,3-Diaminocyclohexane-N,N,N',N'-tetraethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 25°C 1.0M U K1=8.22 1987CMe (88842) 568
K(TbHL+H)=5.06
K(TbL+H)=7.43

C14H22N2O8 H4L trans-1,4-CDTA CAS 92681-26-0 (2843)
trans-1,4-Diaminocyclohexane-N,N,N',N'-tetraethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 25°C 1.0M U K1=8.79 1987CMe (88869) 569
K(TbHL+H)=5.82
K(TbL+H)=6.28

Tb+++ gl KCl 25°C 1.00M U K1=8.79 1984MFb (88870) 570

C14H23N3O10 H5L DTPA CAS 67-43-6 (238)
Diethylenetriamine-pentaethanoic acid; HOOC.CH2.N(CH2.CH2.N(CH2.COOH)2)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaNO3 25°C 0.10M U I 2003ADb (89395) 571

K(TbL+val)=3.709

K(TbL+leu)=3.605

Data for 0.15 and 0.05 M NaNO3. At I=0, K(TbL+val)=3.900, K(TbL+leu)=3.715

Tb+++ gl NaNO3 25°C 0.10M M I M 2002ADa (89396) 572

K(TbL+ser)=3.530

K(TbL+thr)=3.352

Data for 0.05 and 0.15 M NaNO3. At I=0, K(TbL+ser)=3.640, K(TbL+thr)=3.46.

Tb+++ cal KNO3 25°C 0.10M C T 1988MIa (89397) 573

DH(K1)=-31.22 kJ mol⁻¹, DS=330.7 J mol⁻¹ K⁻¹. Also data for 283 and 313 K

Tb+++ cal NaClO4 25°C 0.50M U H 1977CGc (89398) 574

DH(K1)=-44.1 kJ mol⁻¹

Tb+++ gl NaClO4 25°C 0.50M U K1=21.02 1977GGb (89399) 575

Tb+++ cal KNO3 27°C 0.10M U H 1968CLd (89400) 576

DH(K1)=-32.2 kJ mol⁻¹, DS=326 J K⁻¹ mol⁻¹

Tb+++ EMF KNO3 25°C 0.10M U H K1=22.71 1962MTc (89401) 577

DH(K1)=-32.2 kJ mol⁻¹, DS=327 J K⁻¹ mol⁻¹

Tb+++ gl oth/un 25°C 0.10M U K1=23.21 1959HCa (89402) 578

C14H24N2O8 H4L (5075)

1,2-Diaminoethane-N,N'-diethanoic-N,N'-di-2-butyric acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ vlt KNO3 20°C 0.10M U K1=17.13 1969NDc (89520) 579

C14H24N2O8 H4L (7165)

1,2-Diaminohexane-N,N,N',N'-tetraethanoic acid; (HOOCCH2)NCH2CH(C4H9)N(CH2COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ vlt KNO3 20°C 0.10M U K1=18.98 1974NLa (89539) 580

C14H24N2O8 H4L HMDTA CAS 1633-00-7 (920)

1,6-Diaminohexane-N,N,N',N'-tetraethanoic acid; ((HOOC.CH2)2N.CH2.CH2.CH2)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 25°C 1.00M U M 1976BKa (89607) 581
K(TbEDTA+L)=3.9
K(TbEDTA+HL)=3.6
K(2TbEDTA+L)=7.1

C14H24N2O8 H4L CAS 1633-00-7 (5076)
4-Methyl-1,2-diaminopentane-N,N,N',N'-tetraethanoic acid;
(HOOCCH2)2NCH2CH(N(CH2COOH)2CH2CH(CH3)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ vlt KNO3 20°C 0.10M U K1=18.99 1968NLb (89643) 582

C14H24N2O8 H4L EDTP (2936)
Diaminoethane-N,N,N',N'-tetrapropanoic acid; (HOOC.CH2CH2)2N.CH2CH2.N(CH2CH2.COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.10M U 1995HAa (89691) 583
K(Tb+HL)=4.58
K(Tb+H2L)=3.85
K(Tb+H3L)=2.90
B(TbHL)=14.01

B(TbH2L)=19.40, B(TbH3L)=22.69

C14H24N2O9 H4L BPETA CAS 87720-52-3 (5077)
Bis-(3-di(carboxymethyl)aminopropyl)ether;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M U K1=11.70 1984TPa (89738) 584
K(Tb+HL)=7.56

C14H24N2O10 EGTA CAS 67-42-5 (349)
Ethyleneglycol-0,0'-bis(2-aminoethyl ether)-N,N,N',N'-tetraethanoic acid; H4L

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl alc/w 25°C 20% M TI K1=16.972 2000KDa (89944) 585
Medium: 20% v/v EtOH/H2O, 0.10 M NaNO3. Data for 0.05 and 0.15 M NaNO3.
At I=0, K1=17.185. Data for 35 and 45 C and I=0.10 M NaNO3.

Tb+++ gl KCl 25°C 1.0M U M K2=1.49 1985KBb (89945) 586
K(TbL+ida)=1.5

Tb+++ EMF KNO3 20°C 0.10M U K1=17.27 1962MMc (89946) 587

C14H24O9 H3L CAS 64020-01-5 (8224)
1,1,1-Tris[(2-carboxyethoxy)methyl]ethane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl R4N.X 25°C 0.10M C K1=3.7 2001V5a (90054) 588
K(TbL+H)=4.25

Medium: 0.10 M Me4NCl. Also data for N-CH2OH-, N-CH2O(CH2)2COOH-
derivatives.

C14H25N3O8 H4L DEATA CAS 97315-55-4 (5601)
N,N-Bis(2-aminoethyl)ethylamine-N',N',N'',N''-tetraethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M C K1=17.92 1985TPa (90107) 589

C14H26N2O7 H2L (1567)

1,4,10-Trioxa-7,13-diazacyclopentadecane-N,N'-diethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl R4N.X 25°C 0.10M M K1=11.52 1986C0b (90209) 590

C14H28N2O6 HL CAS 82353-42-2 (5850)

1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7-ethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl R4N.X 25°C 0.10M C K1=7.23 1988CCc (90488) 591

C14H28O7 L 21-Crown-7 CAS 33089-36-0 (2264)

1,4,7,10,13,16,19-Heptaoxacycloheicosane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl non-aq 25°C 100% C K1=6.59 1989BPa (90541) 592

Medium: anhydrous propylene carbonate, 0.1 M Et4NClO4

C14H32N2O10P2 H4L CAS 81963-60-2 (7240)

1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-diylldimethylenediphosphonic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl R4N.X 25°C 0.10M U K1=12.74 1996BJa (90774) 593

K(Tb+HL)=10.64

K(Tb+H2L)=5.95

Medium: 0.1 M Me4NCl

C15H11N3O HL PAN CAS 85-85-8 (572)

1-(2-Pyridylazo)-2-naphthol; C5H4N.N:N.C10H6.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	sp	alc/w	21°C	50%	U		K1=9.21	1988CMd (91242)	594
Tb+++	sp	alc/w	21°C	50%	U I		K1=8.79	1981MCb (91243)	595

Medium: 50% MeOH, 0.1 M NaClO4. In 75% MeOH K1=10.43

 C15H11N3O2 L CAS 74378-23-7 (2745)
 Phenanthrenequinone monosemicarbazone; C14H8(:O)(:N.NH.CO.NH2)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	diox/w	25°C	75%	C TIH		K1=7.00 B2=13.35	1989SVa (91311)	596

DH(K1)=-53.32 kJ mol⁻¹

 C15H12O2 HL Diphenylacac CAS 120-46-7 (362)
 1,3-Diphenylpropane-1,3-dione, Dibenzoylmethane; C6H5.CO.CH2.CO.C6H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	mixed	15°C	50%	U T H		K1=8.70	1982BSb (91565)	597

Medium: 50%CH3CN in H2O

 C15H13NO2 HL CAS 7369-44-0 (4066)
 N-3-Diphenylpropenohydroxamic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	dis	oth/un	RT	0.05M	C			1993ATa (91643)	598

Method: extraction from 0.05 M triethanolamine buffer into chloroform.
 Analysis by spectrophotometry. K(Tb+3HL(org)=TbL3(org)+3H)=-18.03

 C15H14NOCl HL CAS 268214-29-5 (8398)
 4-Chloro-3,5-dimethyl-2-[(phenylimino)methyl]phenol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	diox/w	30°C	75%	M		K1=7.62 B2=14.73	2000ANa (91696)	599

Medium: 75% v/v dioxan/H2O, 0.10 M NaClO4. Data for an extensive series of 4'-substituted phenylimino derivatives.

 C15H14O3S H2L (6191)
 1-(2-Hydroxy-3,5-dimethylphenyl)-3-(2-thiophene)-propan-1,3-dione;
 C4H3S.CO.CH2.CO.C6H2(OH)(CH3)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	diox/w	30°C	50%	U			1987DDc (91787)	600

K(Tb+HL)=7.84
 K(TbHL+HL)=6.62

C15H1403S H2L CAS 57051-65-7 (6190)
1-(2-Hydroxy-4,5-dimethylphenyl)-3-(2-thiophene)-propan-1,3-dione;
C4H3S.CO.CH2.CO.C6H2(OH)(CH3)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	diox/w	30°C	50%	U			K(Tb+HL)=7.50 K(TbHL+HL)=7.24	1987DDc (91793)	601

C15H1404 H2L CAS 60403-51-2 (2361)
1-(2-Furyl)-3-(2-hydroxy-3,4-dimethylphenyl)-propan-1,3-dione;
C4H3O.CO.CH2.CO.C6H2(OH)(CH3)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	diox/w	30°C	50%	U			K(Tb+HL)=7.42 K(TbHL+HL)=6.08	1987DDc (91799)	602

C15H1404 H2L CAS 60403-52-3 (6186)
1-(2-Furyl)-3-(2-hydroxy-3,5-dimethylphenyl)-propan-1,3-dione;
C4H3O.CO.CH2.CH2.C6H2(OH)(CH3)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	diox/w	30°C	50%	U			K(Tb+HL)=7.34	1987DDc (91805)	603

C15H1404 H2L CAS 60403-54-5 (6187)
1-(2-Furyl)-3-(2-hydroxy-3,6-dimethylphenyl)-propan-1,3-dione;
C4H3O.CO.CH2.CH2.C6H2(OH)(CH3)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	diox/w	30°C	50%	U			K(Tb+HL)=7.98 K(TbHL+HL)=7.71	1987DDc (91811)	604

C15H18N2O3 HL CAS 116822-13-0 (6743)
5,5-Dimethylcyclohexane-2-(2-hydroxy-4'-methylphenyl)-hydrazono-1,3-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	alc/w	20°C	75%	U T H			K1=11.25 B2=19.46	1993RAa (92038)	605
Medium: 75% v/v MeOH/H2O; 0.10 M KNO3										
Tb+++	gl	mixed	30°C	0.10M	U T H			K1=12.33 B2=23.23	1988TRb (92039)	606
Medium: 0.1 M KNO3 in 75% v/v isopropanol/water										

C15H20N2O6 H3L BEDTA CAS 65311-06-0 (2944)
N-Benzyl-diaminoethane-N,N',N'-triethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M C K1=12.79 1978MPb (92158) 607

C15H23N3O2 L CAS 36763-33-4 (5176)
N,N,N',N'-Tetraethyl-2,6-pyridinedicarboxamide;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp non-aq 25°C 100% M K1=8.2 B2=14.50 1997RPb (92290) 608
B3=22.9

Medium: acetonitrile.

C15H25N3O10 H5L (5127)
Diethylenetriamine-N,N,N'',N''-tetraethanoic acid-N'-propanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ EMF KCl ? 0.10M U K1=16.71 1966VLa (92384) 609

C15H25N3O10 H5L (6100)
Diethylenetriamine-N,N,N',N''-tetraethanoic acid-N''-propanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M C K1=19.52 1989SPa (92400) 610
K(Tb+HL)=13.55

C15H26N4O9 H4L (7685)
Diethylenetriamine-N,N,N',N'',N''-pentaethanoic acid N'-methanamide;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 25°C 0.10M C K1=20.90 2000SBb (92438) 611

C15H26N4O9 H4L CAS 137076-43-8 (5085)
Diethylenetriamine-N,N,N',N'',N''-pentaethanoic acid N-methanamide;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 25°C 0.10M C K1=19.7 2000SBb (92453) 612

C16H9N2OBr3 HL CAS 84317-74-8 (5169)
1-(2,4,6-Tribromophenylazo)-2-hydroxynaphthalene;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ kin oth/un 25°C 0.02M U K1=5.12 1972GSe (92665) 613

 C16H12N3O4ClS H2L CAS 133131-00-7 (8468)
 7-Amino-8-[(4-chlorophenyl)azo]-4-hydroxy-2-naphthalenesulfonic acid;

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaCl 25°C 0.10M U K1=10.42 B2=19.03 1997IHa (93120) 614
 B3=27.15

Also data for the 4'-bromo-, 4'-fluoro-, 4'-nitro-, 4'-methoxy-, 4'-di-
 methylamino-, 4'-hydroxy-, 4'-carboxy-, 4'-AsO(OH)2-, 2'-hydroxy- analogue

 C16H12N5O3 L CAS 77251-11-7 (5928)
 1-Phenyl-3-methyl-4(2'-nitrophenylhydrazo)-5-pyrazolone;

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 30°C 75% M K1=7.43 1987ESa (93136) 615

C16H13N2O10AsS2 H5L Thorin I CAS 3688-92-4 (2609)
 1-((2-Arsonophenyl)azo)-2-hydroxy-3,6-naphthalylldisulfonic acid;

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 30°C 0.10M U 1976NDa (93211) 616
 K(Tb+H2L=TbH2L)=5.74
 K(TbHL+H)=7.10
 K(TbL+H)=9.40
 K(TbL+OH)=2.85

 Tb+++ sp oth/un 25°C ? U 1967SAa (93212) 617
 K(?)=8.9

C16H13N2O11AsS2 H6L Arsenazo I CAS 520-10-5 (277)
 2-(2'-Arsonophenylazo)chromotropic acid;

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp oth/un 20°C 0.10M U 1971SSd (93268) 618
 K(Tb+H2L)=8.28

C16H14N2O5 H2L (7017)
 4-Hydroxy-1-carboxy-7-dimethylaminophenoxaz-3-one methyl ester;

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp alc/w 25°C 10% U I 1979KRb (93444) 619
 B3=19.54

Medium: 10% w/w EtOH/H2O, 0.1 M NaClO4. In 30%: B3=19.45

C16H1404 HL BHMMA (5929)
omega-Benzoyl-2-hydroxy-4-methoxy-3-methylacetophenone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	alc/w	30°C	25%	M			K1=6.72 B2=13.28	1987DGB (93586)	620

Medium: 25% v/v EtOH/H2O

C16H18N203 HL (5564)
2-(2-Acetylphenylhydrazone)-5,5-dimethyl-1,3-cyclohexanedione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	diox/w	30°C	75%	U			K1=10.58 B2=19.67	1988ESb (93787)	621

C16H18N303F HL Norfloxacin CAS 70458-96-7 (7141)
1-Ethyl-6-fluoro-1,4-dihydro-4-oxo-7[1-piperazinyl]-3-quinoline carboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	alc/w	22°C	0.1M	U			K1=3.27	2000TBb (93828)	622

Medium: 0.1 M NaClO4 in 70% v/v EtOH/H2O

C16H18N4 L CAS 172665-46-2 (7699)
N,N'-Dimethyl-1,10-phenanthroline-2,9-dimethanamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	NaClO4	25°C	0.10M	U			K1=7.83 B(TbHL)=14.86	2001WZa (93848)	623

Also data for the N,N'-diethyl, isopropyl, butyl and isobutyl derivatives.

C16H20N208 H4L CAS 6411-02-5 (1919)
1-Phenyl-ethylenediamine-N,N,N',N'-tetraethanoic acid (DL)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	vlt	KNO3	20°C	0.10M	U			K1=17.96	1969NDb (94053)	624

C16H27N508 H3L (6621)
1,4,7-Tris(carboxymethyl)-1,4,7,10,13-pentaazacyclopentadecan-9,14-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	sp	KCl	25°C	0.08M	U			K1=11.4	1994FCa (94677)	625

C16H27N508 H3L (6915)
4,10,13-Tris(carboxymethyl)-1,4,7,10,13-pentaazacyclopentadeca-8,15-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	sp	KCl	25°C	0.08M	U		K1=15.1	1994FCa (94691)	626

C16H28N2O8			H4L				(5167)		
1,2-Diaminoethane-N,N'-diethanoic-N,N'-di-2-(3-methyl)butanoic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	KNO3	20°C	0.10M	U		K1=14.07	1969NDc (94722)	627
By polarography: K1=14.00									

C16H28N2O8			H4L				(5168)		
1,2-Diaminoethane-N,N'-diethanoic-N,N'-di-2-pentanoic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	vlt	KNO3	20°C	0.10M	U		K1=17.16	1969NDc (94748)	628

C16H28N2O8			H4L				(5138)		
1,2-Diaminooctane-N,N,N',N'-tetraethanoic acid; (HOOCCH2)2N.CH2.CH(C6H13)N(CH2COOH)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	vlt	KNO3	20°C	0.10M	U		K1=19.00	1979MBd (94774)	629

C16H28N4O8			H4L	DOTA			CAS 60239-18-1	(1017)	
1,4,7,10-Tetraazacyclododecane-1,4,7,10-tetraethanoic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	NaCl	37°C	1.0M	C		K1=23.6	1994TBb (94933)	630
Method: Competitive reaction with Eu3+ ion.									

Tb+++	EMF	NaCl	20°C	1.00M	C		K1=28.6	1986LDb (94934)	631

C16H30N2O8			H2L				CAS 72912-01-7	(1568)	
1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-N,N'-diethanoic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	R4N.X	25°C	0.10M	U		K1=11.70	1983CRb (95059)	632

C17H12O4			H2L				CAS 60430-57-8	(6189)	
1-(2-Furyl)-3-(2-naphthol)-propan-1,3-dione; C4H3O.CO.CH2.CO.C10H6.OH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tb+++	gl	diox/w	30°C	50%	U			1987DDc (95735)	633

K(Tb+HL)=7.32
K(TbHL+HL)=6.95

C17H13N4O3 HL (5927)
1-Phenyl-3-methyl-4-(2'-carboxyphenylhydrazo)-5-pyrazolone;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 30°C 75% M K1=15.80 B2=28.50 1987ESa (95773) 634

C17H14N2O2 L CAS 4551-69-3 (698)
4-Benzoyl-3-methyl-1-phenyl-2-pyrazolin-5-one;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaNO3 20°C 0.10M U M 1981GCa (95900) 635

B(Tb+3L+2TBP)=23.54
B(Tb+3L+4TBPoxide)=32.8

C17H15N4O2 L CAS 97671-53-9 (5926)
1-Phenyl-3-methyl-4-(2'-methoxyphenylhydrazo)-5-pyrazolone;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 30°C 75% M K1=8.51 B2=16.70 1987ESa (96014) 636

C17H16O4 H2L CAS 58134-82-0 (6193)
Benzoyl-2-hydroxy-4-methoxy-3-methylacetophenone;

C6H5.CO.CH2.CO.C6H2(OH)(OCH3)(CH3)

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl alc/w 30°C 75% U T H K1=7.57 B2=14.54 1987DGd (96164) 637

20 C:K1=7.64, K2=7.14; 40 C:K1=8.09, K2=7.48; 50 C:K1=8.49, K2=8.16

DH(K1)=-42.2 kJ mol⁻¹, DS=5 J K⁻¹ mol⁻¹

C17H18N3O3F HL Ciprofloxacin CAS 189257-90-7 (7142)
1-Cyclopropyl-6-fluoro-1,4-dihydro-4-oxo-7[1-piperazinyl]-3-quinoline carboxylic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl alc/w 22°C 0.1M U K1=6.78 B2=12.63 2000TBb (96225) 638

Medium: 0.1 M NaClO4 in 70% v/v EtOH/H2O

C17H18O4 H2L (6188)
1-(2-Furyl)-3-(2-hydroxy-3,4-diethylphenyl)-propan-1,3-dione;

C4H3O.CO.CH2.CO.C6H2(OH)(C2H5)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 30°C 50% U 1987DDc (96246) 639
K(Tb+HL)=7.32

C17H20N3O3F HL (7845)
1-Ethyl-6-fluoro-7-(4-methylpyperazine-1-yl)-4-oxo-1,4-dihydroquinoline-3-carboxylic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl alc/w 22°C 0.1M U K1=6.14 B2=11.39 2000TBb (96291) 640
Medium: 0.1 M NaClO4 in 70% v/v EtOH/H2O

C17H23N4O4BrS H2L (1594)
2-(5-Bromo-2-pyridylazo)-5-(N-propyl-3-sulfopropylamino)phenol;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp NaNO3 25°C 0.10M C K1=8.46 19880Ha (96426) 641
K(Tb+HL)=2.79

C17H27N04 L CAS 71089-11-7 (7945)
13-Phenylmethyl-1,4,7,10-tetraoxa-13-azacyclopentadecane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ cal non-aq 25°C 100% C H 1993LLb (96539) 642
K(TbNO3+L)=3.07

Medium: acetonitrile. DH(TbNO3+L)=-80.88 kJ mol⁻¹.

C17H29N3O10 H4L CAS 89378-46-1 (5528)
(Bis(3-(bis(carboxymethyl)amino)propyl)methylammonio)ethanoate;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M U K1=8.87 1984TPa (96578) 643
K(Tb+HL)=5.78

C18H16N2O3 HL (5560)
2-(2-Acetylphenylhydrazone)-1-phenyl-but-1,3-dione;
C6H5.CO.C(CO.CH3):N.NH.C6H4.COCH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 30°C 75% U K1=10.50 B2=19.66 1988ESb (97180) 644

C18H18N4 L CAS 16858-01-8 (1528)
Tris(2-pyridylmethyl)amine; (C5H4NCH2)3N

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ nmr KCl 25°C 1.0M C K1=2.00 2004BRa (97273) 645
Method: 1H nmr measurements in D2O.

C18H20N2O6 H4L CAS 10328-28-6 (3501)
Ethylenedinitrilo-N,N'-bis(2'-hydroxyphenyl)-N,N'-diethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ EMF oth/un ? ? U 1968TRc (97410) 646
K(Tb+HL)=9.05

C18H20N2O6 H4L EHPG CAS 10328-28-6 (429)
N,N'-Ethylene-bis-(2-(2'-hydroxyphenyl))glycine; (HOOCCH(C6H4OH)NHCH2.)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ EMF KNO3 25°C 0.10M C T H K1=20.10 1985HWb (97441) 647
K(TbL+H)=6.95

Method: Hg (and glass) electrode, using Hg(II) as competitive indicator ion. Data for 10-35 C. DH(K1)=-62.0 kJ mol⁻¹, DS(K1)=184 J K⁻¹ mol⁻¹.

C18H25N3O8 H4L BEATA CAS 87732-99-8 (5600)
N,N-Bis(2-aminoethyl)aniline-N',N',N'',N''-tetraethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 25°C 0.10M C K1=15.48 1985TPa (97660) 648

C18H28O5 L CAS 15196-73-3 (2359)
2,3-(4'-Dimethylethylbenzo)-1,4,7,10,13-pentaoxacyclopentadeca-2-ene;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl non-aq 25°C 100% U K1=2.85 1982MDa (97814) 649
Medium: propylene carbonate

C18H30N4O12 H6L TTHA CAS 869-52-3 (694)
Triethylenetetraaminehexaethanoic acid;((HOOC.CH2)2N.CH2.CH2.N(CH2.COOH).CH2)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ EMF KNO3 25°C 0.10M C T H K1=23.08 1987HCa (98092) 650
K(TbL+H)=4.90
K(TbHL+H)=2.89

Method: Hg electrode; competitive reaction with Hg(II).
Data for 15-35 C. At 25 C, DH(K1)=118 kJ mol⁻¹, DS(K1)=837 J K⁻¹ mol⁻¹.

Tb+++ vlt R4N.X 30°C 0.01M C K1=19.62 1981GMh (98093) 651
Method: polarography, using Cd as indicator ion. Medium: 0.01 M Et4NBr.

Tb+++ vlt NaClO4 25°C 0.40M C K1=23.61 1978MNb (98094) 652
Medium: 0.40 M NaClO4, pH 4.80. Method: polarography, using Cd as
indicator ion.

C18H32N4O8 H4L TETA CAS 60239-22-7 (1019)
1,4,8,11-Tetraazacyclotetradecane-1,4,8,11-tetraethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaNO3 25°C 0.20M C T H K1=14.81 1991KKa (98231) 653
At 15 C K1=14.68;at 35 C K1=14.94. DH=22.2 kJ mol⁻¹, DS=359.7 J K⁻¹ mol⁻¹

C18H34N2O8 H2L CAS 68670-15-5 (5851)
1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-di-(3-propanoic acid);

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl R4N.X 25°C 0.10M C K1=7.10 1988CCc (98346) 654

C18H36N2O6 L Cryptand 2,2,2 CAS 23978-09-8 (514)
1,10-Diaza-4,7,13,16,21,24-hexaoxabicyclo[8.8.8]hexacosane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ cal non-aq 25°C 100% C H K1=13.70 2003DCa (98748) 655
Method: competitive titration calorimetry of AgL+. Medium: acetonitrile.
DH(K1)=-148.6 kJ mol⁻¹, DS(K1)=-236 J K⁻¹ mol⁻¹.

Tb+++ ISE non-aq 25°C 100% U H K1=16.58 1984GBa (98749) 656
0.1 M tetraethylammonium perchlorate.DH=-104.3 kJ mol⁻¹; DS=-31 J K⁻¹ mol⁻¹
In propylene carbonate.

Tb+++ gl alc/w 25°C 100% C K1=10.26 1983ANb (98750) 657
The equilibration took 7-12 days. Medium: MeOH, 0.05 M Et4NClO4

C18H40N2O10P2 H2L (7241)
1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-diylldimethylenediphosphonic acid
bis(Et-ester);

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl R4N.X 25°C 0.10M U K1=7.12 1996BJa (98900) 658
Medium: 0.1 M Me4NCl

C19H16N4O L LAMI (5930)
2-(2'-Lepidylazo)-N-methylisatin

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 30°C 75% M I K1=10.26 B2=19.22 1987DGc (99169) 659
Medium: 75% v/v dioxan/H2O, 0.15 M NaClO4

C20H14N2O5S H3L Solochrome 6B CAS 3564-14-5 (3507)
1-(1-Hydroxy-2-naphthylazo)-2-naphthol-4-sulfonic acid, Mordant Black3, Eriochrome
blue-black B;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 30°C 0.10M U T H K1=13.80 1991NNb (99663) 660
Also data for 40 and 50 C. DH and DS values.

C20H14N2O5S H3L EriochrBluBlk R CAS 2538-85-4 (3508)
3-Hydroxy-4-(2-hydroxy-1-naphthylazo)naphthalene-1-sulfonic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 30°C 50% U K1=12.05 1976NNa (99701) 661

C20H14N2O11S3 H5L Chromotrope 8B CAS 5850-64-6 (2674)
3-(4'-Sulfonaphthylazo)chromotropic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp NaClO4 25°C 0.10M C K1=6.27 1979PLb (99716) 662

C20H14N2O11S3 H2L Hydroxynaphthol CAS 63451-35-4 (2835)
Hydroxynaphthol blue, 1-(2-Hydroxy-4-sulfo-1-naphthylazo)-2-naphthol-3,

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp none 25°C 0.0 U 1978BRb (99737) 663

K1eff=3.77

Keff at pH 10

C20H18N4O2 HL (5917)

Pyruvic monohydrazone-3-hydrazino-4-benzyl-6-phenylpyridazine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 30°C 75% U 1985RSb (99841) 664

K(Tb+HL)=5.32

K(Tb+2HL)=10.97

C20H24N2O6 H4L HBED CAS 3625-89-6 (2208)

N,N'-Di-(2-hydroxybenzyl)-diaminoethane-N,N'-diethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KNO3 20°C 0.10M U K1=19.61 1985SNb (100016) 665

K(TbL+H)=5.33
K(TbHL+H)=4.87

C20H24O6 L DiBz-18-Crown-6 CAS 14187-32-7 (604)
2,3:11,12-Dibenzo-1,4,7,10,13,16-hexaoxacyclooctadeca-2,11-diene

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	oth/un	25°C	0.0	U	H		K1=2.58	1991HJa (100245)	666

C20H35N5O10		H5L						(6545)		
1,4,7,10,13-Pentaazacyclopentadecane-N,N',N'',N''',N''''-pentaethanoic acid;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	gl	NaNO3	25°C	0.20M	C			K1=15.91	1991KKa (100547)	667

C20H35N5O10		H3L						(6623)		
1,4,7-Tris(carboxymethyl)-13,16-dioxo-1,4,7,10,19-pentaazacycloheneicosa-9,20-dione ;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	sp	KCl	25°C	0.08M	U			K1=17.4	1994FCa (100564)	668

C20H43O4P		HL						CAS 7785-87-1 (2132)		
Didecylphosphoric acid; (C10H21O)2P(O)OH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	kin	oth/un	25°C	0.02M	U			K1=4.33	1974GMc (100912)	669

C21H17N5		L						(7365)		
2,6-Bis(1-methylbenzimidazol-2-yl)pyridine										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	sp	non-aq	20°C	100%	U			K1=9.3 B2=16.40 K3=7.6	1997PBa (101093)	670

Medium: CH3CN

C22H14O9 H5L CAS 4431-00-9 (3513)
Aurintricarboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Tb+++	sp	oth/un	25°C	?	U			K(Tb+HL)=4.8(?)	1967SAa (101508)	671

C22H17AsN4O14S3 H6L Arsenazo M CAS 3563-69-7 (623)

2-(2-Arsonophenylazo)-7-(3-sulfophenylazo)-1,8-dihydroxynaphthalene-3,6-disulfonic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp oth/un ? ? U K1=15.15 1971SSi (101553) 672

C22H18N4O14As2S2 H8L Arsenazo III CAS 1668-00-4 (1148)
2,7-Bis(2'-arsonophenylazo)chromotropic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp oth/un rt 0.10M C 2004LLa (101649) 673
K1eff=5.53
B2eff=9.78
B(2,2)eff=15.52
Method: spectral deconvolution. Medium: 0.1 M chloroacetate buffer, pH 3.5

Tb+++ sp oth/un 20°C ? U 1972SSi (101650) 674
K(Tb+H4L)=16.29

C22H24N2O10 H4L CAS 132796-79-3 (8113)
1,2-Bis(2-aminophenoxy)ethane-N,N,N',N'-tetraethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ EMF KNO3 25°C 0.10M C T H K1=11.07 1990HLA (101904) 675
K(TbL+H)=3.48
Method: Competitive reaction with Hg++, using Hg indicator electrode.
Data for 15-35 C. DH(K1)=-36.4 kJ mol⁻¹, DS(K1)=89.7 J K⁻¹ mol⁻¹.

C22H26N4O10 H4L BAPTA (7230)
1,2-Bis(o-aminophenoxy)ethane-N,N,N',N'-tetraethanoic acid;
(HOOCCH2)2NCH(OC6H4NH2)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl R4N.X 25°C 0.10M C K1=10.78 1993YTa (101987) 676

C22H30N4 L CAS 250790-21-7 (7943)
N,N'-Bis(1,1-dimethylethyl)-1,10-phenanthroline-2,9-dimethanamine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 25°C 0.10M U K1=8.51 2001WZa (102119) 677
B(TbHL)=15.41
Also data for the N,N'-diethyl, isopropyl, butyl and isobutyl derivatives.

C22H37N5O14 H7L CAS 3234-59-1 (2425)
Tetraethylenepentamineheptaethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ vlt R4N.X 30°C 0.01M C K1=20.67 1981GMh (102344) 678
Method: polarography, using Cd as indicator ion. Medium: 0.01 M Et4NBr.

Tb+++ gl KNO3 25°C 0.10M U K1=20.68 1968MIc (102345) 679
K(Tb+HL)=14.47
B(TbH-1L)=5.25

C23H16O9Cl2S H4L Chrome azuro1 S CAS 1667-99-8 (711)
Chromazuro1 S;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp oth/un 25°C ? U K(?)=4.7 1967SAa (102573) 680

C23H18N2O3 HL (5561)
2-(2-Acetylphenylhydrazone)-1,3-diphenyl-prop-1,3-dione;
C6H5.CO.C(CO.C6H5):N.NH.C6H4.COCH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 30°C 75% U K1=10.92 B2=19.62 1988ESb (102602) 681

C24H16O16S8 H8L CAS 237770-97-7 (8854)
25,26,27,28-Tetrahydroxy-2,8,14,20-tetrathiacalix[4]arene-5,11,17,23-tetrasulfonic
acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ cal oth/un 25°C 0.01M C H K1=3.33 2004LWa (102872) 682
Medium: 0.01 M HCl. DH(K1)=7.7 kJ mol⁻¹, DS(K1)=89.6 J K⁻¹ mol⁻¹.

C24H42N6O12 H6L (6546)
1,4,7,10,13,16-Hexaazacyclooctadecane-N,N',N'',N''',N''''-hexaethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaNO3 25°C 0.20M C K1=23.15 1991KKa (103388) 683
K(Tb+H2L)=17.30

C26H23N5O2 HL (5918)
Hippuric monohydrazone-3-hydrazino-4-benzyl-6-phenylpyridazine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 30°C 75% U K1=11.87 B2=22.28 1985RSb (103888) 684

C26H27N3O10 H4L (7231)
2-((2-Amino-5-methylphenoxy)-methyl)-6-methoxy-8-aminoquinoline-N,N,N',N'-tetraethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl R4N.X 25°C 0.10M C K1=14.04 1993YTa (103973) 685

C27H24N4O L BAHP (1023)
Benzoylacetone-monohydrazone-3-hydrazino-4-benzyl-6-phenylpyridazine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 30°C 75.0M U K1=8.43 1983RSa (104391) 686

C27H29NO10 H2L Daunorubicine CAS 23541-50-6 (5660)
Daunomycin;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 25°C 0.05M U B2=17.2 1994HFa (104442) 687
B(TbHL)=16.0
B(TbH2L2)=32.4
B(TbHL2)=24.8

Tb+++ sp oth/un 20°C 0.15M U K(Tb+HL)=7.2 1982Kmd (104443) 688

C27H29NO11 L Adriamycin CAS 25316-40-9 (2407)
Doxorubicin;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp oth/un 25°C 0.02M U T H K1=4.96 1985LSa (104463) 689
Medium: 0.02M pH 7.6 buffer

C28H40O6 L CAS 29471-17-8 (1262)
2,3:11,12-Bis(4'-tert-butylbenzo)-1,4,7,10,13,16-hexaoxacyclooctadecane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl non-aq 25°C 100% U K1=3.50 1980MDb (104852) 690
Medium: Propylene carbonate.

Medium: propylene carbonate

C28H40O10 L DiBz-30-crown10 CAS 104946-67-0 (1776)
2,3:17,18-Dibenzo-1,4,7,10,13,16,19,22,25,28-decaoxacyclotriaconta-2,17-diene;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ ISE non-aq 25°C 100% U K1=4.07 1982MDa (104913) 691
Medium: propylene carbonate

C31H24N4O HL CAS 88700-85-0 (1409)
1,2-Diphenyl-1,2-ethanedione-3-(4-benzyl-6-phenyl)-pyridazinyl hydrazone;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl diox/w 30°C 75% U I K1=9.08 1983RRa (105410) 692
In 75% MeOH: K1=7.59; 75% DMD: 6.29

C33H45N7O3 L CAS 345349-93-1 (9178)
Tris[6-((2-N,N-diethylcarbamoyl)pyridyl)methyl]amine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ nmr KCl 25°C 1.0M C K1=2.37 2004BRa (105975) 693
Method: 1H nmr measurements in D2O.

C36H32O24S4 H8L CAS 171798-10-0 (9139)
25,26,27,28-Tetrakis(hydroxycarbonylmethoxy)calix[4]arene-5,11,17,23-tetrasulfonic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ cal oth/un 25°C 0.01M C H K1=3.63 2004LWa (106232) 694
Medium: 0.01 M HCl. DH(K1)=6.8 kJ mol⁻¹, DS(K1)=92.9 J K⁻¹ mol⁻¹.

C36H60O30 L a-Cyclodextrin CAS 10016-20-3 (6946)
alpha-Cyclodextrin, Cyclohexaamylose;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaCl 25°C 0.10M U I K1=2.78 1999FBa (106473) 695
In 0.1 M Me4NCl, K1=3.20.

C37H33N5O4 L (7366)
2,6-Bis(1-(3,5-dimethoxybenzyl)benzimidazol-2-yl)pyridine

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl non-aq 25°C 100% C K2=4.9 1997PBa (106554) 696
K3=3.1

Medium: CH3CN; 0.1 M Et4NClO4

C37H44N2O13S H6L MeThymol Blue (428)
3,3'-Bis(N,N-di(carboxymethyl)aminomethyl)thymolsulfonephthalein;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl NaClO4 30°C 0.10M U 1980NAb (106620) 697
 K(Tb+H3L)=4.36
 K(Tb+H2L)=6.81
 K(TbH2L+H)=4.69

Also data for TbHnL(OH) species

C37H54N6O14S L CAS 357165-79-8 (8003)
 1-[5-Dimethylaminonaphthalene-1-sulfonyl-aminoethyl]-4,7,10-tris[3'-carboxyl-1'-carboxypropyl]cyc

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp NaCl 22°C 0.10M C 2001LPc (106637) 698
 K(TbL+H)=6.00
 K(TbHL+H)=3.66

C42H53NO15 L Acclarubicin CAS 75443-99-1 (6977)
 Acclarubicin;

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl KCl 25°C 0.05M U B2=17.4 1994HFa (106964) 699
 B(TbHL)=16.3
 B(TbHL2)=25.5

C47H46N6O4 L (7367)
 2,6-Bis(1-(3,5-dimethoxybenzyl)benzimidazol-2-yl)-4-(4-diethylamino)phenylpyridine
 ;

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ gl non-aq 25°C 100% C 1997PBa (107320) 700
 K3=5.9

Medium: CH3CN; 0.1 M Et4NClO4

C62H94N2O4S2 L (8109)
 5,11,17,23-Tetrakis(1,1-dimethylethyl)-25-27-bis[2-methylthio]ethoxy]...calix(4)arene;

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ cal non-aq 25°C 100% U H K1=3.67 2001NJJa (107709) 701
 Method: microcalorimetry. Medium: MeCN.. DH(K1)=-187 kJ mol-1

C64H80N2O7 L CAS 271789-0409 (5946)
 25,27-Dimethoxy-p-tert-butylcalix[4]arene-26,28-[(2,2'-bipyridine-6-methyl)oxymethyl]crown-4;

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

Tb+++ sp alc/w 22°C 95% C K1=3.87 2000FSa (107758) 702
 Medium: 95% MeOH/H2O, 0.001 M Et4NC104.
 For the crown-5 analogue, K1=3.74.

 C76H116N4O8 L (8156)
 p-tert-Butylcalix(4)arene tetradiisopropylethanoamide;

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

 Tb+++ cal non-aq 25°C 100% U H K1=4.66 2001NJJa (107886) 703
 Method: microcalorimetry. Medium: MeCN.. DH(K1)=-101.8 kJ mol-1

 Polymer HL Bleomycin (2324)
 Bleomycin A2, B2 etc.

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

 Tb+++ sp oth/un 25°C ? U 1980LPb (108094) 704
 K1eff=4.40 pH 6.8

Method: fluorescence

 Tb+++ ISE oth/un 25°C ? U K1=4.40 1980LPb (108095) 705

 Polymer Elastase CAS 39445-21-1 (7314)
 Porcine pancreatic elastase;

 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo

 Tb+++ oth oth/un 25°C 0.15M U 1980JMb (108387) 706
 K1eff=5.48

Medium: 0.1 M KCl, 0.05 M MOPS, pH 6.85. Method: enhancement of Tb luminescence

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EXPLANATORY NOTES

DATA Flags are :-

- T Data at other TEMPERATURES
- I Data with various BACKGROUNDS
- H Data for THERMOCHEMICAL quantities

M Data for TERNARY Complexes

EVALUATION Flags are :-

T or IUP=T signifies EVALUATION RATING = Tentative by IUPAC

END