

## SC-Database

Software version = 5.81 Data version = 4.62

Experiment list contains 695 experiments for

(no ligands specified)

Metal : Ho+++

(no references specified)

(no experimental details specified)

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e- HL Electron (442)  
Electron;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ho+++	oth	none	25°C	0.0	U			1974JOb (572)	1	
									K(Ho+3e=Ho(s))=-119.2(-2.35V)	
									K(Ho+e=Ho(II))=-49(-2.9V)	

Method: literature evaluated data

Ho+++	oth	none	25°C	0.0	U			1952LAb (573)	2	
									K(Ho+3e)=-117.6(-2320 mV)	

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ho+++	sol	none	25°C	0.0	C			1992FIa (1148)	3	
									Kso(HoAsO4)=-22.87	

Equilibrium monitored by EDTA and iodine titrations.

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Br- HL Bromide CAS 10035-10-6 (19)  
Bromide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ho+++	sp	alc/w	25°C	50%	U I			1973KPe (2028)	4	
									Medium: 50% w/w MeOH/H2O, 3 M LiClO4. K1=-0.62(0%); K1in=-0.8(90%)	

Ho+++	sp	oth/un	22°C	0.0	U			K1=-0.67 B2=-3.10 1966MSf (2029)	5	
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CO3-- H2L Carbonate CAS 465-79-6 (268)  
Carbonate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ho+++	gl	NaClO4	25°C	0.70M	C			K1=5.84 2004LBb (3244)	6	
									K(Ho+HCO3=HoHCO3)=1.41	

Medium: 0.70 m NaClO4. Calculated for I=0, K1=7.55, B2=13.00,  
K(Ho+HCO3=HoHCO3)=2.46, K(Ho+HL=HoL+H)=-2.78, K(Ho+2HL=HoL2+2H)=-7.66

-----  
 Ho+++ dis NaClO4 25°C 0.70M C I K1=5.82 B2=10.48 1998LBb (3245) 7  
 Method: H2O/tributylphosphate distribution and ICP-mass spectrometry.  
 Values calculated for I=0.0 M, K1=7.80, B2=13.56  
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Ho+++ sol none 25°C 0.0 C 1986FMa (3246) 8  
 Kso(Ho2(CO3)3)=-32.8  
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Ho+++ sol none 25°C 0.0 C 1986HMa (3247) 9  
 Kso(Ho2(CO3)3)=-32.8  
 Method: spectrophotometry.  
 -----

Ho+++ sp NaNO3 25°C 2.5M C 1979DBa (3248) 10  
 B(Ho(CO3)4)=16.87  
 B(Ho(edta)CO3)=19.24  
 Method: by competition with edta  
 -----

Ho+++ dis oth/un 20°C 2.5M C 1979DBb (3249) 11  
 B4=15.55  
 Media: 2.5 M (NH4)2NO3/hexane. Analysis by NAA. By competition with edta;  
 K1(Ho(edta))=18.57 recalculated for I=2.5 from J.Am.Chem.Soc.,75 1953,4196  
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C6N6Fe--- H3L Ferricyanide (2491)  
 Hexacyanoferrate (III); Fe(III)(CN)6---  
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	cal	none	25°C	0.00 M	H		K1=3.66	1972SCd (3653)	12
DH(K1)=4.4 kJ mol <sup>-1</sup> , DS=84.9 J K <sup>-1</sup> mol <sup>-1</sup>									
*****									
Cl-		HL		Chloride			CAS 7647-01-0	(50)	
Chloride;									

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	dis	NaCl	25°C	1.0M C			K1=-0.15	1997HTb (5045)	13
Method: by solvent extraction from 1.0 M NaCl into CHCl3, 0.1 M 1,1,1-trifluoro-4-(2-thienyl)-2,4-pentanedione.									

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Ho+++ cal non-aq 25°C 100% U H K1=2.61 B2=5.00 1991ITa (5046) 14  
 K3=1.63  
 K4=1.46  
 Medium: DMF, 0.2 M Et4NClO4. DH(K1)=18.0 kJ mol<sup>-1</sup>, DH(K2)=24.6, DH(K3)=20  
 DH(K4)=32. DS(K1)=110, DS(K2)=128, DS(K3)=98 J K<sup>-1</sup> mol<sup>-1</sup>  
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Ho+++ sol NaClO4 25°C ? U K1=0.30 1982MAa (5047) 15  
 -----

Ho+++ cal non-aq 25°C 100% U K1=2.28 B2=4.50 1980VCa (5048) 16  
 Medium: diemthylacetamide  
 -----

Ho+++ sp non-aq 25°C 100% U K1=0.0 1974KBb (5049) 17  
Medium: propanol, 1 M LiClO4

Ho+++ sp alc/w 25°C 50% U I K1=0.39 1971KBf (5050) 18  
K1in=-0.96  
Medium: 50% w/w MeOH/H2O, 3 M LiClO4. K1=-0.08(0%); K1=0.82, K1in=-0.30(100%)

Ho+++ sp alc/w 25°C 50% U I K1=0.45 1971KBg (5051) 19  
K1in=-0.82  
Medium: 50% v/v EtOH/H2O. K1=0.17(25%); K1=0.70, K1in=-0.51(75%); K1=0.85, K1in=-0.12(90%); K1=0.94, K1in=-0.06(100%)

Ho+++ sp oth/un 22°C 0.0 U K1=-2.03 1966MSf (5052) 20

Ho+++ sol none 25°C 0.0 U 1961AEa (5053) 21  
Kso(Ho(OH)2.5Cl0.5)=-22.2

I=0 corr. Unstable

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

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

Ho+++ ix oth/un 25°C 0.02M C T H K1=3.78 B2= 5.98 2004LMa (6953) 22  
Medium: 0.025 M HNO3. Applying Pitzer parameters: at I=0, K1=9.86.  
Data for 5 to 45 C. DH(K1)=10.0 kJ mol-1, DH(B2)=21.1.

Ho+++ ISE NaClO4 25°C 0.0 C I K1=4.28 2000LBA (6954) 23  
Method: Fluoride ISE. Values calc. from data for I=0.015-0.70 M NaClO4.  
At I=0.70 M, K1=3.349.

Ho+++ ix KNO3 25°C 0.02M C K1=3.74 B2= 6.28 1999SBc (6955) 24  
Medium: 0.025 M HNO3. Additional method: ICP-MS.  
Assumed K1(HF) = 3.03, derived from literature values.

Ho+++ ISE none 25°C 0.0 C H K1=3.31 B2=6.81 1989MJa (6956) 25  
Kso=-14.1  
Also by conductivity and radiometry. DH(Kso)=36.4 kJ mol-1; DS=-140.1

Ho+++ ISE R4N.X 25°C 0.50M C K1=3.31 B2=6.81 1989MJb (6957) 26

Ho+++ cal NaClO4 25°C 1.00M C H 1988GBa (6958) 27  
DH(K1)=10.0 kJ mol-1; DS(K1)= 101 J mol-1 K-1

Ho+++ ISE NaCl 25°C 1.00M C K1=3.243 1985BBb (6959) 28

Ho+++ gl KCl 25°C 1.00M U M 1981KTb (6960) 29  
K(HoEDTA+F)=1.83  
K(Ho(EDTA)F+F)=0.48

Ho+++ EMF NaClO4 25°C 1.0M U H K1=3.52 1967WCa (6961) 30  
By calorimetry: DH(K1)=30.3 kJ mol<sup>-1</sup>, DS=168.9 J K<sup>-1</sup> mol<sup>-1</sup>

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I03- HL Iodate CAS 7782-68-5 (1257)  
Iodate;

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ho+++ sol oth/un 25°C 0.0 U 1966FPb (8520) 31  
Kso=-10.70

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I04- HL Periodate CAS 13444-71-8 (6063)  
Periodate;

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ho+++ sol oth/un 25°C dil U 1974L0a (8605) 32  
Kso(Ho(H2IO6)(H2O)3)=-9.70

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Mo04-- H2L Molybdate (443)  
Molybdate;

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

Ho+++ con oth/un 25°C .001M U K1=4.32 1968DKc (8736) 33

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Mo12042U----- H8L (2922)  
Uranium-12-molybdate;

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ho+++ gl oth/un 20°C 0.10M U 1989SBb (8775) 34  
B(HoHL)=7.93  
B(HoH2L)=8.69

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

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Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ho+++ cal NaClO4 25°C 2.0M C IH K1=-0.85 1998BMb (9710) 35  
DH(K1)=9.6 kJ mol<sup>-1</sup>. From Pitzer extrapolation to I=0.0, K1=-0.08,  
DH(K1)=8.5 kJ mol<sup>-1</sup>

Ho+++ sp non-aq 25°C 100% U K1=0.4 1974KBb (9711) 36  
Medium: PrOH, 1 M LiClO4

Ho+++ sp KNO3 ? var U 1970KSf (9712) 37  
K(Ho+3L+HL)=-0.74  
K(HoL3HL+2HL)=-1.12

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 Ho+++ dis NaClO4 25°C 1.0M U K1=-0.22 1965UKa (9713) 38  
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OH- HL Hydroxide (57)  
 Hydroxide;

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 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ho+++ gl NaClO4 25°C 0.0 C IH 2000KBa (11616) 39  
 \*K1=-7.56  
 In 0.7 M NaClO4, \*K1=-7.87. DH(\*K1)=49 kJ mol<sup>-1</sup>.

-----  
 Ho+++ gl NaCl 25°C 0.10M U I 1999FBa (11617) 40  
 \*B(1,3)=-21.46  
 In 0.1 M Me4NCl, \*B(1,3)=-22.08.

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 Ho+++ EMF alc/w 20°C 25% U 1973SPe (11618) 41  
 \*K1(HoA+H2O=HoAOH+H)=-7.30  
 Medium: ca.25 to 35% w/w MeOH or EtOH/H2O. H3A=NTA

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 Ho+++ dis NaClO4 ? 0.10M U 1971GDb (11619) 42  
 \*K1=-5.7  
 Medium: LiClO4

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 Ho+++ gl NaClO4 25°C 0.30M U 1966FKa (11620) 43  
 \*K1=-8.04

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 Ho+++ sol none 25°C 0.0 U 1961AEa (11621) 44  
 Kso=-25.7(50 days)  
 Kso=-26.6(150 days)

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

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 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
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Ho+++ sol none 25°C 0.0 M 1997LBd (13219) 45  
 Kso(HoP04)=-25.07  
 Calculated from data for 0.10 M HClO4 solution.

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 Ho+++ sol oth/un 25°C 0.0 C I 1993FKb (13220) 46  
 Kso(HoP04)=-26.31  
 In synthetic seawater, Ks(HoP04)=-23.89.

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 Ho+++ sol none 25°C 0.0 C 1991FBa (13221) 47  
 Kso(HoP04)=-25.57

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 P207---- H4L Pyrophosphate CAS 2466-09-3 (198)  
 Diphosphate; from (HO)2PO.O.PO(OH)2  
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	kin	none	25°C	0.0	U		B2=20.88	1967SSo (13599)	48
*****									
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
Ho+++	gl	KNO3	25°C	0.10M	U T H		B2=9.2 K(Ho+2HL)=7.1	1974KR a (13866)	49
K(Ho+2HL)=7.3 and B2=9.6 (35 C), K(Ho+2HL)=6.8 and B2=9.1 (45 C)									
DH(Ho+2HL)=-28 kJ mol <sup>-1</sup> ; DH(B2)=-28									
*****									
ReO4-		HL					Perrhenate (2581)		
Rhenate(VII), Perrhenate;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	sp	oth/un	rt	1.00M	U		K1=-0.76	1970PO a (14100)	50
Medium: HReO4									
*****									
SCN-		HL					Thiocyanate CAS 463-56-9	(106)	
Thiocyanate;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	dis	oth/un	25°C	1.0M	C		K1=0.45	1997HT b (15082)	51
Method: by solvent extraction from 1.0 M NaSCN into CHCl3, 0.1 M 1,1,1-trifluoro-4-(2-thienyl)-2,4-pentanedione.									
Ho+++	cal	non-aq	25°C	100%	U H		K1=1.7 B2=3.0 K3 = 0.5	1992TI a (15083)	52
Medium: DMF, 0.2 M R4NX. DH(K1)=8 kJ mol <sup>-1</sup> , DH(B2)=5, DH(B3)=25									
Ho+++	sp	NaClO4	?	3.0M	U		K1=-0.1 to 0.4	1974NB d (15084)	53
Medium: LiClO4									
*****									
S04--		H2L					Sulfate CAS 7664-93-9	(15)	
Sulfate;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	sol	oth/un	25°C	0.66M	C		K1=1.87	2004SB b (16248)	54
Method: solubility of BaSO4 in 0.117 m HoCl3 solution. Calculated for I=0, K1=3.54.									
Ho+++	cal	none	25°C	0.0	U H			1974PO a (16249)	55
DH(K1)=20.4 kJ mol <sup>-1</sup>									

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Ho+++      oth none  25°C  0.0  U      K1=3.59      1973FPb (16250)  56
                                         K1in=0.61
Method: ultrasonic absorption. By conductivity K1=3.60
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Ho+++      cal oth/un 25°C  0.0  U  H      1969FPa (16251)  57
DH(K1)=14.8 kJ mol-1
-----
Ho+++      cal oth/un 25°C  0.0  U  H      K1=3.38  B2=4.98  1969IEa (16252)  58
DH(K1)=15.3 kJ mol-1, DH(K2)=6.7; DS(K1)=116.2 J K-1 mol-1, DS(K2)=53.1
-----
Ho+++      ISE NaClO4 25°C  2.0M U  H      K1=1.24  B2=1.76  1967CCd (16253)  59
By calorimetry: DH(K1)=17.6 kJ mol-1, DS=82.8 J K-1 m-1; DH(K2)=7.1, DS=33.9
-----
Ho+++      con oth/un 25°C  0.0  U      K1=3.59      1954SJa (16254)  60
*****
CHO3F3S          HL          CAS 1493-13-6 (6755)
Trifluoromethanesulfonic acid; CF3SO3H
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      sp  non-aq 25°C 100%  U      1993BCc (17464)  61
                                         K3=2.53
Medium: MeCN
*****
C2H2O3          HL  Glyoxylic acid  CAS 298-12-4 (1142)
Glyoxylic acid; OHC.COOH
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      gl  NaClO4 20°C 0.10M U      K1=2.58  B2=4.48  1964PSd (18423)  62
                                         K3=1.7
*****
C2H2O4          H2L  Oxalic acid      CAS 144-62-7 (24)
Ethanedioic acid; (COOH)2
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      ix  R4N.X  25°C 0.05M C      K1=5.85  B2=10.23  2001SBf (18924)  63
                                         K(Ho+HL)=2.17
Medium: 0.05 M NH4NO3. At I=0, K1=6.77, B2=11.41.
-----
Ho+++      gl  KCl    25°C 1.0M U  M      1988KTa (18925)  64
                                         K(Ho(edta)+L)=2.80
-----
Ho+++      sp  NaNO3  20°C 2.50M U  M      1981DFa (18926)  65
                                         K(Er(CO3)4+L)=1.345
*****
C2H3N3S2          HL          CAS 2349-67-9 (6245)
2-Amino-5-mercapto-1,3,4-thiadiazole;

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	NaClO4	25°C	0.10M	U T H		K1=6.43 K3=4.06 B2=11.71	1983SSb (19255)	66

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C2H4O2 HL Acetic acid CAS 64-19-7 (36)  
Ethanoic acid; CH3.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	sp	NaClO4	21°C	2.0M	U		K1=1.75 B3=3.65 B4=3.99 B2=2.94	1984BMa (20001)	67

Ho+++	sp	NaClO4	21°C	2.00M	U		K1=1.72 B3=3.68 B4=3.93 B2=2.90	1981BMc (20002)	68
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Ho+++	cal	NaClO4	25°C	2.0M	C H			1964GRa (20003)	69
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DH(K1)=13.25 kJ mol<sup>-1</sup>, DS(K1)=76.6 J K<sup>-1</sup> mol<sup>-1</sup>; DH(B2)=20.96, DS(B2)=126;  
DH(B3)=18.97, DS(B3)=136.

Ho+++	gl	NaClO4	20°C	0.10M	U		K1=2.01 B2=3.60	1962KPa (20004)	70
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Ho+++	EMF	NaClO4	20°C	2.0M	U		K1=1.63 B3=3.75 B4=3.6 B2=2.86	1958SOa (20005)	71
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Method: quinhydrone electrode

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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
Ho+++	gl	NaClO4	20°C	0.10M	U		K(Ho+HL)=1.92 K(HoHL+HL)=1.32	1964PKa (20330)	72

Ho+++	gl	NaClO4	25°C	2.0M	U		K(Ho+HL)=1.32 K(HoHL+HL)=0.8	1962BCa (20331)	73
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C2H4O3 HL Glycolic acid CAS 79-14-1 (33)  
2-Hydroxyethanoic acid; HO.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	sp	NaClO4	21°C	2.00M	U		K1=2.50 B3=5.81 B2=4.60	1981BMc (20557)	74



B4=6.62

Ho+++	gl	KNO3	32°C	0.10M	U			1980PPf (20558)	75
						K(Ho+HL=HoL+H)=-0.67 *K(HoL)=-5.76 K(Ho+2HL=HoL2+2H)=-2.10 *K(HoL2)=-5.70			
Ho+++	gl	NaCl04	20°C	0.10M	U		K1=2.991 B3=6.57	B2=5.04 1964PKb (20559)	76
Ho+++	gl	NaCl04	25°C	2.0M	U		K1=2.46 K3=1.25	B2=4.41 1962BCa (20560)	77
Ho+++	gl	NaCl04	25°C	2.0M	U		K1=2.49 K3=1.38	B2=4.53 1961CCa (20561)	78
Ho+++	EMF	NaCl04	20°C	2.0M	U		K1=2.54 B3=5.9 B4=6.4 B5=6.5	B2=4.48 1959S0b (20562)	79

Method: quinhydrone electrode

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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
Ho+++	gl	KNO3	25°C	0.0	M T H			K1=5.97 K(Ho+HL=HoL+H)=-3.67	2003MBa (21586)	80
Extrapolated from data for I=0.07-0.32 M KNO3. DH(K1)=-15.6 kJ mol <sup>-1</sup> , DS(K1)=61.9 J K <sup>-1</sup> mol <sup>-1</sup> ; DH(Ho+HL)=16.5, DS(Ho+HL)=-14.9.										
Ho+++	cal	oth/un	25°C	0.03M	U	H		K1=4.44	1981PBa (21587)	81
Ho+++	EMF	KCl	25°C	1.0M	U	M		K(HoA+L)=4.24 K(HoA+HL)=2.98 K(HoA+H2L)=3.04	1977GMa (21588)	82

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

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ho+++	sp	non-aq	25°C	100%	U			K8=0.9 K9=0.4	1992MBb (22101)	83

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A horizontal number line is shown, ranging from 0 to 100. Major tick marks are labeled every 10 units: 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, and 100. Minor tick marks are present between the major ones, representing every 1 unit. A vertical line is drawn at the position of 88, and the number '88' is written below the line.

Medium: DMSO 0.10 M Et<sub>4</sub>NClO<sub>4</sub> By calorimetry: DH(K1) = 10.7 DH(B2) = 40.2

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Additional method: nmr Medium not stated

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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
Ho+++	gl	KCl	25°C	0.20M	U		K1=3.71	1973LPb (24627)	90

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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
Ho+++	gl	diox/w	20°C	50%	U		K1=5.95	1971MAf (24644)	91

Medium: 50% dioxan, 0.1 M NaClO4  
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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
Ho+++	gl	diox/w	20°C	50%	U		K1=7.07    B2=13.19	1971MAf (24806)	92

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
Ho+++	sp	NaClO4	21°C	2.00M	U		K1=1.77    B2=2.99 B3=3.71 B4=4.04	1981BMc (25011)	93
Ho+++	gl	NaClO4	25°C	2.0M	U		K1=1.62    B2=2.85	1965CGa (25012)	94
Ho+++	gl	NaClO4	20°C	0.10M	U		K1=1.96    B2=3.46	1964PKa (25013)	95

\*\*\*\*\*

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
Ho+++	gl	NaClO4	25°C	2.00M	U		K(Ho+HL)=1.53	1968CMa (25149)	96
Ho+++	gl	NaClO4	31°C	2.0M	U		K(Ho+HL)=1.45 K(HoHL+HL)=1.0	1963BCb (25150)	97

\*\*\*\*\*

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

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      gl  NaCl04 25°C 2.00M U                        1968CMa (25210) 98
                                         K(Ho+HL)=1.46
-----
Ho+++      gl  NaCl04 31°C 2.0M U                          1963BCb (25211) 99
                                         K(Ho+HL)=1.68
                                         K(HoHL+HL)=1.3

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

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      gl  NaCl04 25°C 2.00M U                        K1=1.48      1969JCC (25266) 100
*****
C3H6O3      HL      L-Lactic acid      CAS 79-33-4 (82)
L-2-Hydroxypropanoic acid; CH3.CH(OH).COOH
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      gl  KNO3   30°C 0.10M U                        1983MPc (25460) 101
                                         K(Ho+HL=HoL+H)=0.38
                                         *K(HoL)=-4.69
                                         K(Ho+2HL=HoL2+2H)=-0.68
                                         *K(HoL2)=-4.09
-----

```

```

Ho+++      sp  NaCl04 21°C 2.00M U                        K1=2.72      B2=4.91      1981BMb (25461) 102
                                         B3=6.17
                                         B4=7.08
-----

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Ho+++      gl  NaCl04 25°C 0.20M U                        K1=2.73      B2=5.03      1964DVa (25462) 103
                                         K3=1.27
                                         K4=0.67
-----

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```

Ho+++      gl  NaCl04 20°C 0.10M U                        K1=3.021     B2=5.42      1964PKb (25463) 104
                                         B3=6.83
-----

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Ho+++      gl  NaCl04 25°C 2.0M U                          K1=2.71      B2=4.97      1961CCa (25464) 105
                                         K3=1.58
-----

```

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

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      gl  NaCl04 20°C 0.10M U                        K1=2.07      B2=3.22      1964PKa (25601) 106
*****
C3H7NO2      HL      Alanine          CAS 56-41-7 (86)

```

2-Aminopropanoic acid; H<sub>2</sub>N.CH(CH<sub>3</sub>).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	KNO <sub>3</sub>	25°C	0.10M	U		K <sub>1</sub> =4.6	1967EMb (26190)	107
*****									
C3H7NO <sub>2</sub> S		H <sub>2</sub> L		Cysteine			CAS 52-90-4	(96)	
2-Amino-3-mercaptopropanoic acid; H <sub>2</sub> N.CH(CH <sub>2</sub> .SH)COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	NaClO <sub>4</sub>	20°C	0.0	U T H		K <sub>1</sub> =8.025 B <sub>2</sub> =15.82	1980SDc (26801)	108
Extrapolated from data for I=0.10-1.0 M. Data for 35 and 45 C.									
DH(K <sub>1</sub> )=-14.4 kJ mol <sup>-1</sup> , DS=104 J K <sup>-1</sup> mol <sup>-1</sup> ; DH(K <sub>2</sub> )=-23.0, DS(K <sub>2</sub> )=71.									
*****									
C3H7NO <sub>3</sub>		HL		Serine			CAS 56-45-1	(49)	
2-Amino-3-hydroxypropanoic acid; H <sub>2</sub> N.CH(CH <sub>2</sub> .OH)COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	oth/un	25°C	0.10M	U		K <sub>1</sub> =4.00	1965PGe (27145)	109
*****									
C3H8O <sub>2</sub>		L		Propyleneglycol			CAS 57-55-6	(2025)	
Propan-1,2-diol; CH <sub>3</sub> .CH(OH).CH <sub>2</sub> (OH)									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	NaClO <sub>4</sub>	22°C	0.10M	U			1972MCd (27678)	110
							K(HoH-1L+H)=6.95		
*****									
C3H8O <sub>3</sub>		L		Glycerol			CAS 56-81-5	(2707)	
Propane-1,2,3-triol; HO.CH <sub>2</sub> .CH(OH).CH <sub>2</sub> .OH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	NaClO <sub>4</sub>	22°C	0.10M	U			1972MCd (27736)	111
							K(HoH-1L+H)-6.80		

Ho+++	gl	NaCl	25°C	0.10M	U			1970PKe (27737)	112
							K(HoH-1L+H)=6.85		
*****									
C3H <sub>12</sub> N <sub>3</sub> O <sub>9</sub> P <sub>3</sub>		H <sub>6</sub> L		NTPA			CAS 6419-19-8	(2920)	
Nitrilotris(methylenephosphonic acid); N(CH <sub>2</sub> PO <sub>3</sub> H <sub>2</sub> ) <sub>3</sub>									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	KNO <sub>3</sub>	25°C	0.10M	C			1991SKb (28572)	113
							K(HoL+H)=7.16		
							K(HoHL+H)=5.42		
*****									

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
Ho+++	cal	NaCl04	25°C	0.10M	U	H	K1=2.85    B2=4.27	19760Ca (28652)	114
DH(K1)=9.0 kJ mol <sup>-1</sup> , DS=85 J K <sup>-1</sup> mol <sup>-1</sup> ; DH(B2)=16.0, DS=129									

Ho+++	gl	NaCl04	25°C	0.10M	C	H	K1=2.852    B2= 4.27	19760Cb (28653)	115
By calorimetry: DH(K1)=8.95 kJ mol <sup>-1</sup> , DS(K1)=84.5 J K <sup>-1</sup> mol <sup>-1</sup> ; DH(B2)=16.0, DS(B2)=129.									

\*\*\*\*\*

C4H4N2O2S                      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
Ho+++	gl	oth/un	25°C	0.10M	U		K1=3.195	1987TSb (28890)	116

\*\*\*\*\*

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
Ho+++	gl	oth/un	25°C	0.10M	U	T H	K1=4.27	1987TSb (28914)	117
30 C:K=3.90; 35 C: 3.44. DH=-145 kJ mol <sup>-1</sup> , DS=-405 J K <sup>-1</sup> mol <sup>-1</sup>									

\*\*\*\*\*

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
Ho+++	gl	oth/un	25°C	?	U	M	K1=3.54	1998PAa (29083)	118
							K(HoL+acac)=5.16		
							K(Ho(acac)L+acac)=4.45		

Additional method: nmr. Medium not stated.

Ho+++	gl	NaCl04	25°C	0.10M	U		K1=3.67	1973CDc (29084)	119
-------	----	--------	------	-------	---	--	---------	-----------------	-----

Ho+++	gl	NaCl04	25°C	1.00M	U		K1=2.89    B2=4.67	1973DMa (29085)	120
-------	----	--------	------	-------	---	--	--------------------	-----------------	-----

Ho+++	gl	NaCl04	25°C	0.10M	U		K1=3.67    B2=5.69	1970RFa (29086)	121
-------	----	--------	------	-------	---	--	--------------------	-----------------	-----

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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
Ho+++	gl	NaCl04	25°C	0.10M	C		K1=2.51	1986LCa (29202)	122
							B(HoHL)=6.01		

$$K(\text{Ho}+\text{HL})=1.93$$

```
-----
Ho+++      gl  NaCl04 25°C 0.10M U          K1=2.80      1973CDc (29203) 123
*****
C4H405          H2L    Oxobutanedioic  CAS 328-42-7 (1733)
2-Oxosuccinic acid, Oxalacetic acid; H0OC.CH2.CO.COOH
-----
```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      gl  NaCl04 25°C 0.50M M          K1=3.84    B2=7.33    1991M0a (29269) 124
*****
C4H602          HL     Methylacrylic      (6992)
2-Methylpropenoic acid; CH2:C(CH3)COOH
-----
```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      gl  KCl    25°C 0.10M U          K1=2.32      1995PAa (29699) 125
*****
C4H604          H2L    Me-Malonic Acid  CAS 516-15-2 (816)
Methylpropanedioic acid; H0OC.CH(CH3).COOH
-----
```

```
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      gl  KCl    25°C 0.20M U          K1=4.28    B2=6.49    1975PLa (30127) 126
*****
C4H605          H2L    Malic acid      CAS 617-48-1 (393)
2-Hydroxybutane-1,4-dioic acid, Hydroxy-succinic acid; H0OC.CH2.CH(OH).COOH
-----
```

```
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      gl  KNO3   30°C 0.10M U      M          1984AIa (30644) 127
                      K(Ho(EDTA)+L)=1.984
-----
```

```
-----
Ho+++      gl  KNO3   20°C 0.10M U          B(HoHL)=7.36
                      1980SDa (30645) 128
-----
```

```
-----
Ho+++      gl  KNO3   20°C 0.10M U          K1=4.61    B2=7.61    1980SDB (30646) 129
                      K(Ho+HL)=1.05
-----
```

```
-----
Ho+++      gl  NaCl04 25°C 0.10M U          K1=4.90    B2=8.25    1970RFa (30647) 130
*****
C4H605          H2L    Diglycolic acid CAS 110-99-6 (243)
Di(carboxy)methyl ether, 2,2'-Oxydiethanoic acid; H0OC.CH2.O.CH2.COOH
-----
```

```
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      gl  KCl    25°C 1.0M U      M          1988KTa (30882) 131
                      K(Ho(edta)+L)=1.65
-----
```

```
-----
Ho+++      EMF NaCl04 20°C 1.00M U          K1=5.40    B2=10.07   1972G0a (30883) 132
-----
```

B3=13.46

-----  
Ho+++ cal NaClO4 25°C 1.0M C H 1963GRd (30884) 133  
DH(K1)=6.657 kJ mol<sup>-1</sup>, DS(K1)=124 J K<sup>-1</sup> mol<sup>-1</sup>; DH(B2)=-1.09,  
DS(B2)=187; DH(B3)=-18.34, DS(B3)=193.  
-----

Ho+++ EMF NaClO4 20°C 1.00M U K1=5.28 B2=9.95 1963GTa (30885) 134  
B3=13.31

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
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

-----

Ho+++	sp	oth/un	25°C	0.0	U T H		K1=5.14	1975YBa (31276)	135
-------	----	--------	------	-----	-------	--	---------	-----------------	-----

DH(K1)=3.8 kJ mol<sup>-1</sup>, DS=112.9 J K<sup>-1</sup> mol<sup>-1</sup>  
-----

Ho+++	gl	alc/w	25°C	40%	U I		K1=5.04	1972SSj (31277)	136
-------	----	-------	------	-----	-----	--	---------	-----------------	-----

Medium: 0-40% EtOH, 0.05 M. 40% EtOH, I=0: K1=0.46  
-----

Ho+++	gl	KCl	24°C	0.20M	U		K1=3.38	1966DDa (31278)	137
-------	----	-----	------	-------	---	--	---------	-----------------	-----

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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
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

-----

Ho+++	gl	NaClO4	30°C	0.10M	U		K1=5.68 B2=10.47	1984YLa (31869)	138
-------	----	--------	------	-------	---	--	------------------	-----------------	-----

-----

Ho+++	gl	NaClO4	30°C	0.10M	U		K1=6.36	1973STb (31870)	139
-------	----	--------	------	-------	---	--	---------	-----------------	-----

-----

Ho+++	gl	KCl	25°C	0.10M	U		K1=5.91 B2=10.81	1968DRb (31871)	140
-------	----	-----	------	-------	---	--	------------------	-----------------	-----

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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
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

-----

Ho+++	gl	KCl	25°C	1.0M	U	M		1988KTa (32275)	141
-------	----	-----	------	------	---	---	--	-----------------	-----

K(Ho(edta)+L)=3.89  
-----

Ho+++	EMF	KCl	25°C	1.0M	U	M		1977GMa (32276)	142
-------	-----	-----	------	------	---	---	--	-----------------	-----

-----

K(HoA+L)=5.49  
K(HoA+H2L)=1.18  
K(HoA+H3L)=2.41

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

Ho+++	sp	none	25°C	0.0	U	M		1974PLa (32277)	143
-------	----	------	------	-----	---	---	--	-----------------	-----



$$K(\text{HoL}+\text{H2O2})=3.93$$

Ho+++	g1	NaClO4	25°C	1.00M	U	K1=6.64	B2=11.97	1972GGa (32278)	144
						B3=16.28			
						B(HoHL)=10.68			
						B(HoH2L)=12.83			

[illegible]

Ho+++            gl   KNO3   25°C 0.10M U            M   K1=6.97   B2=12.47   1962THa (32280) 146  
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
Ho+++	gl	diox/w	20°C	50%	U		K1=8.41	B2=15.90	1971MAf (32541)	147
Medium: 50% v/v dioxan, 0.1 M NaClO4										
*****										
C4H8N2O3		HL		Gly-Gly			CAS	556-50-3	(54)	
Glycyl-glycine; H2N.CH2.CO.NH.CH2.COOH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	KCl	25°C	0.10M	U		K1=2.65	1973FMa (33031)	148
*****									
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
Ho+++	gl	KCl	60°C	0.10M	U			K1=6.50 B2=11.06 B3=13.40	1978NBa (33086)	149
*****										
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
Ho+++	gl	KNO3	30°C	0.10M	U	M			1984AIa (33107)	150
K(Ho(EDTA)+L)=2.357										
*****										
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
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

-----  
Ho+++ gl NaClO4 25°C 2.00M U H K1=1.63 B2=2.84 1965CGa (33232) 151  
By calorimetry: DH(K1)=22.2 kJ mol<sup>-1</sup>, DS=106 J K<sup>-1</sup> mol<sup>-1</sup>; DS(K2)=10.9, DS=59  
-----

Ho+++ gl NaClO4 25°C 0.50M U K1=1.70 B2=2.92 1964SPa (33233) 152  
\*\*\*\*\*

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  
-----

Ho+++ gl NaClO4 31°C 2.0M U K1=1.43 B2=2.43 1963BCb (33407) 153  
\*\*\*\*\*

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  
-----

Ho+++ gl NaClO4 25°C 0.20M U K1=2.98 B2=5.54 1964DVa (33479) 154  
K3=1.9  
K4=1.3  
-----

Ho+++ gl NaClO4 20°C 0.10M U K1=3.314 B2=5.98 1964PKb (33480) 155  
B3=7.96  
-----

Ho+++ gl NaClO4 25°C 0.50M U K1=2.98 B2=5.42 1964SPa (33481) 156  
B3=7.41  
-----

Ho+++ gl NaClO4 25°C 2.0M U K1=3.06 B2=5.65 1961CCa (33482) 157  
K3=2.03  
-----

\*\*\*\*\*

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  
-----

Ho+++ gl KNO3 25°C 0.10M C K1=3.11 B2=5.56 1975PFb (33680) 158  
K3=1.79  
-----

\*\*\*\*\*

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  
-----

Ho+++ EMF KNO3 25°C 0.10M U K1=3.04 B2=5.49 1976PKb (33701) 159  
K3=2.00  
-----

Ho+++ gl NaClO4 25°C 0.50M U K1=2.71 B2=4.89 1964SPa (33702) 160  
B3=6.22  
-----

\*\*\*\*\*

C4H9NO3                      HL      Threonine                      CAS 72-19-5    (48)  
2-Amino-3-hydroxybutanoic acid; H2N.CH(CH(OH)).CH3)COOH

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

Ho+++      gl   KN03    25°C   0.0   M T H      K1=5.39                  2003MBa (34309) 161  
K(Ho+HL=HoL+H)=-3.79

Extrapolated from data for I=0.07-0.32 M KNO<sub>3</sub>. DH(K1)=-62.7 kJ mol<sup>-1</sup>, DS(K1)=-107.9 J K<sup>-1</sup> mol<sup>-1</sup>; DH(Ho+HL)=-9.0, DS(Ho+HL)=-102.8.

\*\*\*\*\*

C4H11N	L	Butylamine	CAS 109-73-9	(159)
--------	---	------------	--------------	-------

1-Aminobutane;  $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{NH}_2$

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

Ho+++	cal non-aq 25°C 100% U	H	K1=4.10	B2=7.39	1997CDa (34769)	162
			B3=9.57			
			B4=11.08			

Medium: MeCN. DH(K1)=-34.9 kJ mol<sup>-1</sup>, DS=39, DH(B2)=-68.6, DS=89; DH(B3)=-102, DS=159, DH(B4)=-123, DS=201

\*\*\*\*\*

C4H1104P HL (4276)

Diethylphosphoric acid; (C2H5O)2.PO.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ho+++	oth	oth/un	25°C	U	K1=2.00	1971Mgb (35259)	163
Estimated							

\*\*\*\*\*

C<sub>4</sub>H<sub>12</sub>N<sub>2</sub>O                  L                  CAS 2752-17-2    (312)

Bis-(2-aminoethyl)ether;  $\text{H}_2\text{N} \cdot \text{CH}_2 \cdot \text{CH}_2 \cdot \text{O} \cdot \text{CH}_2 \cdot \text{CH}_2 \cdot \text{NH}_2$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ho+++      EMF non-aq 25°C 100%    C    H      K1=2.3      2002CDb (35506) 164

Method: competitive reaction using Ag electrode. Medium: DMSO, 0.10 M

Et<sub>4</sub>NClO<sub>4</sub>. By calorimetry, DH(K1)=-12 kJ mol<sup>-1</sup>, DS(K1)=3.7 J K<sup>-1</sup> mol<sup>-1</sup>.

\*\*\*\*\*

C4H13N3                      L        Dien                      CAS 111-40-0    (584)

1,4,7-Triazaheptane, 2,2'-Iminobis(ethylamine), diethylenetriamine:

$$\text{NH}_2 \cdot (\text{CH}_2)_2 \cdot \text{NH} \cdot (\text{CH}_2)_2 \cdot \text{NH}_2$$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
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Ho+++ EMF NaCl04 25°C 100% C H K1=6.19 B2=10.19 2000CDa (35791) 165

Medium: DMF, 0.10 M Et<sub>4</sub>N[CF<sub>3</sub>SO<sub>3</sub>]. Method: Ag/Ag<sup>+</sup> electrode.

By calorimetry:  $\Delta H(K1) = -47.7$ ,  $\Delta H(B2) = -100.9 \text{ kJ mol}^{-1}$ .

Ho+++ ISE non-aq 25°C 100% C H K1=3.70 B2=6.69 1993CCb (35792) 166

Medium: DMSO, 0.1 M Et<sub>4</sub>NClO<sub>4</sub>. Method: Ag<sup>+</sup> ISE. By calorimetry, DH(K1)=-32.2

kJ mol<sup>-1</sup>, DS=-37; DH(B2)=-74.5, DS-122.

\*\*\*\*\*

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  
-----  
Ho+++           cal NaCl04 25°C 0.10M U    H      K1=2.90    B2=4.68    1978C0a (35943) 167  
DH(K1)=11.0 kJ mol<sup>-1</sup>, DS=92.4; DH(K2)=4.68, DS=49.7

\*\*\*\*\*

C5H4N02Cl                      H2L                      CAS 53223-89-9    (5916)  
5-Chloropyridine-2,3-diol;

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----  
Ho+++           gl    diox/w 35°C 50% U                      K1=9.25            1984SSd (36033) 168  
\*\*\*\*\*

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  
-----  
Ho+++           cal NaCl04 25°C 1.0M C    H                      1990YKb (36056) 169  
DH(K1)=0.28 kJ mol<sup>-1</sup>, DS(K1)=56.6 J K<sup>-1</sup> mol<sup>-1</sup>.  
-----  
Ho+++           EMF NaCl04 25°C 1.0M C                      K1=2.91    B2= 4.91    1983KKb (36057) 170  
B3=6.83

Method: Pt/quinhydrone electrode.

\*\*\*\*\*

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

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----  
Ho+++           cal NaCl04 25°C 2.00M U    H      K1=1.50            1976YCa (36305) 171  
DH=8.87 kJ mol<sup>-1</sup> and DS=58.58 J mol<sup>-1</sup> K<sup>-1</sup>.

\*\*\*\*\*

C5H6O4                      H2L      Itaconic acid      CAS 97-65-4    (398)  
Methylenesuccinic acid; H0OC.CH2.C(:CH2).COOH

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values            Reference ExptNo  
-----  
Ho+++           gl    KCl      25°C 0.20M U                      K1=2.66            1989MFa (37424) 172  
K(Ho+HL)=1.64

\*\*\*\*\*

C5H7NO3                      HL                      (4313)  
Isonitrosoacetylacetone; H0.N:CH.CO.CH2.CO.CH3

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

Ho+++ gl diox/w 20°C 50% U K1=5.14 B2=8.87 1971MAf (37527) 173  
Medium: 50% v/v dioxan, 0.1 M NaClO4

\*\*\*\*\*

C5H8N2O3 H2L (4317)

Methylacetyl glyoxime; CH3.C(:N.OH).C(:N.OH).CO.CH3

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

Ho+++ gl diox/w 20°C 50% U K1=6.04 B2=11.23 1971MAf (37704) 174

\*\*\*\*\*

C5H8O2 HL Acetylacetone CAS 123-54-6 (164)

Pentane-2,4-dione; CH3.CO.CH2.CO.CH3

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

Ho+++ sp alc/w 18°C 60% U K1=7.00 B2=12.18 1998ZBa (37986) 175  
K3=3.68

Medium: 60% EtOH/H2O, 0.1 M NaClO4

-----  
Ho+++ gl KCl 25°C 0.10M U K1=5.95 B2=10.56 1995PAa (37987) 176  
K3=3.45

-----  
Ho+++ gl alc/w 30°C 75% U M B2=11.10 1991GDd (37988) 177

Medium: 75% v/v EtOH/H2O, 0.1 M NaClO4

-----  
Ho+++ dis NaClO4 25°C 1.0M C B2=9.93 1989ALa (37989) 178  
B3=13.30  
B4=15.23

Method: extraction of 166Ho from 1.0 M NaClO4 into benzene/HL.

-----  
Ho+++ gl NaClO4 20°C 0.10M U M 1973TZa (37990) 179  
K(Ho(EDTA)+L)=3.65

-----  
Ho+++ gl R4N.X 25°C 0.10M U M 1972FGa (37991) 180  
K(Ho(EDTA)+L)=2.87

Medium: NH4Cl. By spectroscopy, K=2.93

-----  
Ho+++ gl alc/w ? 50% U I K1=7.15 1971K0a (37992) 181

Medium: 5-80% MeOH, 0.005 HoCl3, 0.005 HL. K1(5%)=6.15, K1(80%)=8.38

-----  
Ho+++ ix NaClO4 30°C 0.10M U K1=5.65 B2=10.41 1964PRa (37993) 182

-----  
Ho+++ gl oth/un 30°C 0.10M U K1=6.05 B2=10.73 1960GFa (37994) 183  
K3=3.40

\*\*\*\*\*

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  
-----

Ho+++ gl KCl 25°C 0.20M U K1=5.36 1989ZPa (38243) 184  
In 70.4% v/v EtOH/H2O: K1 = 6.43

\*\*\*\*\*

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  
-----

Ho+++ gl NaClO4 25°C 0.10M U K1=3.08 B2=5.09 1970RFa (38262) 185

\*\*\*\*\*

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  
-----

Ho+++ gl KCl 24°C 0.20M U K1=3.82 1966DDa (38428) 186

\*\*\*\*\*

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  
-----

Ho+++ gl NaClO4 25°C 0.10M U B2=5.75 1981ZLa (38622) 187

\*\*\*\*\*

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  
-----

Ho+++ gl NaCl 37°C 0.15M U K1=3.61 1997GMa (38736) 188

Ho+++ gl NaClO4 25°C 0.10M U B2=5.38 1981ZLa (38737) 189

\*\*\*\*\*

C5H9NO4 H2L Glutamic acid CAS 56-86-0 (22)

2-Aminopentanedioic acid; H2N.CH(CH2.CH2.COOH)COOH

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

Ho+++ gl KCl 25°C 0.1M C T H K1=4.57 1997FDa (39091) 190

B(HoHL)=11.36

Data also for 38.5 and 86.5 C

\*\*\*\*\*

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  
-----

Ho+++ gl KCl 25°C 0.10M U K1=7.18 B2=13.10 1980MGc (39257) 191

B3=15.72

B(Ho+2OH+L)=18.46

C5H10N2O3                      HL            Ala-Gly                      CAS 687-69-4    (55)  
Alanyl-glycine; H2N.CH(CH3).CO.NH.CH2.COOH

C5H10N2O3                      HL           Gly-DL-Ala                      CAS 926-77-2    (66)  
Glycyl-DL-alanine; H2N.CH2.CO.NH.CH(CH3).COOH

C5H10N2O4                      HL           Gly-Ser                      CAS 7361-43-5    (281)  
Glycyl-serine; H2N.CH2.CO.NH.CH(CH2.OH).COOH

C5H10O3                      HL                      CAS 3739-30-8 (3612)  
2-Hydroxy-2-methylbutanoic acid, Methylethylglycolic acid; CH<sub>3</sub>.CH<sub>2</sub>.C(OH)(CH<sub>3</sub>)COOH

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

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

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ho+++	gl	KN03	25°C	0.10M	C			K1=3.03 B2=5.38	1975PFb (40313)	198

K3=1.34 (?)

\*\*\*\*\*

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
Ho+++	cal	oth/un	25°C	0.03M	U	H	K1=4.05	1981PBa (40720)	199

Ho+++	gl	KCl	25°C	0.10M	U	T	K1=4.10	1974BFa (40721)	200
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C5H11NO2S H2L D-Penicillamine CAS 52-67-5 (1323)  
D-2-Amino-3-mercapto-3-methylbutanoic acid; (CH3)2C(SH)CH(NH2)COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	KCl	25°C	0.10M	U			1996ADa (41189)	201

B(HoHL)=13.88

\*\*\*\*\*

C6H5NO2 HL Picolinic acid CAS 98-98-6 (391)  
2-Pyridine-carboxylic acid; C5H4N.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	KNO3	25°C	0.10M	U		K1=4.19 B2=7.77	1968PIa (42550)	202

K3=2.76

K4=1.95

Ho+++	gl	KNO3	25°C	0.10M	U		K1=4.22 B2=7.72 B3=10.7	1964THb (42551)	203
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C6H5NO2 HL Nicotinic acid CAS 59-67-6 (419)  
3-Pyridine-carboxylic acid; C5H4N.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	NaClO4	25°C	0.20M	U		K1=1.63	1973FDa (42673)	204

\*\*\*\*\*

C6H5NO4 H2L 4-Nitrocatechol CAS 3316-09-4 (890)  
1,2-Dihydroxy-4-nitrobenzene; O2N.C6H3(OH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	KNO3	25°C	0.10M	U		K1=9.69 B2=17.06	1981BDa (42929)	205

\*\*\*\*\*

C6H5NO4 H2L CAS 3163-07-3 (2711)  
2,4-Dihydroxy-1-nitrobenzene; O2N.C6H3(OH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ho+++ sp KCl 25°C 0.10M M I K1=6.21 1989PEa (42954) 206  
\*\*\*\*\*

C6H5O4Br L CAS 40838-32-2 (1084)  
6-Bromo-5-hydroxy-2-(hydroxymethyl)-4H-pyran-4-one;

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

Ho+++ sp KCl 25°C 0.10M U K1=5.49 1987PLa (43110) 207  
\*\*\*\*\*

C6H5O4I L (1085)  
6-Iodo-5-hydroxy-2-hydroxymethyl-4H-pyran-4-one;

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

Ho+++ sp KCl 25°C 0.10M U K1=5.59 1987PLa (43152) 208  
\*\*\*\*\*

C6H6O2 H2L Catechol CAS 120-80-9 (534)  
1,2-Dihydroxybenzene, pyrocatechol; HO.C6H4.OH

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

Ho+++ gl KNO3 25°C 0.05M M I K1=10.54 B2=20.34 1981BDc (43772) 209  
Also data for I=0.2 and 0.35 M. At I=0, K1=11.20, K2=10.30.

-----  
Ho+++ gl NaClO4 25°C 0.10M U T K1=11.22 B2=21.22 1979NDa (43773) 210  
At 45 C, K1=10.51, K2=9.70. Medium ionic strength not stated.

-----  
Ho+++ EMF NaCl 25°C 0.10M U K1=11.42 1969PKe (43774) 211  
\*\*\*\*\*

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  
-----

Ho+++ sp KCl 25°C 0.10M C I K1=6.230 1987PEa (44222) 212  
In 0.087 M KCl, K1=6.261.

-----  
C6H6O6S H4L CAS 29714-59-8 (3688)  
2,3,4-Trihydroxybenzenesulfonic acid; (HO)3.C6H2.SO3H

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

Ho+++ sp oth/un ? 1.0M U K1=5.81 1966TKb (44308) 213  
Medium: KOH

-----  
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  
-----

Ho+++ gl KNO3 25°C 0.10M U TIH K1=14.86 B2=28.97 1980BDd (44459) 214  
Data for I=0.05-0.2 M and for I=0.10 M (35 C). Also DH and DS values.

Ho+++ gl NaClO4 25°C 0.50M C K1=12.88 B2=22.36 1976LAb (44460) 215  
B(HoHL2)=30.00

Ho+++ gl NaClO4 25°C 0.10M U K1=14.39 1970SSi (44461) 216  
K(Ho+HL)=5.42

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

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

Ho+++ sp non-aq 25°C 100% U HM 1982KNa (44874) 217  
K(HoA3+L)=1.98

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

Ho+++ gl mixed 25°C 50% U I K1=4.23 B2=7.90 1969BCa (44931) 218  
Medium: 50% DMSO, 0.12 M NaClO4. In 0.12 M NaClO4, 50% dioxan: K1=5.32,  
K2=4.32. Medium: 0.12 NaClO4, 50% EtOH: K1=4.79, K2=3.92

\*\*\*\*\*  
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

Ho+++ gl NaClO4 15°C 0.10M U K1=9.00 1980ZMa (45128) 219

\*\*\*\*\*  
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

Ho+++ gl KCl 25°C 0.20M U K1=3.72 1989ZPa (45469) 220  
In 70.4% v/v EtOH/H2O: K1 = 6.05

\*\*\*\*\*  
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

Ho+++ gl NaClO4 25°C 2.00M U IH 1988HSa (45643) 221  
K(Ho+HL)=1.41

DH=5.8 kJ mol<sup>-1</sup>, DS=46.5 J K<sup>-1</sup> mol<sup>-1</sup>

-----  
 Ho+++ sp oth/un ? ? U 1966SAb (45644) 222  
 K(Ho+HL)=1.0

\*\*\*\*\*  
 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
Ho+++	gl	NaCl04	25°C	0.10M	U	TIH	K1=4.75 B2=8.49	1986AJc (45697)	223

 DH(K1)=-6.2 kJ mol-1, DS=65.2 J K-1 mol-1; DH(K2)=-6.3, DS=51.0

-----  
 Ho+++ gl NaCl04 30°C 0.10M U IH K1=4.50 B2=7.91 1983ASa (45698) 224  
 DH(K1)=-4.8 kJ mol-1, DH(K2)=-4.4

\*\*\*\*\*  
 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
Ho+++	gl	KN03	25°C	1.0M	M			1986SZb (46133)	225

 K(Ho+H3L=HoHL+2H)=-2.71  
 K(Ho+H3L=HoL+3H)=-5.94  
 K(Ho+H3L=HoH-1L+4H)=-11.71  
 K(Ho+2H3L=HoH2L2+4H)=-6.70

K(Ho+2H3L=HoL2+6H)=-14.23, K(Ho+2H3L=HoH-2L2+8H)=-28.9,  
 K(Ho+2H3L=HoH-3L2+9H)=-28.2, K(Ho+2H3L=HoH-4L2+10H)=-38.3.

-----  
 Ho+++ gl KN03 25°C 0.10M U M 1975TDa (46134) 226  
 B(Ho(IDA)L)=11.5

-----  
 Ho+++ dis NaCl04 25°C 0.15M U 1973HHc (46135) 227  
 K(Ho+HL+L)=11.21

-----  
 Ho+++ gl alc/w 25°C 25% U I K1=8.77 1972BKd (46136) 228  
 Medium: EtOH/H2O, 0.05 M (NaCl,NaCl04). 0%, K1=7.84, 50%, K1=9.92

-----  
 Ho+++ dis oth/un ? ? U 1972PGd (46137) 229  
 K(Ho+HL+L)=10.28

-----  
 Ho+++ sol NaCl04 25°C 0.10M U K1=7.9 1966SSg (46138) 230  
 Kso=-11.52

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

-----  

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	EMF	NaCl04	25°C	1.00M	U		K1=6.05 B2=9.99	1991WPb (46331)	231

 \*\*\*\*\*

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

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ho+++	ISE	NaCl04	25°C	0.10M	C	I	K1=11.70	1997LBb (46855)	232
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Method: Cu ISE and competitive complexation by Cu. Data for 0.1-5.0 M.  
 At I=0.0 M, K1=13.53.

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Ho+++	ISE	KNO3	25°C	0.10M	C		K1=11.83	1980NSf (46856)	233
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Competitive method using Cd ion-selective electrode.

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Ho+++	gl	KNO3	20°C	1.0M	C		K2=8.30	1978GHb (46857)	234
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Ho+++	EMF	KCl	25°C	1.0M	U	M		1977GMa (46858)	235
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K(HoA+L)=6.18  
 K(HoA+H2L)=1.63  
 K(HoA+H3L)=2.24  
 K(HoA+H4L)=3.45

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

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Ho+++	cal	KNO3	20°C	0.10M	U	HM		1971GKb (46859)	236
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K(HoA+L)=3.95

H4A=EDTA. DH(HoA+L)=-33.72 kJ.mol<sup>-1</sup>, DS=-39.3 J K<sup>-1</sup> mol<sup>-1</sup>.  
 DH(HoLA)=-39.4 kJ mol<sup>-1</sup>, DS=300 J K<sup>-1</sup> mol<sup>-1</sup>

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Ho+++	gl	oth/un	20°C	0.20M	U			1970VMa (46860)	237
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B(HoL)OH)=6.43

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Ho+++	gl	KNO3	25°C	0.10M	U	T H T	K1=11.90 B2=21.25	1962MFb (46861)	238
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15 C: K1=11.87,K2=9.52; 20 C: 11.85,9.41; 30 C:11.96,9.31; 35 C: 11.95,9.21;  
 40 C: 12.00,9.19. DH(K1)=11.0 kJ mol<sup>-1</sup>,DS=264 J K<sup>-1</sup> m<sup>-1</sup>; DH(K2)=-21.5,DS=106

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Ho+++	vlt	KNO3	20°C	0.10M	U			1957N0a (46862)	239
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B(Ho2L3)=37.68

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C6H9N3O2                      HL      Histidine                      CAS 71-00-1 (1)  
 2-Amino-3-(4'-imidazolyl)propanoic acid; H2N.CH(CH2.C3H3N2)COOH

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ho+++	cal	oth/un	25°C	0.03M	U	H	K1=4.03	1981PBa (47569)	240
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C6H10O3                      HL                      CAS 16841-19-3 (3649)  
 1-Hydroxycyclopentanecarboxylic acid; HO.C5H8.COOH

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ho+++	gl	NaCl04	25°C	0.10M	U		K1=3.021 B2=5.50	1966PRb (47990)	241
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K3=1.87

K4=1.49

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C6H1006 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-----  
Ho+++ oth NaClO4 25°C 0.10M U K1=4.51 1984AFa (48342) 242

Laser excitation spectroscopy, competition method.

\*\*\*\*\*

C6H1008 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-----  
Ho+++ gl NaClO4 25°C 0.10M U M K1=4.60 1997PPb (48477) 243

K(Ho(edta)+L)=4.17

\*\*\*\*\*

C6H11N05 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-----  
Ho+++ gl KNO3 20°C 1.00M U K1=8.22 B2=16.17 1974CMd (48743) 244

K(HoL2(OH)+H)=10.08

-----  
Ho+++ oth NaNO3 20°C 0.10M U M K1=9.1 B2=17.15 1966JMc (48744) 245

Method: paper electrophoresis. Mixed complexes with HEDTA

-----  
Ho+++ vlt KCl 25°C 0.10M U B2=16.36 1965DTa (48745) 246-----  
Ho+++ ISE KNO3 25°C 0.10M U K1=9.18 B2=17.31 1963TLa (48746) 247

\*\*\*\*\*

C6H11N304 HL Gly-Gly-Gly CAS 556-33-2 (415)

Glycyl-glycyl-glycine; H2N.CH2.CO.NH.CH2.CO.NH.CH2.COOH-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo-----  
Ho+++ gl KCl 25°C 0.10M U K1=2.35 1973FMa (48978) 248

\*\*\*\*\*

C6H12N204 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-----  
Ho+++ gl R4N.X 25°C 0.10M C K1=8.42 1988CCb (49245) 249-----  
Ho+++ gl KNO3 25°C 0.10M U K1=8.42 B2=15.42 1962THb (49246) 250

\*\*\*\*\*

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
Ho+++	gl	NaCl	20°C	0.10M	U		K1=2.53	1986GKb (49425)	251

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
Ho+++	EMF	NaClO4	25°C	1.0M	U		K1=3.11    B2=5.25 K3=1.46 K4=0.7	1965TVa (49460)	252

Method: quinhydrone electrode

C6H12O3                      HL                      CAS 92841-97-9 (3658)  
2-Hydroxy-2,3-dimethylbutanoic acid; CH3.CH(CH3).C(OH)(CH3).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	EMF	NaClO4	25°C	1.0M	U		K1=3.02    B2=5.37 K3=1.53 K4=1.34	1965TVa (49474)	253

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
Ho+++	gl	KNO3	25°C	0.10M	U		K1=3.33    B2=5.83 K3=1.77	1979PPa (49494)	254

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
Ho+++	EMF	alc/w	25°C	80%	U	I	K1=5.53	1966KRb (49724)	255
Medium: 80% MeOH. K1=4.62(50%)									
Ho+++	gl	KCl	25°C	0.20M	U		K1=2.36    B2=4.51	1963K0c (49725)	256

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
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Ho+++ gl KNO3 20°C 0.10M U K1=5.36 B2=10.37 1982RFa (50370) 257

Ho+++ gl KCl 30°C 0.10M U K1=5.51 B2=9.70 1973MSe (50371) 258

Ho+++ gl alc/w 20°C 50% U I K1=6.60 1970KRa (50372) 259  
Medium: 0-80% MeOH, 0.03 M KCl. K1(0%)=5.43, K1(20%)=5.93, K1(80%)=7.84

Ho+++ oth NaNO3 20°C 0.10M U K1=7.6 B2=13.40 1966JMc (50373) 260  
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

Ho+++ gl NaCl 37°C 0.15M U M K1=3.11 1997GMa (50580) 261  
B(HoHL)=10.76  
B(HoH2AL)=24.36

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

Ho+++ ISE non-aq 25°C 100% C H K1=5.31 B2=6.28 1993CCb (52200) 262  
Medium: DMSO, 0.1 M Et4NClO4. Method: Ag+ ISE. By calorimetry, DH(K1)=-48.8  
kJ mol<sup>-1</sup>, DS=-62; DH(B2)=-75.3, DS=-132.

\*\*\*\*\*  
C6H20N2O12P4 H8L EDTPA CAS 1429-50-1 (434)  
Ethane-1,2-bis(iminobis(methylenephosphonic acid)); ((H2O3PCH2)2NCH2.)2

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

Ho+++ gl NaCl 37°C 0.15M C K1=13.32 1995JWa (52340) 263  
K(HoL+H)=7.60  
K(HoH2L+H)=5.17  
K(HoHL+H)=6.33

Ho+++ gl NaCl 37°C 0.15M C K1=13.32 1995WJa (52341) 264  
K(HoL+H)=7.60  
K(HoH2L+H)=5.17  
K(HoHL+H)=6.33

Ho+++ gl KNO3 25°C 0.10M C K(HoL+H)=7.32 1991SKb (52342) 265  
K(HoHL+H)=6.07

Ho+++ gl KCl 25°C 0.10M U K1=21.85 1967KDa (52343) 266  
K(Ho+HL)=17.15

K(Ho+H2L)=13.17

K(Ho+H3L)=10.38

K(Ho+H4L)=8.04

K(Ho+H5L)=4

\*\*\*\*\*

C7H4N2O7 H2L CAS 609-99-4 (400)

3,5-Dinitrosalicylic acid; (O2N)2.C6H2(OH).COOH

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

Ho+++ gl oth/un 24°C 0.20M U K1=5.38 1972PSd (52485) 267

Medium: LiCl

\*\*\*\*\*

C7H5N04 H2L Dipicolinic aci CAS 449-83-2 (418)

2,6-Pyridinedicarboxylic acid; C5H3N.(COOH)2

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

Ho+++ cal NaCl04 25°C 0.50M C H 1963GRd (52780) 268

DH(K1)=-8.14 kJ mol-1, DS(K1)=139 J K-1 mol-1; DH(B2)=-25.80,

DS(B2)=219; DH(B3)=-56.72, DS(B3)=229.

-----  
Ho+++ EMF oth/un 20°C 0.50M U K1=8.72 B2=16.23 1961GRa (52781) 269  
K3=5.85

\*\*\*\*\*

C7H5N04 HL CAS 121-92-6 (490)

3-Nitrobenzoic acid; O2N.C6H4.COOH

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

Ho+++ gl NaCl04 25°C 0.10M C H K1=1.61 1986CLc (52867) 270

DH=7.6 kJ mol-1, DS=56 J K-1 mol-1

\*\*\*\*\*

C7H5N04 HL CAS 62-23-7 (489)

4-Nitrobenzoic acid; O2N.C6H4.COOH

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

Ho+++ gl NaCl04 25°C 0.10M M H K1=1.62 1999YKa (52908) 271

By calorimetry: DH(K1)=8.10 kJ mol-1, DS(K1)=58.2 J K-1 mol-1.

\*\*\*\*\*

C7H5O2F HL CAS 445-29-4 (5711)

3-Fluorobenzoic acid; F.C6H4.COOH

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

Ho+++ gl NaCl04 25°C 0.10M C H K1=1.70 1986CLc (53236) 272

DH=9.0 kJ mol-1, DS=63 J K-1 mol-1

\*\*\*\*\*

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
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Ho+++	gl	NaCl04	25°C	0.10M	C	H	K1=1.87	1986CLc (53256)	273
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DH(K1)=10.7 kJ mol<sup>-1</sup>, DS=72 J K<sup>-1</sup> mol<sup>-1</sup>

\*\*\*\*\*

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
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ho+++	gl	NaCl04	25°C	0.10M	C	T		1993ALa (53369)	274
-------	----	--------	------	-------	---	---	--	-----------------	-----

B(1,1,1)=12.38  
B(1,0,1)=7.64  
B(1,0,2)=13.09  
B(1,-2,1)=-7.71

B(p,q,r); pHo+qH+rL=(Ho)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
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ho+++	gl	KNO3	25°C	0.10M	U		K1=7.41 B2=13.61	1969CMb (53676)	275
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K3=5.20  
K4=3.77

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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
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

Ho+++	cal	NaCl04	25°C	0.10M	U	H	K1=2.01 B2=3.77	1982CBc (53838)	276
-------	-----	--------	------	-------	---	---	-----------------	-----------------	-----

DH1= 10.4 kJ mol<sup>-1</sup>, DS1= 73 J K<sup>-1</sup> mol<sup>-1</sup>

\*\*\*\*\*

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
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Ho+++	gl	NaCl04	25°C	0.1M	C	H		1996HYa (54235)	277
-------	----	--------	------	------	---	---	--	-----------------	-----

By calorimetry: DH(K1)=3.05 kJ mol<sup>-1</sup>, DH(B2)=7.30 J K<sup>-1</sup> mol<sup>-1</sup>

Ho+++	gl	NaCl04	25°C	0.10M	C	T		1989HMa (54236)	278
-------	----	--------	------	-------	---	---	--	-----------------	-----

K(Ho+HL)=1.83  
K(HoHL+HL)=1.96

Ho+++	gl	alc/w	25°C	100%	U		K1=6.27 B2=10.75	1973BPd (54237)	279
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K3=3.51

C7H6O3                      H2L                      CAS 99-06-9    (1370)  
3-Hydroxybenzoic acid; HO.C6H4.COOH

Ho+++      gl    NaCl04 25°C 0.10M C      1988LLa (54381) 280  
K(Ho+HL)=1.96

C7H6O3                      H2L                      CAS 99-96-7    (1371)  
4-Hydroxybenzoic acid; HO.C6H4.COOH

Ho+++ gl NaClO4 25°C 0.10M M H K1=1.72 1999YKa (54420) 281  
By calorimetry: DH(K1)=11.41 kJ mol<sup>-1</sup>, DS(K1)=71.2 J K<sup>-1</sup> mol<sup>-1</sup>.

Ho+++      gl   NaCl04 25°C 0.10M C      1988LLa (54421) 282  
K(Ho+HL)=2.06

C7H6O6S                      H3L                      CAS 5965-83-3 (399)  
5-Sulfosalicylic acid, 2-Hydroxy-5-sulfobenzoic; HO3S.C6H3(OH).COOH

Ho+++      g1    KNO3    20°C 0.10M U T      K1=8.13      1982DBa (55013) 283

Ho+++      gl   NaCl04 20°C   1.0M U      K1=7.18    B2=12.98   1972CBb (55014) 284

Ho+++      sp    NaCl04 20°C 0.10M U      K1=8.40    B2=15.15    1968KTb (55015) 285  
K(Ho+HL)=2.23

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

Ho+++      gl   NaCl04 25°C 0.50M C      T K1=8.77    B2=14.59    1976LAc (55097) 286

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

Ho+++	gl	NaCl04	25°C	0.10M	C	K1=2.17	B2=6.39	1989HMa	(55229)	287
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Ho+++ gl NaClO4 25°C 0.10M U H K1=4.12 1982KYc (55230) 288  
By calorimetry, DH(K1)=8.45 kJ mol<sup>-1</sup>, DS(K1)=107.28 J K<sup>-1</sup> mol<sup>-1</sup>.

Ho+++      gl   non-aq   25°C   100%   U      K1=7.35   B2=13.10   1970BBh (55231) 289

K3=3.56

K4=2.40

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  
-----Ho+++ gl NaClO4 25°C 0.10M M H K1=1.94 1999YKa (55382) 290  
By calorimetry: DH(K1)=12.58 kJ mol<sup>-1</sup>, DS(K1)=79.3 J K<sup>-1</sup> mol<sup>-1</sup>.-----  
Ho+++ gl KCl 25°C 0.20M U K1=2.29 1977EBa (55383) 291

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C7H7NO6S H3L CAS 6201-86-1 (7899)

3-Amino-5-sulfosalicylic acid;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----Ho+++ gl KCl 25°C 0.20M M T H K1=8.49 1991BPb (55689) 292  
K(Ho+OH+L)=15.24DH(K1)=-92 kJ mol<sup>-1</sup>, DS(K1)=-147 J K<sup>-1</sup> mol<sup>-1</sup>. DH(Ho(OH)L)=-156,

DS(Ho(OH)L)=-229. 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  
-----

Ho+++ gl mixed 25°C 50% U I K1=4.49 B2=8.72 1969BCb (56068) 293

Medium: 50% DMSO, 0.12 M LiClO4. In 50% dioxan, 0.12 M NaClO4: K1=5.76,

K2=4.49; 50% EtOH, 0.12 M NaClO4: K1=5.15, K2=4.09

\*\*\*\*\*

C7H8O4 HL Methyl kojic CAS 1506-07-8 (2686)

3-Hydroxy-6-(hydroxymethyl)-2-methyl-4H-pyran-4-one;

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

Ho+++ sp KCl 25°C 0.10M M I K1=6.62 1986PLb (56128) 294

\*\*\*\*\*

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  
-----

Ho+++ sp KCl 25°C 0.10M M I K1=6.26 1986PLb (56147) 295

\*\*\*\*\*

C7H10O4 H2L CAS 5802-62-3 (71)

Cyclopentane-1,1-dicarboxylic acid; C5H8.(COOH)2

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	KNO3	25°C	0.10M	U		K1=4.25 B2=6.74	1971PJb (56734)	296
*****									
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
Ho+++	gl	KNO3	25°C	0.10M	U		K1=6.32 B2=11.87	1963THb (56807)	297
*****									
C7H11NO6		H3L					(2926)		
2-Aminobutanoic-N-propene-1,3-dioic acid; H0OC.CH(C2H5)NH.CH(COOH)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	KNO3	25°C	0.1M	U		K1=9.02	1982KKc (56846)	298
*****									
C7H11NO6		H3L		MNTA			(1026)		
Nitrilo(2-propanoic)-diethanoic acid; H0OC.CH(CH3).N(CH2.COOH)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	KNO3	20°C	0.10M	U		K1=12.60 B2=22.18	1974RMg (56911)	299
*****									
C7H12N2O3		HL		Pro-Gly			CAS 2578-97-6	(262)	
Prolyl-glycine; C4H8N.CO.NH.CH2.COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	KCl	25°C	0.10M	U		K1=3.25	1973FMa (57150)	300
*****									
C7H12O3		HL					CAS 609-69-8	(3731)	
2-Hydroxycyclohexanecarboxylic acid; H0.C6H10.COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	NaClO4	25°C	1.0M	U		K1=2.38 B2=4.67	1967STd (57263)	301
*****									
C7H12O4		H2L					CAS 510-20-3	(482)	
Diethylpropanedioic acid (Diethylmalonic acid); H0OC.C(C2H5)2.COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	KNO3	25°C	0.10M	U		K1=4.63 B2=7.16	1968PFa (57365)	302
*****									
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
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-----
Ho+++      gl  NaCl    20°C 0.10M U      K1=2.94      1977SSc (57401) 303
-----
Ho+++      EMF NaCl04 25°C 1.0M U      K1=2.79      B2=4.93      19670Ta (57402) 304
                                   K3=1.58
                                   K4=0.94

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
-----
Ho+++      gl  KNO3    20°C 0.10M U      K1=8.84      B2=16.80     1980RPa (57614) 305
*****
C7H14N2O3S        HL      Gly-Met      CAS 554-94-9 (726)
Glycyl-methionine; H2N.CH2.CO.NH.CH(CH2.CH2.S.CH3).COOH
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      gl  KCl     25°C 0.10M U      K1=2.60      1973FMa (57798) 306
*****
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
-----
Ho+++      gl  NaCl04 25°C 0.10M C      K1=2.87      B2=4.73      1976SPa (57875) 307
*****
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
-----
Ho+++      gl  KNO3    20°C 0.10M U      K1=5.10      B2=9.77      1982RFa (57937) 308
*****
C8H5N5O6          H3L      Murexide      (453)
Purpuric acid (Murexide is ammonium salt);
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      sp  non-aq 25°C 100% U      K1=5.73      1983PSc (58507) 309
Medium: DMSO
-----
Ho+++      sp  alc/w  12°C 50% U      K(Ho+H2L)=4.43
                                   K(Ho+H2L)=4.43
Medium: 50% EtOH, 0.1 M NaCl04
-----
Ho+++      sp  KNO3    12°C 0.10M U      1965GEa (58509) 311
                                   K(Ho+H2L)=3.71

```

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

Ho+++ cal non-aq 25°C 100% C H 2004MIa (58629) 312  
Method: calorimetric titration. Medium: chloroform. DH(HoL3+A)=8.0 kJ  
mol<sup>-1</sup>, DS=78 J K<sup>-1</sup> mol<sup>-1</sup>; DH(HoL3+2A)=-1, DS=97. HA is benzoic acid.

Medium: 0.1 M NaClO<sub>4</sub> in 80% (v/v) EtOH/H<sub>2</sub>O.

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

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values                      Reference ExptNo  
-----  
Ho+++            gl    diox/w 20°C 50% U                      K1=7.36    B2=13.87    1971MAf (59337) 319  
Medium: 50% dioxan, 0.1 M NaClO4

\*\*\*\*\*  
C8H8N4O5                      L                                      (6097)  
2-Acetylpyridinethiosemicarbazone; C5H4N.CO.CH:N.NH.CS.NH2

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values                      Reference ExptNo  
-----  
Ho+++            gl    alc/w 25°C 75% C I                      K1=8.02    B2=15.70    1988GSa (59408) 320  
In 75%(v/v) ethanol/water; 0.1 M NaClO4. I=0.2 M: K1=7.95, K2=7.59;  
I=0.05 M: K1=8.15, K2=7.79; I=0.02 M: K1=8.26, K2=7.94

\*\*\*\*\*  
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  
-----  
Ho+++            gl    alc/w 25°C 20% M TIH                      K1=6.791                      2000KDa (59465) 321  
K(Ho(egta)+L)=4.537

Medium contains 0.1 M NaNO3. Data for 0.05, 0.15 M NaNO3 and 35 and 45 C.  
At I=0, K1=7.032, K(Ho(egta)+L)=4.748. DH(Ho(egta)L)=-20.0 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  
-----  
Ho+++            gl    NaClO4 25°C 0.1M C H                      K1=1.77                      1996HYa (59549) 322  
By calorimetry: DH(K1)=15.08 kJ mol-1

-----  
Ho+++            gl    NaClO4 25°C 0.10M C H                      K1=1.77                      1990HYa (59550) 323  
By calorimetry: DH(K1)=15.1 J K-1 mol-1

\*\*\*\*\*  
C8H8O2                      HL                                      CAS 583-80-2    (3191)  
beta-Methyltropolone;

-----  
Metal            Mtd Medium Temp Conc Cal Flags Lg K values                      Reference ExptNo  
-----  
Ho+++            sp    alc/w ? 3% U                      K1=7.42                      1967GDb (59598) 324  
Medium: 3% EtOH, 0.2 M NaClO4

\*\*\*\*\*  
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

Medium contains 0.1 M NaNO<sub>3</sub>. Data for 0.05, 0.15 M NaNO<sub>3</sub> and 35 and 45 C. At I=0, K<sub>1</sub>=6.792, K(Ho(egta)+L)=4.925. DH(Ho(egta)L)=-19.3 kJ mol<sup>-1</sup>.

\*\*\*\*\*

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
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ho+++      gl   NaClO4 25°C 0.10M M      H      K1=1.85      1988CLb (59736) 326  
DH=10.6 kJ mol<sup>-1</sup>, DS=71 J K<sup>-1</sup> mol<sup>-1</sup>

Ho+++	gl	alc/w	25°C	42%	U	K1=2.4	1983Pma (59737)	327
-------	----	-------	------	-----	---	--------	-----------------	-----

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C8H8O3	HL	Mandelic Acid	CAS 611-72-3	(80)
2-Phenyl-2-hydroxyethanoic acid; $\text{C}_6\text{H}_5\cdot\text{CH}(\text{OH})\cdot\text{COOH}$				

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

Ho+++      gl   NaCl04 25°C 0.10M C      K1=3.05      B2=5.35      1989HMa (59840) 328

Ho+++      g1   NaCl04 25°C   2.0M U      T K1=2.54      1972DCb (59841) 329

\*\*\*\*\*

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
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ho+++      gl   NaClO4 25°C 0.10M M      H      K1=1.97      1988CLb (59912) 330  
 DH=12.4 kJ mol<sup>-1</sup>, DS=79 J K<sup>-1</sup> mol<sup>-1</sup>

\*\*\*\*\*

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
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ho+++      gl   NaClO4 25°C 0.10M M      H      K1=2.04      1988CLb (59954) 331  
DH=13.6 kJ mol<sup>-1</sup>, DS=85 J K<sup>-1</sup> mol<sup>-1</sup>

\*\*\*\*\*

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
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ho+++      gl   diox/w 35°C 50% U      K1=4.84      B2=8.83      1971MAa (60090) 332  
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
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ho+++	gl	diox/w	35°C	50%	U				1971MAa (60496)	333
-------	----	--------	------	-----	---	--	--	--	-----------------	-----

K(Ho+HL)=4.69  
K(Ho+2HL)=8.52

Medium: 50% dioxan, 0.01 M NaClO4

\*\*\*\*\*

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

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

Ho+++	gl	NaClO4	25°C	0.10M	U			K1=13.90 B2=25.40	1980ZMa (60569)	334
-------	----	--------	------	-------	---	--	--	-------------------	-----------------	-----

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C8H10N6O2S2	H2L	(2746)
-------------	-----	--------

2,5-Dihydroxybenzoquinone bis-thiosemicarbazone;

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

Ho+++	gl	diox/w	30°C	50%	C	TIH		K1=4.43 B2=7.95	1989GDa (60815)	335
-------	----	--------	------	-----	---	-----	--	-----------------	-----------------	-----

DH(K1)=-58.91 kJ mol<sup>-1</sup>

\*\*\*\*\*

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

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

Ho+++	gl	alc/w	22°C	20%	U			K1=4.78 B2=8.50	1988ZTa (60849)	336
-------	----	-------	------	-----	---	--	--	-----------------	-----------------	-----

K3=3.30

\*\*\*\*\*

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
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ho+++	gl	KCl	30°C	0.10M	C			K1=5.87 B2=9.80	1996SZa (60869)	337
-------	----	-----	------	-------	---	--	--	-----------------	-----------------	-----

For the -5-en-2-exo isomer, K1=6.12, B2=10.87.

\*\*\*\*\*

C8H11N03	HL	Vitamin B6	CAS 65-23-6	(254)
----------	----	------------	-------------	-------

5-Hydroxy-6-methyl-3,4-pyridinedimethanol, Pyridoxine;

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

Ho+++	gl	KCl	25°C	0.1M	C			K1=3.62	1999DNa (61120)	338
-------	----	-----	------	------	---	--	--	---------	-----------------	-----

B(HoHL)=11.8

\*\*\*\*\*

C8H11N08	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
Ho+++	gl	KCl	25°C	0.10M	U		K1=11.78 B2=18.35 B(HoHL)=16.06	1979BEb (61209)	339
*****									
C8H11O4P		H2L					(4536)		
(alpha-Hydroxy-alpha-methylbenzyl)phosphonic acid;									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	NaCl	25°C	0.10M	U		K(Ho+HL)=2.86	1973BSg (61310)	340
*****									
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
Ho+++	gl	oth/un	25°C	0.10M	U		K1=2.450	1987TSb (61437)	341
*****									
C8H12N2O8		H4L					CAS 35039-85-1 (4537)		
1,2-Diaminoethane-N,N'-dimalononic acid; (HOOC)2.CH.NH.CH2.CH2.NH.CH(COOH)2									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	KNO3	20°C	0.10M	U		K1=12.53 B2=17.85	1975DPa (61508)	342
-----									
Ho+++	gl	KNO3	25°C	0.10M	U		K1=11.29	1972GBd (61509)	343
By polarography K1=11.26									
*****									
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
Ho+++	gl	NaClO4	25°C	0.10M	M	H	K1=4.31	1986CDb (61710)	344
DH=16.6 kJ mol <sup>-1</sup> , DS=142 J K <sup>-1</sup> mol <sup>-1</sup>									
*****									
C8H13NO6		H3L					(3835)		
2-Amino-2-carboxypropane-N,N-diethanoic acid; HOOCC(CH3)2N(CH2COOH)2									
-----									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	KNO3	20°C	0.10M	U		K1=10.05 B2=17.42	1974RMg (61764)	345
*****									
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



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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      gl  KNO3   25°C 0.10M U          K1=8.24          1974KSa (63926) 353
*****
C9H6O6      H3L      Hemimellitic ac CAS 569-51-7 (1621)
1,2,3-Benzenetricarboxylic acid; C6H3.(COOH)3
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      gl  NaClO4 25°C 0.10M U   H      K1=4.84          1994CRa (63970) 354
                                K(Ho+HL)=2.80
DH(K1)=21.6 kJ mol-1; DS=165 J K-1 mol-1
*****
C9H7N      L              CAS 91-22-5 (1538)
Quinoline;
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      gl  NaClO4 25°C 0.5M M   H      K1=3.78          1991KBb (64063) 355
By calorimetry: DH(K1)=3.82 kJ mol-1, DS(K1)=85.2 J K-1 mol-1.
*****
C9H7NO      HL      Oxine          CAS 148-24-3 (504)
8-Hydroxyquinoline (8-quinolinol);
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      sol none   RT    0.0 U          Kso(HoL3)=-31.89
1981FCa (64283) 356
Method: spectrophotometry.
-----

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-----
Ho+++      gl  oth/un 20°C 0.10M U          K1=7.41          1977SKd (64284) 357
-----
Ho+++      gl  diox/w 30°C 50% U          K1=9.24   B2=17.75  1970GMb (64285) 358
Medium: 50% dioxan, 0.3 M NaClO4
*****
C9H7NO2      HL              CAS 1127-45-3 (4614)
8-Hydroxyquinoline-N-oxide;
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      gl  diox/w 30°C 50% U          K1=7.12          1970GMb (64406) 359
Medium: 50% dioxan, 0.3 M NaClO4
*****
C9H7NO4S      H2L      Sulfoxine      CAS 84-88-8 (448)
8-Hydroxyquinoline-5-sulfonic acid;
-----

```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      cal KNO3   20°C 0.10M U   HM          1971GKb (64551) 360
-----

```

K(HoA+L)=4.65

DH(HoA+L)=-23.7 kJ mol<sup>-1</sup>, DS=8.36 J K<sup>-1</sup> mol<sup>-1</sup>  
 DH(HoAL): DH=-29.38, DS=347.4. 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
Ho+++	sp	NaNO3	25°C	0.10M	C		K1=8.10 K(Ho+HL)=4.71 K(HoL+H)=6.05	1985OHb (64708)	361

\*\*\*\*\*

C9H8O4                              H2L                              CAS 97652-17-0 (3855)  
 3-Carboxy-4-methyltropolone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	sp	NaClO4	?	0.20M	U		K1=8.58 B(HoHL)=10.62	1967GDc (64942)	362

\*\*\*\*\*

Ho+++	gl	NaClO4	25°C	0.20M	U		K1=8.24    B2=15.00 K3=3.98	1966GDa (64943)	363
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\*\*\*\*\*

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
Ho+++	gl	KCl	30°C	0.10M	U		K1=4.22    B2= 7.99	1996SZa (64976)	364

\*\*\*\*\*

C9H9O2Br                              HL                              CAS 56609-15-5 (1417)  
 3-Bromo-2-hydroxy-5-methyl-acetophenone; CH3.CO.C6H2(OH)(Br)CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	diox/w	27°C	0.10M	U		K1=4.73	1982LMa (65161)	365

\*\*\*\*\*

C9H10O3                              HL              Atrolactic acid    CAS 940-31-8 (3859)  
 2-Hydroxy-2-phenylpropanoic acid; CH3.C(OH)(C6H5).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	NaClO4	25°C	1.0M	U		K1=2.97    B2=5.35 K3=1.92 K4=1.76	1966TVa (65439)	366

\*\*\*\*\*

C9H10O3                              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
Ho+++	gl	NaClO4	25°C	0.10M	C		K1=2.19 B2=3.85	1989HMa (65461)	367

\*\*\*\*\*

C9H10O3 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
Ho+++	gl	NaClO4	25°C	0.10M	C		K1=2.05 B2=4.02	1989HMa (65475)	368

\*\*\*\*\*

C9H10O4 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
Ho+++	gl	KCl	30°C	0.10M	C		K1=4.16 B2=7.06	1996SZa (65572)	369

For the -2,5-dien-2-exo isomer, K1=4.22, B2=7.99.  
 \*\*\*\*\*

C9H10O4 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
Ho+++	gl	NaClO4	24°C	0.10M	U		K1=4.44 K(Ho+HL)=1.52	1986ZBa (65587)	370

\*\*\*\*\*

C9H10O5 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
Ho+++	gl	KCl	30°C	0.10M	U		K1=5.29 B2= 8.04	1996SZa (65604)	371

\*\*\*\*\*

C9H10O5 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
Ho+++	gl	KCl	30°C	0.10M	C		K1=5.29 B2=8.04	1996SZa (65619)	372

\*\*\*\*\*

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
Ho+++	gl	NaClO4	30°C	0.20M	U T		K1=10.62 K1=10.76 when T=40. K1=11.00 when T=50.	1979NSb (65645)	373

\*\*\*\*\*

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  
-----

Ho+++            gl   NaCl    25°C 0.15M U    H      K1=3.73            1992ZNa (65947) 374  
By calorimetry: DH(K1)=3.95 kJ mol<sup>-1</sup>, DS(K1)=84.66 J K<sup>-1</sup> mol<sup>-1</sup>.

\*\*\*\*\*

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  
-----

Ho+++            ISE KNO3    25°C 0.10M U            K1=12.08            1983KBd (66738) 375  
Hg-electrode.

\*\*\*\*\*

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

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

Ho+++            gl   KNO3    25°C 0.10M U            K1=11.18    B2=19.35    1968TKe (66886) 376

\*\*\*\*\*

C9H14N4O3                      HL      Carnosine            CAS 305-84-0    (272)  
3-Alanyl-histidine; H2N.CH2.CH2.CO.NH.CH(CH2.C3H3N2).COOH

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

Ho+++            nmr KCl      25°C 2.00M U                      1983MAa (67319) 377

K(Ho+H2L)=0.81

\*\*\*\*\*

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  
-----

Ho+++            gl   KNO3    20°C 0.10M U            K1=11.47    B2=19.97    1974RMg (67408) 378

\*\*\*\*\*

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  
-----

Ho+++            cal NaClO4    25°C 0.50M M    IH      K1=13.37            1986RCa (67639) 379  
DH=-11.4 kJ mol<sup>-1</sup>, DS=218 J K<sup>-1</sup> mol<sup>-1</sup>

\*\*\*\*\*

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
Ho+++	gl	KNO3	25°C	0.10M	U		K1=4.72 B2=7.28	1968PFa (67773)	380

\*\*\*\*\*

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
Ho+++	gl	alc/w	22°C	80%	U		K1=6.37 B2=11.73 K3=5.51	1995MTa (68427)	381

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
Ho+++	gl	NaClO4	25°C	0.10M	U	H	K1=4.65 K(Ho+HL)=3.69	1994CRa (68516)	382

DH(K1)=28.8 kJ mol<sup>-1</sup>, DS=181 J K<sup>-1</sup> mol<sup>-1</sup>; DH(Ho+HL)=13.1, DS=115

\*\*\*\*\*  
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
Ho+++	sp	KCl	25°C	0.10M	M	I	K1=4.33	1976PEa (68579)	383

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	KNO3	25°C	0.10M	U		K1=5.94 B2=11.49	1982LPc (68647)	384

\*\*\*\*\*  
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
Ho+++	gl	KCl	25°C	0.10M	M		K1=4.32	1979LSb (68813)	385

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	sp	KCl	25°C	0.10M	C		K1=4.40	1973PMb (68846)	386

\*\*\*\*\*



C10H7NO5S                      H2L                      CAS 3682-32-4 (1812)  
2-Nitroso-1-hydroxynaphthalene-4-sulfonic acid;

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

Ho+++            gl   KCl        25°C 0.10M U    I            K1=3.13            1967MAi (68886) 387  
K1=4.22(I=0)

\*\*\*\*\*

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  
-----

Ho+++            sp   KCl        25°C 0.10M M            K1=5.10            1978PPb (68946) 388

\*\*\*\*\*

C10H7NO8S2                      H3L        Nitroso-R acid    CAS 525-05-3 (1811)  
1-Nitroso-2-hydroxynaphthalene-3,6-disulfonic acid;

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

Ho+++            gl   oth/un 25°C 0.10M U            K1=5.19    B2=9.98    1990ATa (69015) 389

Ho+++            gl   KCl        25°C 0.10M U            K1=4.70            1968MAe (69016) 390

\*\*\*\*\*

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

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

Ho+++            gl   diox/w 25°C 75% U            K1=5.85    B2=11.51    1986MIa (69097) 391

\*\*\*\*\*

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  
-----

Ho+++            gl   alc/w    22°C 80% U            K1=7.45    B2=13.14    1995MTa (69151) 392  
K3=6.00

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

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

Ho+++            sp   non-aq 25°C 100% C T            K1=2.86            2005SYa (69588) 393

In ethylacetate; At 50 C K1=2.55

\*\*\*\*\*

C10H8N4O3                      HL                      CAS 43168-60-1 (6209)  
5-Phenylazobarbituric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	diox/w	25°C	75%	U		K1=6.10 B2=11.90	1986MIa (69731)	394
*****									
C10H8O2		H2L					CAS 92-44-4	(1658)	
2,3-Dihydroxynaphthalene;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	NaClO4	20°C	0.10M	U	M		1973PAC (69771)	395
K(HoA+L)=7.89, H4A=EDTA									
*****									
C10H8O5S		H3L					DHNSA (877)		
2,3-Dihydroxynaphthalene-6-sulfonic acid;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	NaClO4	25°C	0.50M	C		K1=10.26 B2=18.40	1976LAd (69850)	396
B(HoHL2)=25.23									
*****									
C10H8O8S2		H4L					Chromotropic ac CAS 148-25-4	(1875)	
1,8-Dihydroxynaphthalene-3,6-disulfonic acid;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	KCl	25°C	0.10M	M	I		1974MLa (69955)	397
K(Ho+HL)=2.20									
*****									
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
Ho+++	sp	diox/w	25°C	10%	U		K1=9.61 B2=18.73	1973KSd (70362)	398
Medium: 10% dioxan, 0.1 M KNO3									
*****									
C10H9N3O2S		HL					CAS 3012-52-0	(217)	
2-(2'-Thiazolylazo)-4-methoxyphenol; CH3O.C6H3(OH).N:N.C3H2N2									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	sp	KNO3	25°C	0.10M	U		K1=9.63	1974KSA (70401)	399
*****									
C10H10N4O2S		HL					Sulfadiazine CAS 68-35-9	(1885)	
4-Amino-N-(2-pyrimidinyl)benzenesulfonamide; C4H3N2NHSO2C6H4NH2									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	alc/w	25°C	50%	C	M	K1=4.50	1993EEa (70611)	400

$$K(\text{Ho}(\text{nta})+\text{L})=7.22$$

Medium: 50% v/v EtOH/H<sub>2</sub>O, 0.10 M NaClO<sub>4</sub>.

Ho+++ gl NaNO<sub>3</sub> 25°C 0.10M U M 1988SSg (70612) 401

$$K(\text{Ho}(\text{EDTA})+\text{L})=3.23$$

\*\*\*\*\*

C10H1002 HL Benzoylacetone CAS 93-91-4 (197)

1-Phenylbutane-1,3-dione; C<sub>6</sub>H<sub>5</sub>.CO.CH<sub>2</sub>.CO.CH<sub>3</sub>

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

Ho+++ gl alc/w 25°C 80% U K1=8.41 B2=14.91 1967DZa (70735) 402  
K3=4.50

Medium: 80% MeOH, 0.1 M NaCl

Ho+++ gl alc/w 24°C 80% U K1=8.41 B2=14.91 1967DZb (70736) 403  
K3 = 4.50

Medium: 80% v/v MeOH/H<sub>2</sub>O, 0.1 M NaCl

\*\*\*\*\*

C10H1006 H2L CAS 5411-14-3 (2394)

1,2-Phenylenedioxodiethanoic acid; C<sub>6</sub>H<sub>4</sub>(O.CH<sub>2</sub>.COOH)<sub>2</sub>

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

Ho+++ gl NaClO<sub>4</sub> 25°C 0.10M M K1=4.11 1977HCb (70852) 404

\*\*\*\*\*

C10H11N50 L CAS 105507-56-0 (8131)

N-Methylisatin-beta-amidinohydrazone;

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

Ho+++ gl diox/w 30°C 50% C TIH K1=6.10 B2=10.64 1986SGc (71091) 405

Medium: 50% v/v dioxan/H<sub>2</sub>O, 0.10 M NaClO<sub>4</sub>. Data for 0.02-0.20 M NaClO<sub>4</sub>

and 30-50 C. DH(K1)=75.6 kJ mol<sup>-1</sup>, DS=366 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=79.5, DS=349

\*\*\*\*\*

C10H12N204 H2L CAS 16598-05-3 (967)

2-Pyridylmethyliminodiethanoic acid; C<sub>5</sub>H<sub>4</sub>N.CH<sub>2</sub>.N(CH<sub>2</sub>.COOH)<sub>2</sub>

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

Ho+++ gl KNO<sub>3</sub> 25°C 0.10M U K1=9.07 B2=16.87 1964THa (71262) 406

\*\*\*\*\*

C10H1202 HL CAS 1946-74-3 (202)

3-Isopropyltropolone;

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

Ho+++ gl alc/w 24°C 80% U K1=9.2 B2=16.90 1968DZb (71586) 407  
K3=6.5  
K4=5.2

Medium: 80% MeOH, 0.1 M NaCl

-----  
Ho+++ sp alc/w ? 3% U K1=7.40 1967GDb (71587) 408

Medium: 3% EtOH, 0.2 M NaClO4

\*\*\*\*\*

C10H12O4 HL CAS 5936-18-9 (2743)

2-Hydroxy-3,4-dimethoxyacetophenone; (HO)(CH3O)2C6H2.CO.CH3

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

-----  
Ho+++ gl diox/w 15°C 50% C T H K1=9.75 B2=17.25 1987GBa (71653) 409

K1(35, 40, 50 C) = 8.39, 8.09, 7.88 respectively. DH(K1)=-100.6 kJ mol<sup>-1</sup>

\*\*\*\*\*

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

-----  
Ho+++ gl KCl 25°C 0.10M U K1=13.10 1980MMe (73142) 410

K(Ho+HL)=6.78

-----  
Ho+++ gl KNO3 20°C 0.10M U K1=13.75 B2=18.28 1975DPa (73143) 411

-----  
Ho+++ gl NaClO4 30°C 0.10M U K1=10.31 1973STb (73144) 412

-----  
Ho+++ vlt KNO3 25°C 0.10M U K1=13.60 1971BGb (73145) 413

\*\*\*\*\*

C10H16N2O8 H4L EDTA CAS 60-00-4 (120)

1,2-Diaminoethane-N,N',N'-tetraethanoic acid, Sequestic acid;

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

-----  
Ho+++ cal NaClO4 25°C 0.10M C H 1987YJa (73860) 414

DH(K1)=-4.73 kJ mol<sup>-1</sup>, DS(K1)=330 J K<sup>-1</sup> mol<sup>-1</sup>.

-----  
Ho+++ gl KCl 25°C 1.0M U 1984BKc (73861) 415

K(HoL+H)=0.48

-----  
Ho+++ gl NaClO4 20°C 0.02M U M 1982MPd (73862) 416

K(HoL+PO4)=3.34

-----  
Ho+++ gl KCl 25°C 1.00M U K2=2.56 1976BKa (73863) 417

K(HoL+HL)=1.70

K(2HoL+L)=5.19

-----  
Ho+++ gl KCl 25°C 1.0M U 1976GMb (73864) 418

K(HoL+L)=1.35

-----  
Ho+++ sp KCl 25°C 0.10M U K2=2.56 1975BKa (73865) 419

K(2HoL+L)=5.19

$$K(HoL+HL)=1.70$$

Ho+++      EMF KCl      25°C 0.10M U      T      1974BKb (73866) 420  
K(HoL+H)=1.0

Ho+++	gl	KCl	25°C	1.0M C	K2=2.56	1974BKe (73867)	421
					K(HoL+HL)=1.70		
					K(2HoL+L=Ho2L3)=5.19		

Ho+++      gl   KN03    25°C 0.10M U T M                          1973TRb (73868) 422

K(HoL+HA)=4.43  
K(HoL+A)=6.50

K(HoL+HA)=4.55(2 C), K(35 C)=4.41, K(45 C)=4.35, K(HoL+A)=6.72(2 C),  
K(35 C)=6.57, K(45 C)=6.47, H5A=tripolyphosphoric acid

Ho+++      g1   KNO3   25°C 0.10M U T M      1973TRb (73869) 423  
K(HoL+A)=5.6  
K(2 C)=6.2, K(35 C)=5.8, K(45 C)=5.5, H4A=adenosine triphosphate

Ho+++      gl   NaCl04 25°C 0.10M U      M      1969AIb (73870) 424  
K(HoL+A)=7.26, H4A=tiron

Ho+++ dis oth/un 25°C ? U K1=17.72 1969PJa (73871) 425  
Method: paper electrophoresis. Medium: pH=1.86

Ho+++ ix KCl 25°C 0.10M U H K1=18.04 1959BDb (73872) 426  
 DH(K1)=5.2 kJ mol<sup>-1</sup>, DS=363 J K<sup>-1</sup> mol<sup>-1</sup>

Ho+++      gl   oth/un 20°C 0.01M U      K1=18.73      1955WSa (73873) 427  
Also by polarography

Ho+++      gl   KCl      20°C 0.10M U   I      T K1=18.1      1954SGa (73874) 428  
By polarography, 0.1 M KNO3, K1=18.74

Ho+++      gl   KCl      20°C 0.10M U   I   T K1=17.67      1953WSa (73875) 429  
By polarography K1=18.05. In 0.1 M KNO3 K1=18.31

\*\*\*\*\*  
C10H16N5O13P3            H4L    ATP                    CAS 56-65-5 (403)  
Adenosine-5'-triphosphoric acid;

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

Ho+++      g1   KCl      25°C 0.10M U      K1=6.48   B2=10.35   1988SSd (74738) 430  
K(Ho+HL)=4.12

Ho+++      kin oth/un 25°C 0.05M C      K1=7.00      1983Mcc (74739) 431  
Method: inhibition of the hexokinase reaction, pH 8.0 (0.05 M TAPS).

Ho+++      gl    KNO3    35°C 0.10M U      M      1972TRC (74740) 432  
K(Ho(EDTA)+L)=5.8

\*\*\*\*\*

C10H17N2O10P                      H5L                      CAS 69219-70-1 (7961)  
Bis{[bis(carboxymethyl)amino]methyl}phosphinic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	NaCl	25°C	0.16M	C		K1=15.8 K(Ho+HL)=8.8 K(HoL+H)=2.2 B(HoHL)=18.1	2001XRa (75023)	433

\*\*\*\*\*

C10H17N3O6S                      H3L                      Glutathione                      CAS 70-18-8 (333)  
Glutamyl-cysteinyglycine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	NaClO4	25°C	0.10M	U	TIH	K1=7.502	2003GSb (75128)	434

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=8.820. DH(K1)=-27.8 kJ mol<sup>-1</sup>, DS(K1)=-76.

\*\*\*\*\*

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
Ho+++	EMF	KCl	25°C	1.0M	U		K2=4.07 K(HoL+HL)=2.50 K(HoL+H4L)=1.91	1977GMa (75418)	435

Method: Pt/H2 electrode.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	EMF	KCl	25°C	1.0M	U	M	K(Ho(edta)+L)=2.82 K(Ho(edta)+HL)=1.83 K(Ho(edta)+H2L)=1.54 K(Ho(edta)+H3L)=0.60	1977GMa (75419)	436

Method: Pt/H2 electrode.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	NaClO4	25°C	1.0M	U		K2=3.39 K(HoL+HL)=2.47 K(HoL+H3L)=0.31	1973NMa (75420)	437

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	oth/un	20°C	?	U		K(HoL+H2L)=1.62 K(HoL+HL)=2.48 K(HoL+L)=4.0	1971MNa (75421)	438

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	KN03	25°C	0.10M	U	M	K(HoL+A)=5.37 K(HoL+B)=4.76 K(HoLOH+H)=9.06	1963TLb (75422)	439

H2A=iminodiethanoic acid, H2B=hydroxyethyliminodiethanoic acid

-----  
Ho+++      EMF oth/un 20°C 0.10M U      K1=15.55      1962PMa (75423) 440  
-----

Ho+++      gl    KNO3    15°C 0.10M U T H      K1=15.39      1961MFb (75424) 441  
K1=15.34(20 C), 15.32(25 C), 15.27(30 C), 15.35(35 C), 15.30(40 C)  
DH(K1)=-4.8 kJ mol<sup>-1</sup>(25 C), DS=277 J K<sup>-1</sup> mol<sup>-1</sup>  
-----

Ho+++      gl    KNO3    25°C 0.10M U      K1=15.06      1956SPa (75425) 442  
By polarography K1=15.4  
-----

\*\*\*\*\*  
C10H19N3O4      HL      Leu-Gly-Gly      CAS 1187-50-4 (1230)  
Leucyl-glycyl-glycine; H2N.CH(CH2.CH(CH3)2).CO.NH.CH2.CO.NH.CH2.COOH  
-----

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

Ho+++      gl    KCl    25°C 0.10M U      K1=2.0      1973FMa (75691) 443  
-----

\*\*\*\*\*  
C10H20N2O4      H2L      (4753)  
N,N'-Diethylethylenedinitrilo-N,N'-diethanoic acid;  
-----

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

Ho+++      gl    KNO3    25°C 0.10M U      K1=6.9      1973PSb (75783) 444  
-----

\*\*\*\*\*  
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  
-----

Ho+++      ISE non-aq 25°C 100% C      K1=3.60      1986BDa (76449) 445  
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  
-----

Ho+++      gl    diox/w 30°C 75% U T      K1=3.94    B2=7.78    1984APa (77034) 446  
-----

Ho+++      gl    mixed 22°C 60% U      K1=3.98    B2=7.58    1979JMa (77035) 447  
K3=3.22  
-----

Medium: 60% acetone/H2O  
-----

\*\*\*\*\*  
C11H8O4      HL      CAS 7555-37-5 (4812)  
3-Acetyl-4-hydroxycoumarin  
-----

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

Ho+++      gl    diox/w 35°C 50% U      K1=4.09    B2=7.17    1971MAa (77178) 448  
-----

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
Ho+++	gl	NaClO4	25°C	0.10M	C			K1=8.82    B2=15.17 K(Ho+HL)=2.10	1979LAb (77228)	449

\*\*\*\*\*

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
Ho+++	gl	NaClO4	25°C	0.10M	C			K1=7.62 K(Ho+HL)=2.21	1976MLb (77253)	450

\*\*\*\*\*

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
Ho+++	cal	NaClO4	25°C	0.10M	C	H		K1=8.86    B2=14.7 K(Ho+HL)=1.92	1986LLc (77281)	451

DH(Ho+HL)=8.4 kJ mol<sup>-1</sup>, DS=65 J K<sup>-1</sup> mol<sup>-1</sup>

\*\*\*\*\*

C11H9NO4                      H2L                      CAS 4321-82-7 (4829)

3-Acetyl-4-hydroxycoumarin oxime;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ho+++	gl	diox/w	35°C	50%	U			K(Ho+HL)=3.82 K(Ho+2HL)=6.69	1971MAa (77421)	452

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
Ho+++	sp	NaNO3	25°C	0.10M	C			K1=10.47 K(Ho+HL)=4.29 *K(HoHL)=-6.12	19840Ha (77549)	453

Medium pH 4.8-6.3.

Ho+++	sp	KCl	20°C	0.10M	U			K(Ho+HL)=3.60	1971EKa (77550)	454
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C11H10N4O3 HL CAS 92265-24-2 (6211)

5-(2'-Methylphenylazo)barbituric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	diox/w	25°C	75%	U		K1=6.24 B2=12.04	1986MIa (77730)	455

C11H10N4O4 HL CAS 92265-26-4 (6210)

5-(2'-Methoxyphenylazo)barbituric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	diox/w	25°C	75%	U		K1=6.35 B2=12.42	1986MIa (77744)	456

C11H11N3O5 H2L CAS 16247-80-6 (1150)

2-(2'-Thiazolylazo)-4-ethylphenol; C4H2NS.N:N.C6H3(C2H5).OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	sp	KN03	25°C	0.10M	U T H		K1=9.90	1975KSa (77905)	457

DS=120.9 J K<sup>-1</sup> mol<sup>-1</sup> and DH=-20.5 kJ mol<sup>-1</sup>. Data also at 15 C and 35 C

C11H11N3O2S HL Sulfapyridine CAS 144-83-2 (8356)

4-Amino-N-2-pyridinyl-benzenesulfonamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	alc/w	25°C	50%	C M		K1=10.05 B2=18.75	1993EEa (77931)	458

K(Ho(nta)+L)=7.21

Medium: 50% v/v EtOH/H2O, 0.10 M NaClO4.

C11H12N2O2 HL CAS 103314-23-4 (6182)

2-(N-2-Pyrrolidimino)benzoic acid; C4H7N:N.C6H4.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	NaClO4	25°C	0.10M	U TIH		B2=14.10	1986GSb (78018)	459

35 C: B2=14.17; 45 C: B2=14.82. DH(B2)=-65.3 kJ mol<sup>-1</sup>, DS=59 J K<sup>-1</sup> mol<sup>-1</sup>

C11H12N2O2 HL Tryptophan CAS 73-22-3 (3)

2-Amino-3-(3-indolyl)propanoic acid; H2N.CH(CH2.C8H6N)COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	KCl	25°C	0.10M	U T H		K1=4.86	1976BFc (78211)	460

For 55C K1= 4.40

C11H12N2O5S HL CAS 56475-09-3 (8410)

3-(4'-Sulfophenylhydrazo)-pentane-2,4-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	oth/un	30°C	0.10M	U		B2=21.87	1985EEb (78321)	461
Medium: not stated. For 3'-sulfophenylhydrazo-, B2=21.98; for 2'-sulfo-phenylhydrazo-, B2=23.94; for 4'-methyl-2'-sulfophenylhydrazo-, B2=23.52.									
*****									
C11H12N4O5		H2L					CAS 3695-43-0	(1149)	
2-(2'-Thiazolylazo)-5-methyl-aminophenol;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	sp	KN03	25°C	0.10M	U T H		K1=11.12	1975KSa (78348)	462
DH=-15.4 kJ mol <sup>-1</sup> and DS=161.4 J K <sup>-1</sup> mol <sup>-1</sup> . Data also at 15 C and 35 C									
*****									
C11H12N4O2S		HL					CAS 127-79-7	(8431)	
4-Amino-N-(4-methyl-2-pyrimidinyl)benzenesulfonamide;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	alc/w	25°C	50%	C		K1=10.42 B2=18.46	1993EEa (78357)	463
K(Ho(NTA)+L)=3.80									
Medium: 50% v/v EtOH/H2O, 0.10 M NaClO4.									
*****									
C11H13NO4S		HL					CAS 58943-48-9	(1411)	
N-Acetylacetyliden-orthanilic acid; H03S.C6H4.N:C(CH3).CH2.CO.CH3									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	EMF	NaClO4	25°C	0.10M	U		K1=20.10	1982MSc (78592)	464
*****									
C11H13NO5		H3L			HBIDA		CAS 7372-13-6	(1603)	
N-(2-Hydroxybenzyl)iminodiethanoic acid; H0.C6H4.CH2.N(CH2.COOH)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	KN03	25°C	0.10M	C		K1=14.14 B2=25.30	1989YSa (78628)	465
K(Ho+HL)=5.97									
K(Ho+2HL)=12.48									
-----									
Ho+++	gl	KN03	20°C	0.10M	U		K1=14.24 B2=25.20	1983MSc (78629)	466
*****									
C11H14N2O3		HL			Gly-Phe		CAS 3321-03-7	(829)	
Glycyl-phenylalanine; H2N.CH2.CO.NH.CH(CH2.C6H5).COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	KCl	25°C	0.10M	U		K1=2.45	1973FMa (78814)	467
*****									
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
Ho+++	gl	KNO3	25°C	0.10M	U		K1=7.30 B2=12.33	1964THa (78885)	468
*****									
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
Ho+++	vlt	KNO3	20°C	0.10M	U		K1=15.08	1981NSc (79295)	469
Ho+++	EMF	KNO3	25°C	0.10M	U		K1=16.37	1980KBc (79296)	470
Ho+++	vlt	KNO3	20°C	0.10M	U		K1=19.36	1978NLb (79297)	471
Ho+++	vlt	KNO3	20°C	0.10M	U		K1=19.30	1964ICb (79298)	472
*****									
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
Ho+++	gl	KNO3	25°C	0.10M	U		K1=10.76	1976GKd (79366)	473
*****									
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
Ho+++	gl	KNO3	25°C	0.10M	M		K1=14.88	1986PLc (79560)	474
*****									
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
Ho+++	gl	KNO3	25°C	0.10M	U		K1=11.96	1976GKd (79597)	475
*****									
C11H20O4		H2L					CAS 2283-16-1	(2854)	
2,2-Dibutylpropanedioic acid; H00C.C(C4H9)2.C00H									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	KNO3	25°C	0.10M	U		K1=4.69 B2=7.36	1968PFa (79769)	476
*****									
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

Medium: 0.1 M NaClO<sub>4</sub> in 80% (v/v) EtOH/H<sub>2</sub>O.

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C12H8N2	L	Phenanthroline	CAS 66-71-7	(144)
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1,10-Phenanthroline;

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

Ho+++      dis non-aq 25°C 100%   C   HM      1998YHa (80468) 478

$$K(\text{HoA3+L})=7.82$$

Method: solvent extraction from 0.10 M NaClO<sub>4</sub> into CHCl<sub>3</sub>. HA is 1-(2-thienyl)-4,4,4-trifluoro-1,3-butanedione. DH(HoA3+L)=-6.1 kJ mol<sup>-1</sup>.

\*\*\*\*\*

C12H9N2OCl                      HL                      CAS 73446-98-7    (9081)

N-2-(5-Chloropyridyl)salicylalimine;

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

Ho+++      gl   alc/w   25°C   50%   C T H      K1=5.28      B2= 8.61      1997GSa (80586) 479

Medium: 50% v/v EtOH/H<sub>2</sub>O, 0.20 M KCl. At 50 C, K<sub>1</sub>=4.89, K<sub>2</sub>=3.06.

$$\Delta H(K1) = -29 \text{ kJ mol}^{-1}.$$

\*\*\*\*\*

C12H10N2O                      HL                      CAS 1823-47-8    (3969)

2-Salicylideneaminopyridine; (2-OH).C<sub>6</sub>H<sub>4</sub>.CH:N.C<sub>5</sub>H<sub>4</sub>N

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

Ho+++      gl   alc/w   25°C   50%   C T H      K1=6.25   B2=10.82   1997GSa (80673) 480

$$K_3 = 3.31$$

Medium: 50% v/v EtOH/H<sub>2</sub>O, 0.20 M KCl. At 50 C, K<sub>1</sub>=5.79, K<sub>2</sub>=4.22,

K3=3.05. DH(K1)=-34 kJ mol<sup>-1</sup>.

\*\*\*\*\*

C12H10N2O                      HL                      CAS 3860-58-0    (9082)

2-[(2-Pyridylmethylene)amino]phenol;

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

Ho+++ gl alc/w 25°C 50% C K1=7.30 B2=13.38 1997GSa (80683) 481

Medium: 50% v/v EtOH/H<sub>2</sub>O, 0.20 M KCl.

\*\*\*\*\*

C<sub>12</sub>H<sub>10</sub>N<sub>2</sub>S L CAS 19257-96-6 (9084)

2-(2-Pyridyl)benzothiazoline;

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

Ho+++ gl alc/w 25°C 50% C K1=7.02 B2=12.73 1997GSa (80741) 482

Medium: 50% v/v EtOH/H<sub>2</sub>O, 0.20 M KCl.

\*\*\*\*\*

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  
-----  
Ho+++ gl diox/w 20°C 75% U I K1=9.581 B2=17.557 1992SSc (80918) 483  
Medium: 75% v/v dioxan/H2O; 0.1 M NaClO4

\*\*\*\*\*  
C12H12NO3Cl 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  
-----  
Ho+++ sp NaClO4 25°C 0.50M U K1=2.029 1987MSa (80967) 484

\*\*\*\*\*  
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  
-----  
Ho+++ gl alc/w 22°C 0.1M U K1=6.47 B2=12.12 2000TBb (81074) 485  
K3=4.28

Medium: 0.1 M NaClO4 in 70% v/v EtOH/H2O

\*\*\*\*\*  
C12H13NO3 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  
-----  
Ho+++ sp NaClO4 25°C 0.50M U K1=2.200 1987MSa (81197) 486

\*\*\*\*\*  
C12H13NO8 H5L (7001)  
3-Bis-(carboxymethyl)iminomethyl-2,4-dihydroxybenzoic acid;  
HOOC.C6H2(OH)2CH2.N(CH2COOH)2

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ho+++ gl KCl 25°C 0.10M U K(Ho+H2L)=8.4 1977RTb (81250) 487

\*\*\*\*\*  
C12H14N4O2S L Sulfadimidine CAS 57-68-1 (6167)  
2-(4-Aminobenzolsulfamido)-4,6-dimethylpyrimidine;

-----  
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ho+++ gl NaNO3 25°C 0.10M U M K(Ho(EDTA)+L)=3.25 1988SSg (81369) 488

\*\*\*\*\*  
C12H15NO5 H3L (4930)  
1-Hydroxy-4-methylphenyl-2-methyleneiminodiethanoic acid;



Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	vlt	KNO3	20°C	0.10M	U		K1=18.27	1976NKa (82135)	498
*****									
C12H20N2O8		H4L					CAS 40623-42-5	(3388)	
1,2-Diaminoethane-N,N'-diethanoic-N,N'-dipropionic acid;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	NaClO4	25°C	0.10M	U	IH	K1=13.84 B(Ho+HL)=6.37	1988RNa (82167)	499
DH(K1)=2.78 kJ mol <sup>-1</sup> , DH(Ho+HL)=33.4, DS(K1)=274 J K <sup>-1</sup> mol <sup>-1</sup>									
Ho+++	vlt	R4N.X	30°C	0.01M	C		K1=15.96	1981GMh (82168)	500
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
Ho+++	gl	NaClO4	25°C	0.50M	M	H	K1=10.84 K(HoL+H)=6.25 K(HoHL+H)=5.01	1985CBa (82225)	501
DH(K1)=24.7 kJ mol <sup>-1</sup> , DS=290 J K <sup>-1</sup> mol <sup>-1</sup> (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
Ho+++	sp	NaClO4	20°C	0.10M	U		K1=19.97	1971ISa (82307)	502
Ho+++	vlt	oth/un	20°C	0.10M	U		K1=20.27	1966DMa (82308)	503
Ho+++	vlt	KNO3	20°C	0.10M	U		K1=20.27	1966NSb (82309)	504
*****									
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
Ho+++	sp	NaClO4	20°C	0.10M	U		K1=17.36	1971ISa (82401)	505
Ho+++	vlt	oth/un	20°C	0.10M	U		K1=17.25	1966DMa (82402)	506
*****									
C12H20N2O8S		H4L			TEDTA		CAS 923-74-0	(3394)	

2,2'-Thiobis(ethyliminodiethanoic acid); S(CH<sub>2</sub>.CH<sub>2</sub>.N(CH<sub>2</sub>.COOH)<sub>2</sub>)<sub>2</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	KNO <sub>3</sub>	25°C	0.10M	C		K <sub>1</sub> =14.67	1985TPa (82461)	507
*****									
C <sub>12</sub> H <sub>20</sub> N <sub>2</sub> O <sub>9</sub>		H <sub>4</sub> L	EEDTA				CAS 923-73-9	(2112)	
Oxa-bis(ethyleneimino)diethanoic acid; ((HOOC.CH <sub>2</sub> ) <sub>2</sub> N.CH <sub>2</sub> .CH <sub>2</sub> ) <sub>2</sub> O									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	EMF	KNO <sub>3</sub>	20°C	0.10M	U		K <sub>1</sub> =18.13	1962MMc (82543)	508
*****									
C <sub>12</sub> H <sub>20</sub> O <sub>8</sub> N <sub>2</sub>		H <sub>4</sub> L					(6908)		
2-Methyl-1,2-diaminopropane-N,N,N'-tetraethanoic acid;									
(HOOC.CH <sub>2</sub> ) <sub>2</sub> N.CH <sub>2</sub> .C(CH <sub>3</sub> ) <sub>2</sub> .N(CH <sub>2</sub> .COOH) <sub>2</sub>									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	vlt	KNO <sub>3</sub>	20°C	0.10M	C		K <sub>1</sub> =17.40	1978NLa (82676)	509
*****									
C <sub>12</sub> H <sub>21</sub> N <sub>6</sub> O <sub>6</sub>		H <sub>3</sub> L					(7209)		
1-Carboxy-1-aminoheptane-N,N-diethanoic acid; HOOC.CH(C <sub>6</sub> H <sub>13</sub> )N(CH <sub>2</sub> .COOH) <sub>2</sub>									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	alc/w	20°C	40%	U		K <sub>1</sub> =11.53	1985LBc (82698)	510
Medium: 40% v/v MeOH/H <sub>2</sub> O, 0.1 M KNO <sub>3</sub>									
*****									
C <sub>12</sub> H <sub>24</sub> N <sub>4</sub> O <sub>4</sub>		H <sub>2</sub> L					(7343)		
1,4,7,10-Tetraazacyclododecane-1,7-bis(ethanoic acid);									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	R <sub>4</sub> N.X	25°C	0.10M	C		K <sub>1</sub> =13.00	1998CCb (83085)	511
*****									
C <sub>12</sub> H <sub>26</sub> N <sub>2</sub> O <sub>4</sub>		L	Cryptand 2,2				CAS 23978-55-4	(925)	
4,7,13,16-Tetraoxa-1,10-diazacyclooctadecane;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	alc/w	25°C	100%	C		K <sub>1</sub> =8.81	1983ANb (83845)	512
The equilibration took 7-12 days. Medium: MeOH, 0.05 M Et <sub>4</sub> NC <sub>10</sub>									
*****									
C <sub>12</sub> H <sub>26</sub> O <sub>6</sub>		L	Pentaglyme				CAS 1191-87-3	(2498)	
2,5,8,11,14,17-Hexaoxaoctadecane; (CH <sub>3</sub> .O.CH <sub>2</sub> .CH <sub>2</sub> .O.CH <sub>2</sub> .CH <sub>2</sub> .O.CH <sub>2</sub> .O) <sub>2</sub>									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	non-aq	25°C	100%	C		K <sub>1</sub> =4.66	1989BPa (84000)	513



Medium: anhydrous propylene carbonate, 0.1 M Et4NC104

\*\*\*\*\*

C12H28N2O9P2 H4L (7242)

1,4,10-Trioxa-7,13-diazacyclopentadecane-7,13-diylldimethylenediphosphonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	R4N.X	25°C	0.10M	U		K1=12.98 K(Ho+HL)=9.75 K(Ho+H2L)=5.59	1996BJa (84157)	514

Medium: 0.1 M Me4NC1

\*\*\*\*\*

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
Ho+++	gl	NaNO3	25°C	0.20M	C		K1=8.62	1991KKa (84333)	515
Ho+++	gl	NaCl	20°C	0.10M	C		K1=10.1	1988Sjb (84334)	516

\*\*\*\*\*

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
Ho+++	gl	alc/w	22°C	80%	U		K1=5.68 B2=11.19 K3=4.44	1995MTa (84455)	517

Medium: 0.1 M NaCl04 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
Ho+++	gl	NaCl04	30°C	0.10M	U		K1=4.77	1989SHa (84515)	518

\*\*\*\*\*

C13H9N3OS HL TAN CAS 1147-56-4 (4030)

1-(1',3'-Thiazol-2'-ylazo)-2-hydroxynaphthalene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	dis	oth/un	20°C	0.05M	U		K1=12.76 B2=24.36 B3=34.80 B4=44.08	1966NAa (84616)	519

\*\*\*\*\*

C13H9N3OS L (6217)

Acenaphthenequinone Monothiosemicarbazone; C12H6O:N.NH.CS.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	diox/w	25°C	75%	U	TI	K1=9.36 B2=18.16	1986SSd (84621)	520
Medium: 0.1 M NaCl 0.4. 30 C: K1=9.48, K2=8.93; 40 C: K1=9.27, K2=8.71; 50 C: K1=8.91, K2=8.27; I=0.01 M: K1=10.18, K2=9.86; I=0.05: K1=9.74, K2=9.29									
*****									
C13H11NOS H2L (7306)									
2-(Salicylideneamino)thiophenol, Salicylaldehyde-2-mercaptoanil;									
HO.C6H4.CH:N.C6H4.SH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	alc/w	25°C	70%	U		K1=13.39 B2=25.27	1995IFa (85044)	521
Medium: 70% v/v EtOH/H2O, 0.10 M NaCl.									
*****									
C13H11NO2 HL CAS 304-88-1 (181)									
N-Phenylbenzohydroxamic acid; C6H5.CO.N(C6H5).OH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	dis	KCl	RT	0.10M	C			1996KNa (85156)	522
Method: extraction into benzene from 0.10 M KCl (pH 7.0; borate buffer).									
K(Ho+3HL(org)=HoL3(org)+3H)=-14.04									
*****									
C13H11NS HL CAS 42152-36-3 (8401)									
2-[(Phenylmethylene)amino]benzenethiol;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	alc/w	25°C	70%	U		K1=8.38 B2=16.44	1995IFa (85229)	523
Medium: 70% v/v EtOH/H2O, 0.10 M NaCl. Also data for p-Cl, p-NMe2, p-OH, p-OCH3, p-CH3, p-NO2 substituted benzaldehyde Schiff bases.									
*****									
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
Ho+++	gl	diox/w	30°C	75%	U		K1=8.83 B2=16.43	1988ESb (85247)	524
*****									
C13H12N2O HL CAS 59129-92-9 (9080)									
N-2-(5-Methylpyridyl)salicylalimine;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	alc/w	25°C	50%	C	T H	K1=7.82 B2=13.24	1997GSa (85341)	525
K3=4.81									
Medium: 50% v/v EtOH/H2O, 0.20 M KCl. At 50 C, K1=7.24, K2=5.00, K3=4.44. DH(K1)=-43 kJ mol-1.									

\*\*\*\*\*  
 C13H12N2O3S HL (6203)  
 Salicylidenesulfanilamide, 4-(N-(2-Hydroxybenzylene))aminosulanilamide;  
 H2NSO2C6H4N:CHC6H4OH

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 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Ho+++ gl oth/un 25°C 0.10M U K1=12.302 1987KSc (85360) 526  
 \*\*\*\*\*

C13H12N4O L Diphenylcarb. CAS 538-62-5 (1195)  
 Diphenylcarbazon; C6H5.NH.NH.CO.N:N.C6H5

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Ho+++ EMF alc/w 20°C 50% U K1=3.70 1971MAc (85413) 527  
 Medium: 50% EtOH, 0.1 M NaClO4  
 \*\*\*\*\*

C13H12N4S L Dithizone CAS 60-10-6 (1801)  
 Diphenylthiocarbazon; C6H5.NH.NH.CS.N:N.C6H5

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Ho+++ EMF alc/w 20°C 50% U K1=2.15 1971MAc (85463) 528  
 Medium: 50% EtOH, 0.1 M NaClO4  
 \*\*\*\*\*

C13H14N2O3 HL (4940)  
 3-(2-Acetylphenylhydrazon)pentane-2,4-dione;(CH3.CO)2C:N.NH.C6H4(CO.CH3)

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Ho+++ gl diox/w 30°C 75% U K1=10.98 B2=20.84 1988ESb (85610) 529  
 \*\*\*\*\*

C13H15N06 H3L (4999)  
 2-Benzylnitritotriethanoic acid;

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Ho+++ oth oth/un 25°C 0.10M U K2=9.03 1962HKa (85738) 530  
 \*\*\*\*\*

C13H19N03 H2L (2031)  
 2-(1-(2-Hydroxyphenyl)-ethylimine)-3-methylbutanoic acid;

-----  
 Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
 -----  
 Ho+++ gl NaClO4 25°C 0.10M U TIH K1=12.75 B2=23.30 1980SSc (86055) 531  
 \*\*\*\*\*

C13H20N2O8 H4L CAS 123064-92-6 (7929)  
 trans-1,3-Cyclopentanediaminotetraethanoic acid;

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

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-----
Ho+++      gl  KCl      25°C  1.0M U      K1=13.70      1989CMb (86121) 532
                        K(HoHL+H)=3.18
                        K(HoL+H)=4.14

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C13H22N2O8      H4L      CAS 1798-14-7 (921)
(Pentamethylenedinitrilo)tetraethanoic acid; ((HOOCH2)2N.CH2.CH2)2CH2

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Ho+++      gl  KNO3      25°C  0.10M C      K1=10.83      1982PPd (86197) 533
                        K(Ho+HL)=7.06

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C13H22N2O8      H4L      CAS 1198-14-7 (5004)
1,2-Diaminopentane-N,N,N',N'-tetraethanoic acid; (HOOCCCH2)2NCH2CH(C3H7)N(CH2COOH)2

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Ho+++      vlt KNO3      20°C  0.10M U      K1=19.77      1974NLa (86228) 534

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C13H22N2O8      H4L      (7164)
2,4-Diaminopentane-N,N,N',N'-tetraethanoic acid;
(HOOCCH2)2NCH(CH3)CH2CH(CH3)N(CH2COOH)2

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

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Ho+++      vlt KNO3      20°C  0.10M U      K1=13.20      1981NSc (86256) 535

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C13H22N2O8      H4L      (5003)
3-Methyl-1,2-diaminobutane-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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```

Ho+++      vlt KNO3      20°C  0.10M U      K1=19.70      1968NLb (86283) 536

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C13H22N2O9      H4L      DETAP      CAS 36829-96-6 (5602)
Bis(2-aminoethyl)ether-N,N,N'-triethanoic acid-N'-(3-propanoic acid);

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

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```

Ho+++      gl  KNO3      25°C  0.10M C      K1=15.01      1985PLa (86304) 537
                        K(Ho+HL)=9.06

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C14H8O4      H2L      Alizarin      CAS 72-48-0 (1058)
1,2-Dihydroxyanthraquinone;

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

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Ho+++      gl  oth/un 25°C  0.10M U      K1=12.42      1981EIa (86643) 538

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C14H8O7S                      H3L      DASA                      CAS 83-61-4 (950)  
1,2-Dihydroxyanthraquinone-3-sulfonic acid, Alizarin Red S;

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

Ho+++            sp   mixed       ?    50% U    1973KTb (86736) 539

K1eff=6.90  
B3eff=17.40

Medium: 50% v/v acetone. Borax buffers.

\*\*\*\*\*

C14H9N5Cl2                      L                                      CAS 7071-45-6 (8463)

1,5-Bis(4-chlorophenyl)-3-cyanoformazan;

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

Ho+++            gl   diox/w 25°C 70% U                      K1=7.96    B2=14.28    1996DAb (86850) 540

Medium: 70% dioxane/H2O, 0.10 M NaClO4.

\*\*\*\*\*

C14H10N02F                      HL                                      CAS 87221-43-0 (6155)

1-(2'-Pyridyl)-3-(3-fluoro-2-hydroxyphenyl)-prop-1-one-2-ene;

C5H4N.CH:CH.CO.C6H3(OH)F

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

Ho+++            gl   NaClO4 30°C 0.10M U                      K1=5.21                      1989SHa (86885) 541

\*\*\*\*\*

C14H11N5                      L                                      CAS 7014-08-6 (8461)

1,5-Diphenyl-3-cyanoformazan;

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

Ho+++            gl   diox/w 25°C 70% U                      K1=7.32    B2=14.39    1996DAb (87000) 542

Medium: 70% dioxane/H2O, 0.10 M NaClO4.

\*\*\*\*\*

C14H12N2O3                      H2L                                      CAS 4870-46-6 (3432)

2-Hydroxy-5-methyl-2'-carboxy-azobenzene; HO.C6H3(CH3).N:N.C6H4.COOH

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

Ho+++            gl   diox/w 25°C 50% U I                      K1=3.91    B2=8.04    1985ANa (87216) 543

\*\*\*\*\*

C14H13N04S                      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  
-----

Ho+++            gl   NaClO4 25°C 0.10M U T H                      K1=7.12    B2=12.27    1978GKb (87576) 544

Data for 25-35 C and I=0.01-0.10 M. At I=0.0 M, DH(K1)=29.9 kJ mol<sup>-1</sup>,

DS(K1)=335 J K<sup>-1</sup> mol<sup>-1</sup>.

\*\*\*\*\*

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  
-----  
Ho+++ gl mixed 30°C 0.10M U T H K1=12.28 B2=22.56 1988TRb (87720) 545  
Medium: 0.1 M KNO3 in 75% v/v isopropanol/water

\*\*\*\*\*

C14H15O4P HL CAS 843-24-3 (2134)  
Di(4-methylphenyl)phosphoric acid; (CH3C6H5O)2P(O)OH

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

Ho+++ kin oth/un 25°C 0.02M U K1=3.57 1974GMc (87793) 546

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C14H16N2O2S HL CAS 189231-67-2 (8475)  
2-Thiophenylhydrazodimedone;

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

Ho+++ gl diox/w 25°C 75% C T H K1=13.56 B2=25.50 1997E1a (87869) 547  
Medium: 75% v/v dioxane/H2O, 0.10 M KNO3. Data for 10-40 C. DH(K1)=-8.15  
kJ mol<sup>-1</sup>, DS(K1)=-12.62 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-7.16, DS(K2)=-11.08.

\*\*\*\*\*

C14H16N2O3 H2L (8284)  
5,5'-Dimethylcyclohexane-2-(2'-hydroxyphenyl)hydrazono-1,3-dione;

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

Ho+++ gl mixed 30°C 0.10M U T H K1=12.46 B2=22.98 1988TRb (87887) 548  
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

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

Ho+++ gl NaClO4 25°C 1.00M C H K1=15.18 1992YNa (87954) 549  
By calorimetry: DH(K1)=9.6 kJ mol<sup>-1</sup>, DS=323 J K<sup>-1</sup> mol<sup>-1</sup>

\*\*\*\*\*

C14H22N2O8 H4L cis-1,3-CDTA CAS 92681-23-7 (2847)  
cis-1,3-Diaminocyclohexane-N,N,N',N'-tetraethanoic acid;

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

Ho+++ gl KCl 25°C 1.0M U K1=8.21 1987CMe (88443) 550  
K(HoHL+H)=5.00  
K(HoL+H)=7.09

\*\*\*\*\*

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
Ho+++	gl	KCl	25°C	1.0M	U		K1=9.13 K(HoHL+H)=5.61 K(HoL+H)=5.94	1987CMe (88457)	551

\*\*\*\*\*  
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
Ho+++	gl	KCl	25°C	1.0M	U		K1=20.29 K(HoL+H)=1.30	1987CMe (88686)	552

Ho+++	gl	KCl	25°C	1.00M	U		K1=20.29	1984MFa (88687)	553
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Ho+++	gl	NaClO4	30°C	0.10M	U	I M	K(HoL+A)=6.70 K(HoL+B)=4.15 K(HoL+C)=3.75	1982MMd (88688)	554
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Data for 0.00-0.25 M NaClO4 and 25-75% dioxane/H2O. H3A is alizarin red S, H2B is 8-hydroxyquinoline-5-sulfonic acid, H2C is iminodiethanoic acid.

Ho+++	EMF	KNO3	25°C	0.10M	U	T H	K1=19.89 DH(K1)=5.0 kJ mol <sup>-1</sup> , DS=397 J K <sup>-1</sup> mol <sup>-1</sup> . At 20 C: K(HoL+H)=2.41	1962MHa (88689)	555
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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
Ho+++	gl	KCl	25°C	1.0M	U		K1=8.52 K(HoHL+H)=4.61 K(HoL+H)=7.16	1987CMe (88837)	556

\*\*\*\*\*  
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
Ho+++	gl	KCl	25°C	1.0M	U		K1=9.27 K(HoHL+H)=5.66 K(HoL+H)=6.03	1987CMe (88857)	557

Ho+++	gl	KCl	25°C	1.00M	U		K1=9.27	1984MFb (88858)	558
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C14H22N2O9                      H2L                      CAS 93031-53-9    (5830)

1,4,7-Trioxa-10,13-diazacyclopentadecane-8,15-dione-10,13-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ho+++	gl	R4N.X	25°C	0.10M	C			K1=8.48	1988CCb (88881)	559
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\*\*\*\*\*  
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
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Ho+++	cal	KNO3	25°C	0.10M	C	T			1988MIa (89283)	560
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DH(K1)=-29.42 kJ mol-1, DS=337.7 J mol-1 K-1. Also data for 283 and 313 K

Ho+++	cal	NaClO4	25°C	0.10M	C	H			1987YJa (89284)	561
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DH(K1)=-25.1 kJ mol-1, DS(K1)=352 J K-1 mol-1.

Ho+++	cal	NaClO4	25°C	0.50M	U	H			1977CGc (89285)	562
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DH(K1)=-42.6 kJ mol-1

Ho+++	cal	KNO3	27°C	0.10M	U	H			1968CLd (89286)	563
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DH(K1)=-31.4 kJ mol-1, DS=330 J K-1 mol-1

Ho+++	EMF	KNO3	25°C	0.10M	U	H		K1=22.78	1962MTc (89287)	564
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DH(K1)=-31.8 kJ mol-1, DS=329 J K-1 mol-1  
\*\*\*\*\*

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
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Ho+++	vlt	KNO3	20°C	0.10M	U			K1=17.85	1969NDc (89511)	565
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\*\*\*\*\*  
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
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Ho+++	vlt	KNO3	20°C	0.10M	U			K1=19.72	1974NLa (89531)	566
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\*\*\*\*\*  
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
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Ho+++	gl	KCl	25°C	1.00M	U	M			1976BKa (89582)	567
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K(HoEDTA+L)=3.0  
K(HoEDTA+HL)=2.9  
K(2HoEDTA+L)=6.0



Ho+++ gl KCl 25°C 0.10M U 1974Kpd (89583) 568

K(Ho+HL)=6.96

\*\*\*\*\*

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

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

Ho+++ vlt KNO3 20°C 0.10M U K1=19.71 1968NLb (89634) 569

\*\*\*\*\*

C14H24N2O8 H2L CAS 17619-53-3 (5833)

Diaminoethane-N,N'-Di(ethylaceto)-N,N'-diethanoic acid;  
(-CH2.N(CH2.COOH)CH2.COOC2H5)2

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

Ho+++ gl R4N.X 25°C 0.10M C K1=10.49 1988CCb (89652) 570

\*\*\*\*\*

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  
-----

Ho+++ gl NaClO4 25°C 0.10M U 1995HAa (89684) 571

K(Ho+HL)=4.61

K(Ho+H2L)=3.69

K(Ho+H3L)=2.70

B(HoHL)=14.04

B(HoH2L)=19.24, B(HoH3L)=22.42

\*\*\*\*\*

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  
-----

Ho+++ gl KNO3 25°C 0.10M U K1=11.75 1984TPa (89731) 572

K(Ho+HL)=7.80

\*\*\*\*\*

C14H24N2O10 EGTA CAS 67-42-5 (349)

Ethyleneglycol-O,O'-bis(2-aminoethyl ether)-N,N,N',N'-tetraethanoic acid; H4L

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

Ho+++ gl alc/w 25°C 20% M TI K1=17.065 2000KDa (89878) 573

Medium: 20% v/v EtOH/H2O, 0.10 M NaNO3. Data for 0.05 and 0.15 M NaNO3.

At I=0, K1=17.254. Data for 35 and 45 C and I=0.10 M NaNO3.

-----  
Ho+++ gl KCl 25°C 1.0M U M K2=1.49 1985KBb (89879) 574

K(HoL+ida)=1.3

-----  
Ho+++ EMF KNO3 20°C 0.10M U K1=17.38 1962MMc (89880) 575  
\*\*\*\*\*

C14H25N3O8 H4L DEATA CAS 97315-55-4 (5601)  
N,N-Bis(2-aminoethyl)ethylamine-N',N',N'',N''-tetraethanoic acid;

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

Ho+++ gl KNO3 25°C 0.10M C K1=17.72 1985TPa (90101) 576  
\*\*\*\*\*

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  
-----

Ho+++ gl R4N.X 25°C 0.10M M K1=11.34 1986COb (90192) 577  
\*\*\*\*\*

C14H28N2O4 L Cryptand 2,1,1 CAS 31250-06-3 (836)  
1,10-Diaza-4,7,13,18-tetraoxabicyclo[8,5,5]eicosane (2,1,1);

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

Ho+++ sp non-aq 25°C 100% U K1=3.80 1983PSc (90371) 578  
Medium: DMSO

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Ho+++ gl R4N.X 25°C 0.25M C K1=6.21 1981BBE (90372) 579  
Medium: Me4NCl

\*\*\*\*\*  
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  
-----

Ho+++ gl R4N.X 25°C 0.10M C K1=6.91 1988CCc (90481) 580  
\*\*\*\*\*

C14H28O7 L 21-Crown-7 CAS 33089-36-0 (2264)  
1,4,7,10,13,16,19-Heptaoxacycloheneicosane;

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

Ho+++ gl non-aq 25°C 100% C K1=6.51 1989BP a (90522) 581  
Medium: anhydrous propylene carbonate, 0.1 M Et4NClO4  
\*\*\*\*\*

C14H30O7 L CAS 1072-40-8 (2499)  
2,5,8,11,14,17,20-Heptaoheneicosane; CH3.O.(CH2.CH2.O)6.CH3

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

Ho+++ gl non-aq 25°C 100% C K1=5.62 1989BP a (90693) 582  
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
Ho+++	gl	R4N.X	25°C	0.10M	U		K1=13.12 K(Ho+HL)=10.33 K(Ho+H2L)=5.89	1996BJa (90765)	583

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
Ho+++	gl	alc/w	21°C	50%	C I		K1=9.66	1986CMb (91221)	584

Other constants in 75%, 50% and 75% n-C3H7OH/H2O and i-C3H7OH/H2O

Ho+++	sp	alc/w	21°C	50%	U I		K1=9.56	1981MCb (91222)	585
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Medium: 50% MeOH, 0.1 M NaClO4. In 75% MeOH K1=11.51

Ho+++	dis	oth/un	20°C	0.05M	U		K1=12.76 B2=24.36 B3=34.80 B4=44.08	1966NAa (91223)	586
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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
Ho+++	gl	diox/w	25°C	75%	C TIH		K1=7.29 B2=13.80	1989SVa (91305)	587

DH(K1)=-68.55 kJ mol<sup>-1</sup>

\*\*\*\*\*

C15H12O5 HL (1261)  
mono-Thiodibenzoylmethane; C6H5.CO.CH2.CS.C6H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	NaClO4	30°C	0.05M	U		K1=9.26 B2=18.10 K3=7.74	1979VMa (91493)	588

\*\*\*\*\*

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
Ho+++	gl	alc/w	20°C	75%	U T H		K1=11.65 B2=19.74	1993RAa (92025)	589

Medium: 75% v/v MeOH/H2O; 0.10 M KNO3

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Ho+++ gl mixed 30°C 0.10M U T H K1=12.70 B2=23.62 1988TRb (92026) 590  
Medium: 0.1 M KNO3 in 75% v/v isopropanol/water

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C15H20N2O6 H3L BEDTA CAS 65311-06-0 (2944)

N-Benzylldiaminoethane-N,N',N'-triethanoic acid;

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

Ho+++ gl KNO3 25°C 0.10M C K1=13.26 1978MPb (92152) 591

\*\*\*\*\*

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  
-----

Ho+++ sp non-aq 25°C 100% M K1=7.3 B2=14.80 1997RPb (92284) 592  
B3=22.3

Medium: acetonitrile.

\*\*\*\*\*

C15H25N3O10 H5L (5127)

Diethylenetriamine-N,N,N'',N''-tetraethanoic acid-N'-propanoic acid;

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

Ho+++ EMF KCl ? 0.10M U K1=16.71 1966VL a (92373) 593

\*\*\*\*\*

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  
-----

Ho+++ gl KNO3 25°C 0.10M C K1=19.45 1989SPa (92394) 594  
K(Ho+HL)=13.41

\*\*\*\*\*

C15H26N4O9 H4L (7685)

Diethylenetriamine-N,N,N',N'',N''-pentaethanoic acid N'-methyamide;

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

Ho+++ gl KCl 25°C 0.10M C K1=20.8 2000SBb (92432) 595

\*\*\*\*\*

C15H26N4O9 H4L CAS 137076-43-8 (5085)

Diethylenetriamine-N,N,N',N'',N''-pentaethanoic acid N-methyamide;

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

Ho+++ gl KCl 25°C 0.10M C K1=19.5 2000SBb (92447) 596

\*\*\*\*\*

C16H9N2OBr3 HL CAS 84317-74-8 (5169)

1-(2,4,6-Tribromophenylazo)-2-hydroxynaphthalene;

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      kin oth/un 25°C 0.02M U          K1=5.28      1972GSe (92655) 597
*****
C16H11N5O4      H2L                      (5153)
1,5-Bis(2-carboxyphenyl)-3-cyanoformazan;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      gl  diox/w 25°C 70% U I      K1=11.90 B2=20.89 1996DAb (92896) 598
Medium: 70% dioxane/H2O, 0.10 M NaClO4. In 50% EtOH/H2O, 0.10 M NaClO4,
K1=11.18, K2=9.54.
*****
C16H12N2O      HL                      CAS 5603-14-5 (9083)
2-[(Quinolylmethylene)amino]phenol;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      gl  alc/w 25°C 50% C          K1=6.81 B2=12.39 1997GSa (92926) 599
Medium: 50% v/v EtOH/H2O, 0.20 M KCl.
*****
C16H12N2O11S3   H5L                      CAS 548-81-2 (5180)
2-(4'-Sulfophenylazo)chromotropic acid,
2-(4-sulfophenylazo)-1,8-dihydroxyaphthalene-3,6-diHSO3
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      gl  oth/un 25°C 0.10M U      K1=7.81 B2=12.52 1985AAa (93095) 600
Data also for 12 other 4-substituted phenyl analogues
*****
C16H12N2S      L                      CAS 31230-95-2 (9085)
2(2-Benzothiazoliny)quinoline;
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      gl  alc/w 25°C 50% C          K1=6.51 B2=11.87 1997GSa (93105) 601
Medium: 50% v/v EtOH/H2O, 0.20 M KCl.
*****
C16H12N3O4ClS   H2L                      CAS 133131-00-7 (8468)
7-Amino-8-[(4-chlorophenyl)azo]-4-hydroxy-2-naphthalenesulfonic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ho+++      gl  NaCl 25°C 0.10M U      K1=9.00 B2=16.83 1997IHa (93115) 602
B3=22.99
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)

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1-Phenyl-3-methyl-4(2'-nitrophenylhydrazo)-5-pyrazolone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ho+++	gl	diox/w	30°C	75%	M			K1=7.45	1987ESa (93130)	603
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\*\*\*\*\*  
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
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Ho+++	gl	NaClO4	30°C	0.10M	U				1976NDa (93195)	604
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K(Ho+H2L=HoH2L)=5.90  
K(HoHL+H)=6.90  
K(HoL+H)=9.02  
K(HoL+OH)=3.00

\*\*\*\*\*  
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
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Ho+++	sp	oth/un	20°C	0.10M	U				1971SSd (93257)	605
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K(Ho+H2L)=8.27

\*\*\*\*\*  
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
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Ho+++	sp	alc/w	25°C	10%	U	I			1979KRb (93440)	606
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B3=19.43

Medium: 10% w/w EtOH/H2O, 0.1 M NaClO4. In 30%: B3=20.02

\*\*\*\*\*  
C16H14O4 HL BHMMA (5929)  
omega-Benzoyl-2-hydroxy-4-methoxy-3-methylacetophenone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ho+++	gl	alc/w	30°C	25%	M			K1=7.38 B2=14.05	1987DGB (93581)	607
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Medium: 25% v/v EtOH/H2O

\*\*\*\*\*  
C16H15NO7 H4L (4082)  
N-(3-Carboxy-2-hydroxynaphthyl-1-ylmethyl)iminodiethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ho+++	gl	KCl	25°C	0.10M	U			K1=16.1	1975TRb (93632)	608
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K(Ho+HL)=9.4

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C16H15N5 L CAS 7014-14-4 (8462)  
1,5-Bis(4-methylphenyl)-3-cyanoformazan;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	diox/w	25°C	70%	U		K1=8.40 B2=16.16	1996DAb (93640)	609

Medium: 70% dioxane/H2O, 0.10 M NaClO4.

C16H18N2O3 HL (5564)  
2-(2-Acetylphenylhydrazon)-5,5-dimethyl-1,3-cyclohexanedione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	diox/w	30°C	75%	U		K1=9.74 B2=18.23	1988ESb (93779)	610

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
Ho+++	gl	NaClO4	25°C	0.10M	U		K1=7.99 B(HoHL)=15.02	2001WZa (93843)	611

Also data for the N,N'-diethyl, isopropyl, butyl and isobutyl derivatives.

C16H20N2O8 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
Ho+++	vlt	KNO3	20°C	0.10M	U		K1=18.69	1969NDb (94040)	612

C16H26N2O10 H2L CAS 93031-54-0 (5831)  
1,4,7,10-Tetraoxa-13,16-diazacyclooctadecane-11,18-dione-13,16-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	R4N.X	25°C	0.10M	C		K1=9.44	1988CCb (94570)	613

C16H27N5O8 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
Ho+++	sp	KCl	25°C	0.08M	U		K1=11.3	1994FCa (94670)	614

C16H27N5O8 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
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Ho+++ sp KCl 25°C 0.08M U K1=15.1 1994FCa (94685) 615  
\*\*\*\*\*

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  
-----

Ho+++ gl KNO3 20°C 0.10M U K1=14.70 1969NDc (94713) 616  
By polarography: K1=14.71

\*\*\*\*\*

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  
-----

Ho+++ vlt KNO3 20°C 0.10M U K1=17.85 1969NDc (94739) 617

\*\*\*\*\*

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  
-----

Ho+++ vlt KNO3 20°C 0.10M U K1=19.67 1979MBd (94765) 618

\*\*\*\*\*

C16H28N4O8 H4L DOTA CAS 60239-18-1 (1017)

1,4,7,10-Tetraazacyclododecane-1,4,7,10-tetraethanoic acid;

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

Ho+++ gl NaCl 37°C 1.0M C K1=23.5 1994TBb (94905) 619

Method: Competitive reaction with Eu3+ ion.

\*\*\*\*\*

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  
-----

Ho+++ gl R4N.X 25°C 0.10M U K1=11.18 1983CRb (95042) 620

\*\*\*\*\*

C16H32N2O5 L Cryptand 2,2,1 CAS 31364-42-8 (837)

1,10-Diaza-4,7,13,16,21-pentaoxabicyclo[8,8,5]tricosane (2,2,1);

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

Ho+++ sp non-aq 25°C 100% U K1=3.11 1983PSc (95210) 621

Medium: DMSO

\*\*\*\*\*

C17H13N4O3 HL (5927)

1-Phenyl-3-methyl-4-(2'-carboxyphenylhydrazo)-5-pyrazolone;



Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ho+++	gl	diox/w	30°C	75%	M			K1=16.01 B2=28.41	1987ESa (95767)	622
*****										
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
Ho+++	gl	NaNO3	20°C	0.10M	U	M			1981GCa (95885)	623
B(Ho+3L+2TBP)=24.18										
B(Ho+3L+TBPOxide)=23.6										
B(Ho+3L+4TBPOxide)=34.0										
*****										
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
Ho+++	gl	diox/w	30°C	75%	M			K1=8.43 B2=16.44	1987ESa (96008)	624
*****										
C17H16N2O3S2 L CAS 127335-83-5 (6849)										
Sulfafurazole thiophene-2-aldehyde Schiff base; C4H3S.CH:N.C6H4.SO2.NH.C4HO(CH3)2										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ho+++	gl	oth/un	25°C	0.10M	U	T		K1=5.41	1990TSa (96039)	625
30 C: K=5.26, 35 C: K=5.10										
*****										
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
Ho+++	gl	alc/w	30°C	75%	U	M		B2=14.44	1991GDd (96150)	626
Medium: 75% v/v EtOH/H2O, 0.1 M NaClO4. K(Ho(Acetylacetone)+L)=12.74										
Ho+++	gl	alc/w	30°C	75%	U	T H		K1=8.53 B2=15.15	1987DGd (96151)	627
Medium: EtOH.20 C:K1=8.21,K2=7.12; 40 C:K1=8.80,K2=8.04;50 C:K1=8.90,K2=8.48										
DH(K1)=-34.3 kJ mol <sup>-1</sup> , DS=50 J K <sup>-1</sup> mol <sup>-1</sup>										
*****										
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
Ho+++	gl	alc/w	22°C	0.1M	U			K1=5.62 B2=10.10	2000TBb (96286)	628

\*\*\*\*\*

2-(5-Bromo-2-pyridylazo)-5-(N-propyl-3-sulfopropylamino)phenol;

Ho+++	sp	NaNO3	25°C	0.10M	C	K1=8.46	19880Ha (96420)	629
						K(Ho+HL)=2.79		

13-Phenylmethyl-1,4,7,10-tetraoxa-13-azacyclopentadecane;

Ho+++ cal non-aq 25°C 100% C H 1993LLb (96534) 630  
K(HoNO3+L)=3.13

\*\*\*\*\*

(Bis(3-(bis(carboxymethyl)amino)propyl)methylammonio)ethanoate;

Ho+++	gl	KN03	25°C	0.10M	U	K1=9.35 K(Ho+HL)=6.12	1984TPa (96572)	631
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2-(2-Acetylphenylhydrazone)-1-phenyl-but-1,3-dione;

Ho+++      gl   diox/w 30°C   75%   U                      K1=10.58   B2=19.83   1988ESb (97172) 632

Tris(2-pyridylmethyl)amine; (C<sub>5</sub>H<sub>4</sub>NCH<sub>2</sub>)<sub>3</sub>N

Ho+++ nmr KCl 25°C 1.0M C K1=1.79 2004BRa (97262) 633  
Method: 1H nmr measurements in D2O.

N,N'-Ethylene-bis-(2-(2'-hydroxyphenyl))glycine; (H<sub>2</sub>NCH(C<sub>6</sub>H<sub>4</sub>OH)COOH)<sub>2</sub>

Ho+++      EMF KNO<sub>3</sub>    25°C 0.10M C T H      K<sub>1</sub>=20.66      1985Hwb (97431) 634  
K(HoL+H)=6.96

Method: Hg (and glass) electrode, using Hg(II) as competitive indicator ion. Data for 10-35 C. DH(K1)=-73.3 kJ mol<sup>-1</sup>, DS(K1)=150 J K<sup>-1</sup> mol<sup>-1</sup>.

\*\*\*\*\*

C18H22N4O4 H2L CAS 2444-14-6 (3502)

N,N'-Bis(2-pyridylmethyl)diaminoethane-N,N'-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	NaCl	25°C	0.16M	C		K1=12.31 K(Ho+L=HoL(OH)+H)=3.00 K(HoL(OH)+H)=9.31	1997Cma (97544)	635

\*\*\*\*\*

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
Ho+++	gl	KNO3	25°C	0.10M	C		K1=15.02	1985TPa (97654)	636

\*\*\*\*\*

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
Ho+++	gl	non-aq	25°C	100%	U		K1=2.80	1982MDa (97806)	637

Medium: propylene carbonate

\*\*\*\*\*

C18H30N2O11 H2L CAS 93049-99-1 (5832)

1,4,7,10,13-Pentaoxa-16,19-diazacycloeicosane-14,21-dione-16,19-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	R4N.X	25°C	0.10M	C		K1=9.13	1988CCb (97910)	638

\*\*\*\*\*

C18H30N4O12 H6L TTHA CAS 869-52-3 (694)

Triethylenetetraaminehexaethanoic acid;((HOOCH2)2N.CH2.CH2.N(CH2.COOH).CH2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	EMF	KNO3	25°C	0.10M	C T H		K1=23.20 K(HoL+H)=4.08 K(HoHL+H)=2.28	1987Hca (98051)	639

Method: Hg electrode; competitive reaction with Hg(II).

Data for 15-35 C. At 25 C, DH(K1)=96.2 kJ mol<sup>-1</sup>, DS(K1)=766 J K<sup>-1</sup> mol<sup>-1</sup>.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	vlt	R4N.X	30°C	0.01M	C		K1=19.76	1981GMh (98052)	640

Method: polarography, using Cd as indicator ion. Medium: 0.01 M Et4NBr.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	vlt	NaClO4	25°C	0.40M	C		K1=23.58	1978MNB (98053)	641

Medium: 0.40 M NaClO4, pH 4.80. Method: polarography, using Cd as

Ho+++	g1	KN03	25°C	0.10M	U	K1=15.4	1969YMa	(98054)	642
						K(HoL+H)=4.67			
						K(HoHL+H)=2.33			
						B(Ho2L)=18.3			

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

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
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C18H34N4O9                      H3L                      D03A-B                      (7301)  
10-[2,3-Dihydroxy-(1-hydroxymethyl)-propyl]-1,4,7,10-tetraazacyclododecane-1,4,7-triethanoic ac.;

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

Ho+++      g1   NaCl   25°C   0.10M   C   I      K1=18.9      1996TKa (98380) 645  
In 0.1 M Me4NCl K=21.0

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
-------	-----	--------	------	------	-----	-------	----	---	--------	-----------	--------

Ho+++ cal non-aq 25°C 100% C H K1=15.00 2003DCa (98584) 646  
Method: competitive titration calorimetry of AgL+. Medium: acetonitrile.  
DH(K1)=-99.2 kJ mol<sup>-1</sup>, DS(K1)=-46 J K<sup>-1</sup> mol<sup>-1</sup>.

Ho+++            gl   alc/w   25°C   100%   C            K1=10.86            1983ANb (98585) 647  
The equilibration took 7-12 days. Medium: MeOH, 0.05 M Et4NC104

Ho+++ sp non-aq 25°C 100% U K1=3.47 1983PSc (98586) 648  
Medium: DMSO

Ho+++ g1 R4N.X 25°C 0.25M C K1=6.2 1981BBe (98587) 649  
Medium: Me4NCl

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  
-----

Ho+++ gl R4N.X 25°C 0.10M U K1=6.82 1996BJa (98893) 650  
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  
-----

Ho+++ gl diox/w 30°C 75% M I K1=10.35 B2=19.74 1987DGc (99164) 651  
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  
-----

Ho+++ gl NaClO4 30°C 0.10M U T H K1=13.96 1991NNb (99652) 652  
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  
-----

Ho+++ gl diox/w 30°C 50% U K1=12.13 1976NNA (99692) 653

\*\*\*\*\*

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  
-----

Ho+++ sp NaClO4 25°C 0.10M C K1=6.26 1979PLb (99712) 654

\*\*\*\*\*

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  
-----

Ho+++ sp none 25°C 0.0 U K1eff=3.68 1978BRb (99731) 655

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
Ho+++	gl	diox/w	30°C	75%	U			1985RSb (99834)	656

K(Ho+HL)=5.26  
K(Ho+2HL)=10.72

\*\*\*\*\*

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
Ho+++	gl	KNO3	20°C	0.10M	U			1985SNb (100001)	657

K1=19.97  
K(HoL+H)=5.18  
K(HoHL+H)=4.82

\*\*\*\*\*

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
Ho+++	gl	oth/un	25°C	0.0	U	H	K1=2.86	1991HJa (100124)	658

\*\*\*\*\*

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
Ho+++	gl	NaNO3	25°C	0.20M	C		K1=16.48	1991KKa (100539)	659

Ho+++	gl	NaClO4	25°C	0.20M	C		K1=16.48	1990KMD (100540)	660
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\*\*\*\*\*

C20H35N5O10                      H3L                      (6623)  
1,4,7-Tris(carboxymethyl)-13,16-dioxo-1,4,7,10,19-pentaazacycloheptacos-9,20-dione  
;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	sp	KCl	25°C	0.08M	U		K1=17.3	1994FCa (100558)	661

\*\*\*\*\*

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
Ho+++	kin	oth/un	25°C	0.02M	U		K1=4.41	1974GMC (100907)	662

\*\*\*\*\*

C21H17N2O5As                      H2L      ArsenoBDMPH                      (5931)  
2-Arsenodibenzoylmethanephénylhydrazone; C6H5.CO.C(CO.C6H5):N.NH.C6H4.AsO3H2

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

-----  
Ho+++ gl alc/w 27°C 40% U K1=16.30 B2=20.90 1990MOc (101079) 663  
Medium: 40% v/v EtOH/H2O, 0.1 M NaClO4

\*\*\*\*\*  
C21H17N5 L (7365)  
2,6-Bis(1-methylbenzimidazol-2-yl)pyridine  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ho+++ sp non-aq 20°C 100% U K1=8.9 B2=16.20 1997PBa (101088) 664  
K3=6.1

Medium: CH3CN  
\*\*\*\*\*  
C22H14O9 H5L CAS 4431-00-9 (3513)  
Aurintricarboxylic acid;  
-----

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo  
-----  
Ho+++ sp oth/un 25°C ? U 1967SAa (101501) 665  
K(Ho+HL)=5.0(?)

\*\*\*\*\*  
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  
-----  
Ho+++ sp oth/un ? ? U K1=15.63 1971SSi (101545) 666

\*\*\*\*\*  
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  
-----  
Ho+++ sp oth/un rt 0.10M C 2004LLa (101628) 667  
K1eff=5.35  
B2eff=9.78  
B(2,2)eff=15.40

Method: spectral deconvolution. Medium: 0.1 M chloroacetate buffer, pH 3.5  
-----

Ho+++ sp oth/un 20°C ? U 1972SSi (101629) 668  
K(Ho+H4L)=16.57

\*\*\*\*\*  
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  
-----  
Ho+++ EMF KNO3 25°C 0.10M C T H K1=11.25 1990HLA (101898) 669  
K(HoL+H)=3.23

Method: Competitive reaction with Hg++, using Hg indicator electrode.

Data for 15-35 C. DH(K1)=-40.0 kJ mol<sup>-1</sup>, DS(K1)=81.3 J K<sup>-1</sup> mol<sup>-1</sup>.

\*\*\*\*\*

C22H26N4O10                      H4L              BAPTA                      (7230)  
1,2-Bis(o-aminophenoxy)ethane-N,N,N',N'-tetraethanoic acid;  
(H<sub>2</sub>OCCH<sub>2</sub>)<sub>2</sub>NCH(OC<sub>6</sub>H<sub>4</sub>NH<sub>2</sub>)<sub>2</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	R4N.X	25°C	0.10M	C		K1=10.49	1993YTa (101978)	670

\*\*\*\*\*

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
Ho+++	gl	NaClO4	25°C	0.10M	U		K1=8.72	2001WZa (102114)	671

B(HoHL)=15.62

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
Ho+++	vlt	R4N.X	30°C	0.01M	C		K1=20.35	1981GMh (102330)	672

Method: polarography, using Cd as indicator ion. Medium: 0.01 M Et4NBr.

Ho+++	gl	KN03	25°C	0.10M	U		K1=20.35	1968MIc (102331)	673
							K(Ho+HL)=13.97		
							B(HoH-1L)=5.21		

\*\*\*\*\*

C23H16O9Cl2S                                      H4L                      Chrome azurol S                      CAS 1667-99-8 (711)  
Chromazurol S;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	sp	oth/un	25°C	?	U			1967SAa (102560)	674

K(?)=4.3

\*\*\*\*\*

C23H18N2O3                                      HL                                      (5561)  
2-(2-Acetylphenylhydrazon)-1,3-diphenyl-prop-1,3-dione;  
C<sub>6</sub>H<sub>5</sub>.CO.C(CO.C<sub>6</sub>H<sub>5</sub>):N.NH.C<sub>6</sub>H<sub>4</sub>.COCH<sub>3</sub>

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	diox/w	30°C	75%	U		K1=10.63 B2=18.47	1988ESb (102595)	675

\*\*\*\*\*

C23H18O9S                                      H4L                      Eriochrome cyan                      CAS 3564-18-9 (433)  
4'-Hydroxy-3,3'-dimethyl-2''-sulfofuchsone-5,5'-dicarboxylic acid;



Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	sp	oth/un	25°C	?	U		B2=9.8	1968MDc (102631)	676
*****									
C23H24N4O2 L Trichachnine CAS 1251-85-0 (2606)									
4,4'-Diantipyrilmethane,									
4,4'-phenylmethylene-bis-(1,2-dihydro-1,5-dimethyl-2-phenylpyrazol-3-one									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	sp	diox/w	25°C	100%	U		K1=4.39	1995KMa (102675)	677
*****									
C24H29N3O12S3 H6L (7355)									
1,2,3-Tris((2-hydroxy-5-sulfobenzyl)amino)propane;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	NaCl	25°C	0.16M	C		K1=14.71 B2=21.15 K(HoL+H)=6.44	1998LCa (103017)	678
*****									
C24H42N6O12 H6L (6546)									
1,4,7,10,13,16-Hexaazacyclooctadecane-N,N',N'',N''',N''',N''''-hexaethanoic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	NaNO3	25°C	0.20M	C		K1=23.88 K(Ho+H2L)=16.58	1991KKa (103378)	679
*****									
C26H23N5O2 HL (5918)									
Hippuric monohydrazone-3-hydrazino-4-benzyl-6-phenylpyridazine;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	diox/w	30°C	75%	U		K1=11.65 B2=22.09	1985RSb (103881)	680
*****									
C26H27N3O10 H4L (7231)									
2-((2-Amino-5-methylphenoxy)-methyl)-6-methoxy-8-aminoquinoline-N,N,N',N'-tetraetha noic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	R4N.X	25°C	0.10M	C		K1=14.13	1993YTa (103964)	681
*****									
C26H33N3O12S3 H6L (7354)									
1,1,1-Tris(((2-hydroxy-5-sulfobenzyl)amino)methyl)ethane;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	NaCl	25°C	0.16M	C		K1=12.71	1998LCa (104064)	682

$$K(\text{HoL}+\text{H})=6.69$$

\*\*\*\*\*

C27H24N4O L BAHP (1023)

Benzoylacetone-monohydrazone-3-hydrazino-4-benzyl-6-phenylpyridazine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	diox/w	30°C	75%	U		K1=8.64	1983RSa (104385)	683

\*\*\*\*\*

C27H36N4O12S3 H6L (7353)

Tris(((2-hydroxy-5-sulfobenzyl)amino)ethyl)amine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	gl	NaCl	25°C	0.16M	C	H	K1=7.67 B2=16.42	1995CHa (104564)	684

By calorimetry: DH(K1)=-21.33 kJ mol<sup>-1</sup>, DS(K1)=74 J K<sup>-1</sup> mol<sup>-1</sup>; DH(K2)=-14.06, DS(K2)=121.

\*\*\*\*\*

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
Ho+++	gl	non-aq	25°C	100%	U		K1=3.29	1980MDb (104840)	685

Medium: Propylene carbonate.

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
Ho+++	gl	diox/w	30°C	75%	U	I	K1=9.78	1983RRa (105404)	686

In 75% MeOH: K1=7.75; 75% DMD: 6.49

\*\*\*\*\*

C32H34N4O2 L CAS 163892-66-8 (7329)

1-Phenyl-1,1-di(2,3-dimethyl-1-phenyl-3-pyrazolyl-5-one)butane; C6H5C(C3H7)((C2N2(O)(CH3)2(C6H5))2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ho+++	sp	diox/w	25°C	100%	C		K(La(NO3)3+L)=4.13	1997KMa (105631)	687

\*\*\*\*\*

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
Ho+++	nmr	KCl	25°C	1.0M	C		K1=2.21	2004BRa (105969)	688

Method: <sup>1</sup>H nmr measurements in D2O.

\*\*\*\*\*

C36H60O30                      L        a-Cyclodextrin    CAS 10016-20-3 (6946)  
alpha-Cyclodextrin, Cyclohexaamylose;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ho+++	gl	NaCl	25°C	0.10M	U	I		K1=3.66	1999FBa (106465)	689

In 0.1 M Me4NCl, K1=3.74.

\*\*\*\*\*

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
Ho+++	gl	NaClO4	30°C	0.10M	U			K(Ho+H3L)=4.51 K(Ho+H2L)=7.22 K(HoH2L+H)=4.43	1980NAb (106605)	690

Also data for HoHnL(OH) species

\*\*\*\*\*

C47H46N6O4                      L    (7367)  
2,6-Bis(1-(3,5-dimethoxybenzyl)benzimidazol-2-yl)-4-(4-diethylamino)phenyl)pyridine  
;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ho+++	gl	non-aq	25°C	100%	C			K3=4.8	1997PBa (107316)	691

Medium: CH3CN; 0.1 M Et4NClO4

\*\*\*\*\*

C52H69NO7                      L    CAS 178626-47-6 (8569)  
5,11,17,23-Tetra-t-butyl-25-(diethylcarbamoyl)methoxy-27-carboxymethoxy-26,28-dihydroxycalix[4]ar

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ho+++	sp	non-aq	25°C	100%	C			K1=5.98	2002BBc (107513)	692

Method: uv/vis spectroscopy. Medium: DMSO. Also data for the 25-methoxy-ethyl(carbamoylmethox)- and 25-di-(n-hexyl-carbamoyl)methoxy- derivatives

\*\*\*\*\*

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
Ho+++	cal	non-aq	25°C	100%	U	H		K1=3.89	2001NJa (107704)	693

Method: microcalorimetry. Medium: MeCN.. DH(K1)=-143 kJ mol<sup>-1</sup>

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C76H116N4O8 L (8156)  
p-tert-Butylcalix(4)arene tetradiisopropylethanoamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ho+++	cal	non-aq	25°C	100%	U	H		K1=4.63	2001NJa (107881)	694

Method: microcalorimetry. Medium: MeCN.. DH(K1)=-95.8 kJ mol<sup>-1</sup>  
\*\*\*\*\*

Polymer HL Bleomycin (2324)  
Bleomycin A2, B2 etc.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ho+++	sp	oth/un	25°C	?	U			K1eff=4.80 pH 6.8	1980LPb (108090)	695

Method: fluorescence

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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

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END