

SC-Database

Software version = 5.81 Data version = 4.62

Experiment list contains 618 experiments for
(no ligands specified)

Metal : Lu+++

(no references specified)

(no experimental details specified)

e- HL Electron (442)
Electron;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	oth	none	25°C	0.0	U				1974GDa (639)	1
									K(Lu+3e=Lu(s))=-115.1(-2.27V)	

Method: literature evaluated data

Lu+++	oth	none	25°C	0.0	U				1952LAb (640)	2
									K(Lu+3e)=-114.3(-2250 mV)	

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	sol	none	25°C	0.0	C				1992FIa (1150)	3
									Kso(LuAsO4)=-22.66	

Equilibrium monitored by EDTA and iodine titrations.

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	gl	NaClO4	25°C	0.70M	C			K1=6.03	2004LBb (3263)	4
									K(Lu+HCO3=LuHCO3)=1.44	

Medium: 0.70 m NaClO4. Calculated for I=0, K1=7.75, B2=13.37,
K(Lu+HCO3=LuHCO3)=2.49, K(Lu+HL=LuL+H)=-2.58, K(Lu+2HL=LuL2+2H)=-7.29

Lu+++	dis	NaClO4	25°C	0.70M	C	I		K1=6.02 B2=10.85	1998LBb (3264)	5
Method: H2O/tributylphosphate distribution and ICP-mass spectrometry.										
Values calculated for I=0.0 M, K1=8.00, B2=13.93										

Lu+++	sol	none	25°C	0.0	C				1986HMa (3265)	6
									Kso(Lu2(CO3)3)=-32.16	

Method: spectrophotometry.

Lu+++	dis	oth/un	20°C	2.5M	C				1979DBb (3266)	7
									B4=15.83	

Media: 2.5 M (NH₄)₂NO₃/hexane. Analysis by NAA. By competition with edta;
K₁(Lu(edta))=19.60 recalculated for I=2.5 from J.Am.Chem.Soc.,75 1953,4196

Lu+++ sol oth/un 20°C 4.20M U M 1967FMa (3267) 8
K(Na₃LuL₃(s)+L=3Na+LuL₄)=-0.7

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

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

Lu+++ cal none 25°C 0.00 M H K₁=3.69 1972SCd (3674) 9
DH(K₁)=4.2 kJ mol⁻¹, DS=84.9 J K⁻¹ mol⁻¹

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

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

Lu+++ dis NaCl 25°C 1.0M C K₁=-0.14 1997HTb (5192) 10
Method: by solvent extraction from 1.0 M NaCl into CHCl₃, 0.1 M
1,1,1-trifluoro-4-(2-thienyl)-2,4-pentanedione.

Lu+++ cal non-aq 25°C 100% U H K₁=2.82 B₂=5.30 1991ITa (5193) 11
K₃=2.41
K₄=1.71

Medium: DMF, 0.2 M Et₄NClO₄. DH(K₁)=26.8 kJ mol⁻¹, DH(K₂)=21.9, DH(K₃)=17
DH(K₄)=23. DS(K₁)=144, DS(K₂)=121, DS(K₃)=104 J K⁻¹ mol⁻¹

Lu+++ sol NaClO₄ 25°C ? U K₁=0.23 1982MAa (5194) 12

Lu+++ cal non-aq 25°C 100% U K₁=2.47 B₂=4.84 1980VCa (5195) 13
Medium: diemthylacetamide

Lu+++ dis NaClO₄ 25°C 4.0M U K₁=-0.35 B₂=-0.57 1964SEa (5196) 14

Lu+++ sol none 25°C 0.0 U 1962AAb (5197) 15
K_{so}(Lu(OH)₂.5Cl_{0.5})=-22.4

Lu+++ sol NaClO₄ 25°C 0.50M U K₁=-0.48 1962SOa (5198) 16

Lu+++ vlt KNO₃ 20°C 0.10M U K₁=1.45 1953WSa (5199) 17

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

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

Lu+++ ix oth/un 25°C 0.02M C T H K₁=3.74 B₂= 6.31 2004LMa (7004) 18
Medium: 0.025 M HNO₃. Applying Pitzer parameters: at I=0, K₁=9.8.

Data for 5 to 45 C. DH(K1)=11.7 kJ mol⁻¹, DH(B2)=24.5.

Lu+++ ISE NaClO4 25°C 0.0 C I K1=4.25 2000Lba (7005) 19
Method: Fluoride ISE. Values calc. from data for I=0.015-0.70 M NaClO4.
At I=0.70 M, K1=3.314.

Lu+++ ix KNO3 25°C 0.02M C K1=3.69 B2= 6.48 1999SBc (7006) 20
Medium: 0.025 M HNO3. Additional method: ICP-MS.
Assumed K1(HF) = 3.03, derived from literature values.

Lu+++ ISE none 25°C 0.0 C H K1=3.33 B2=6.65 1989MJa (7007) 21
Kso=-12.9
Also by conductivity and radiometry. DH(Kso)=59.8 kJ mol⁻¹; DS=-44.

Lu+++ ISE R4N.X 25°C 0.50M C K1=3.33 B2=6.65 1989MJb (7008) 22
Lu+++ cal NaClO4 25°C 1.00M C H 1988GBa (7009) 23
DH(K1)=11.8 kJ mol⁻¹; DS(K1)= 109 J mol⁻¹ K⁻¹

Lu+++ ISE NaNO3 25°C 0.10M U H K(LuA+L)=1.95 1987SMd (7010) 24
DH=-0.6 kJ mol⁻¹, DS=39.9 J K⁻¹ mol⁻¹. H3A=HEDTA

Lu+++ gl KCl 25°C 1.00M U M K(LuEDTA+F)=1.52 1981KTb (7011) 25
K(Lu(EDTA)F+F)=0.30

Lu+++ gl NaCl 25°C 1.00M U K1=3.08 B2=5.49 1979BHa (7012) 26

Lu+++ EMF NaClO4 25°C 0.50M U K1=3.47 1968IZa (7013) 27
K(Yb+HF=YbF+H)=0.56

Lu+++ EMF NaClO4 25°C 1.0M U H K1=3.61 1967WCa (7014) 28
By calorimetry: DH(K1)=39.8 kJ mol⁻¹, DS=202.7 J K⁻¹ mol⁻¹

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

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
Lu+++ sol oth/un 25°C dil U Kso(Lu(H2IO6)(H2O)3)=-9.89 1974LOa (8608) 29

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

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
Lu+++ gl oth/un 20°C 0.10M U K1=5.68 1989SBb (8777) 30
B(LuHL)=8.62

NH3	L	Ammonia	CAS 7664-41-7	(414)
Ammonia				

N03- Nitrate;	HL	Nitrate	CAS 7697-37-2 (288)
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Lu+++ dis none 25°C 0.0 U K1=1.38 1992MSb (9763) 33

 OH- HL Hydroxide (57)
 Hydroxide;

Lu+++ gl NaCl 25°C 0.10M U I 1999FBa (11710) 36
In 0.1 M Me₄NCl, *B(1,3)=-21.04.

Lu+++ EMF alc/w 25°C 25% U I 1972USa (11712) 38
*K1=-7.57
Medium: 25% v/v EtOH/H2O, 0.05 M NaClO4. *K1=-7.66(v=0), -7.33(v=50),
*K1=-7.33(v=0,I=0)

Lu+++ dis NaClO4 ? 0.10M U 1971GDb (11713) 39
*K1=-3.5
Medium: LiClO4

Lu+++ sol oth/un 25°C U 1970IEb (11714) 40
 $K(\text{LuL3(s)} + \text{L} = \text{LuL4}) = -5.1$
 $K(\text{LuL3(s)} + 2\text{L} = \text{LuL5}) = -5.8$
 $K(\text{LuL3(s)} + 3\text{L} = \text{LuL6}) = -6.5$

Lu+++ vlt none 20°C 0.0 M 1968KAc (11715) 41
 $K_{\text{so}} = -26.85$

Lu+++ oth oth/un rt 10% U 1967PBb (11716) 42
 $K_{\text{so}} = -27.5$
 $K(\text{LuL3(s)} = \text{LuL3}) = -5.1$

Medium: 10% sea water.

Lu+++ gl NaCl04 25°C 0.30M U 1966FKa (11717) 43
 $*K_1 = -7.90$

Lu+++ sol oth/un 25°C var U 1966ISa (11718) 44
 $K(\text{LuL3(s)} = \text{LuL3}) = -3.2$

Lu+++ oth oth/un 20°C dil U 1966OPa (11719) 45
 $K_{\text{so}} = -25.3$

Method: Tyndall scattering

Lu+++ gl none 25°C 0.0 M 1963AKb (11720) 46
 $K_{\text{so}} = -27.00$

Lu+++ sol none 25°C 0.0 U 1962AAb (11721) 47
 $K_{\text{so}} = -26.65$ (100 days) to
 $K_{\text{so}} = -26.99$ (150 days)

Lu+++ gl oth/un 20°C dil U 1953WSa (11722) 48
 $*K_1 = -6.6$

Lu+++ gl oth/un 25°C var U 1951MFb (11723) 49
 $K_{\text{so}}(\text{Lu}(\text{OH})_3) = -23.72$

Lu+++ gl oth/un 25°C var U 1944MKa (11724) 50
 $K_{\text{so}}(\text{Lu}(\text{OH})_3) = -23.6$

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

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
 Lu+++ sol none 25°C 0.0 M 1997LBd (13240) 51
 $K_{\text{so}}(\text{LuP04}) = -24.75$

Calculated from data for 0.10 M HCl04 solution.

Lu+++ sol oth/un 25°C 0.0 C I 1993FKb (13241) 52
 $K_{\text{so}}(\text{LuP04}) = -25.72$

Lu+++	sol none	25°C	0.0	C	1991Fba (13242)	53
Kso(LuP04)=-25.39						

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	g1	KCl	25°C	0.50M	U			K(Lu+H2L)=4.36	1989APd (13618)	54

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Lu+++      kin none    25°C  0.0  U      B2=23.51      1967SSo (13619)  55
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	dis	oth/un	25°C	1.0M	C		K1=0.45	1997HTb (15136)	56
Method: by solvent extraction from 1.0 M NaSCN into CHCl3, 0.1 M 1,1,1-trifluoro-4-(2-thienyl)-2,4-pentanedione.									

Lu+++	dis NaClO4 25°C 5.0M U	K1=0.45	B2=-1.3	1964SEa (15138)	58
		B3=-0.14			

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	sol	oth/un	25°C	0.66M	C		K1=1.77	2004SBb (16310)	59
Method: solubility of BaSO4 in 0.117 m LuCl3 solution.									
Calculated for I=0, K1=3.44.									

Lu+++ con oth/un 25°C 0.0 U K1=3.52 1973FPb (16311) 60
In D20: K1=3.54

Lu+++ cal oth/un 25°C 0.0 U H 1969FPa (16312) 61
DH(K1)=14.8 kJ mol⁻¹

Lu+++ cal oth/un 25°C 0.0 U H K1=3.49 B2=5.29 1969IEa (16313) 62
DH(K1)=13.8 kJ mol⁻¹, DH(K2)=4.4; DS(K1)=114.6 J K⁻¹ mol⁻¹, DS(K2)=49.4

Lu+++ ISE NaClO4 25°C 2.0M U H K1=1.09 B2=1.61 1967CCd (16314) 63
By calorimetry: DH(K1)=17.8 kJ mol⁻¹, DS=80.3 J K⁻¹ m⁻¹; DH(K2)=6.3, DS=30.9

 Lu+++ dis NaClO4 25°C 1.0M U K1=1.29 B2=<2.5 1965SEa (16315) 64
 B3=3.36

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

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

Lu+++ sp non-aq 25°C 100% U 1993BCc (17467) 65
 K3=2.33

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

Lu+++ gl NaClO4 20°C 0.10M U K1=2.68 B2=4.83 1964PSd (18425) 66
 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

Lu+++ ix R4N.X 25°C 0.05M C K1=6.04 B2=10.58 2001SBf (18947) 67
 K(Lu+HL)=2.28

Medium: 0.05 M NH4NO3. At I=0, K1=6.96, B2=11.77.

 Lu+++ gl KCl 25°C 1.0M U M 1988KTa (18948) 68
 K(Lu(edta)+L)=4.50

 Lu+++ sol NaClO4 20°C 1.00M U K1=5.28 B2=9.53 1969GGa (18949) 69
 B3=12.74
 B4=14.68

 Lu+++ dis NaClO4 25°C 1.0M U K1=5.11 B2=9.2 1964SEa (18950) 70
 B3=12.79

 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

Lu+++ gl NaClO4 20°C 0.10M U K1=2.05 B2=3.69 1962KPa (20042) 71

 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
Lu+++	gl	NaClO4	20°C	0.10M	U			1964PKa (20342)	72

K(Lu+HL)=2.01
K(LuHL+HL)=1.30

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
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Lu+++	gl	NaClO4	25°C	3.0M	C			2002TFa (20580)	73
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B(Lu2H-2L6)=1.20
B(Lu4H-6L8)=-12.0
B(Lu4H-7L8)=-21.0
B(Lu4H-8L8)=-30.2

Lu+++	gl	KNO3	32°C	0.10M	U			1980PPf (20581)	74
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K(Lu+HL=LuL+H)=-0.17
*K(LuL)=-5.14
K(Lu+2HL=LuL2+2H)=-1.33
*K(LuL2)=-5.23

Lu+++	gl	NaClO4	20°C	0.10M	U		K1=3.146 B2=5.48	1964PKb (20582)	75
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B3=7.28

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
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Lu+++	cal	oth/un	25°C	0.03M	U	H	K1=4.51	1981PBa (21604)	76
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Lu+++	EMF	KCl	25°C	1.0M	U			1977GMa (21605)	77
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K(LuA+L)=4.26
K(LuA+HL)=2.97
K(LuA+H2L)=3.07

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

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++	sp	non-aq	25°C	100%	U			1992MBb (22108)	78
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K8=0.6
K9=0.4

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

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Lu+++	gl	NaClO4	22°C	0.10M	U			K(LuH-1L+H)=6.50	1972MCd (22150)	79
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C2H6O6P2 H4L (5706)
Ethene-1,1-diphosphonic acid; H2C:C(P03H2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Lu+++	gl	KCl	25°C	0.15M	U	I		K(Lu+H2L)=4.93	1989AMa (22173)	80
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C2H8N2 L Ethylenediamine CAS 107-15-7 (23)
1,2-Diaminoethane; H2N.CH2.CH2.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Lu+++	ISE	non-aq	25°C	100%	C	H		K1=3.11 B2=5.87 B3=7.76	1992CBa (23188)	81
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Medium: DMSO, 0.10 M Et4NClO4. By calorimetry, DH(K1)=-22.2, DH(B2)=-49.1, DH(B3)=-82.2 kJ mol⁻¹.

C3H4O3 HL Pyruvic acid CAS 127-17-3 (1152)
2-Oxopropanoic acid; CH3.CO.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Lu+++	nmr	NaClO4	25°C	2.00M	U	H		K1=1.83	1980CCa (24058)	82
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DH=-4.01 kJ mol⁻¹. Alternative method: Calorimetry.

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Lu+++	gl	NaClO4	25°C	1.00M	U			K1=3.917 B2=6.407 B(LuHL)=6.38	1987MOa (24490)	83
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Lu+++	gl	NaClO4	25°C	0.10M	U			K1=4.84 B2=8.00	1972DCc (24491)	84
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Lu+++	gl	NaClO4	25°C	1.00M	U			K1=3.88 B2=6.42 B3=7.88 B(LuHL)=6.25 B(LuHL2)=9.51	1971DGa (24492)	85
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Lu+++	ix	NaClO4	25°C	0.15M	U				1968KKc (24493)	86
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K(Lu+HL)=2.2
K(LuHL+HL)=1.1

Lu+++ gl KNO3 25°C 0.10M U K1=4.45 B2=7.13 1968PFa (24494) 87

Lu+++ gl oth/un 25°C ->0 U T H K1=4.28 1956GNb (24495) 88
K1=4.15(35 C). DH(K1)=-22 kJ mol⁻¹

C3H4O6 H2L CAS 560-27-0 (4233)
Dihydroxypropanedioic acid; H₂OC.C(OH)₂.COOH

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

Lu+++ gl KCl 25°C 0.20M U K1=3.65 1973LPb (24629) 89

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

Lu+++ gl diox/w 20°C 50% U K1=6.11 1971MAf (24646) 90
Medium: 50% dioxan, 0.1 M NaClO₄

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

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

Lu+++ gl diox/w 20°C 50% U K1=7.27 B2=13.27 1971MAf (24808) 91
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

Lu+++ gl NaClO₄ 25°C 2.0M U K1=1.66 B2=2.78 1965CGa (25019) 92

Lu+++ gl NaClO₄ 20°C 0.10M U K1=2.00 B2=3.53 1964PKa (25020) 93

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

Lu+++ gl NaClO₄ 25°C 2.00M U 1968CMA (25156) 94

K(Lu+HL)=1.51

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
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Lu+++      gl  NaClO4 25°C 2.00M U                        1968CMa (25218) 95
                                           K(Lu+HL)=1.49
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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
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Lu+++      gl  NaClO4 25°C 2.00M U                        K1=1.40      1969JCC (25271) 96
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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
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Lu+++      gl  KNO3   30°C 0.10M U                        1983MPc (25476) 97
                                           K(Lu+HL=LuL+H)=0.48
                                           *K(LuL)=-4.47
                                           K(Lu+2HL=LuL2+2H)=-0.60
                                           *K(LuL2)=-3.84
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Lu+++      EMF alc/w 25°C 20% U I      K1=4.39      1973LSa (25477) 98
Also in 0% and 30% EtOH and in 0.05 M NaClO4 in 0%, 20% and 30% EtOH
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Lu+++      gl  NaClO4 25°C 0.10M U                        K1=3.40      B2=5.82      1966GGb (25478) 99
                                           B3=7.9
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Lu+++      gl  NaClO4 25°C 0.20M U                        K1=3.05      B2=5.56      1964DVA (25479) 100
                                           K3=1.41
                                           K4=0.86
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Lu+++      gl  NaClO4 20°C 0.10M U                        K1=3.273     B2=5.88      1964PKb (25480) 101
                                           B3=7.78
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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
-----
Lu+++      gl  NaClO4 20°C 0.10M U                        K1=2.09      B2=3.37      1964PKa (25603) 102
*****
C3H7NO2          HL      Alanine          CAS 56-41-7 (86)
2-Aminopropanoic acid; H2N.CH(CH3).COOH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Lu+++      gl  KNO3   25°C 0.10M U                        K1=4.8        1967EMb (26203) 103
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C3H7NO2 HL Sarcosine CAS 107-97-1 (87)
N-Methyl-2-aminoethanoic acid; CH3.NH.CH2.COOH

Lu+++ nmr oth/un ? 0.10M U 1971K0b (26605) 104
K(Lu+HL)=0.90

C3H7NO3 HL Serine CAS 56-45-1 (49)
2-Amino-3-hydroxypropanoic acid; $\text{H}_2\text{N} \cdot \text{CH}(\text{CH}_2 \cdot \text{OH})\text{COOH}$

Lu+++ gl oth/un 25°C 0.10M U K1=3.98 1965PGe (27149) 105

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

Lu+++ gl NaCl04 22°C 0.10M U 1972Mcd (27680) 106
K(LuH-1L+H)=6.40

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

Lu+++ gl NaCl04 22°C 0.10M U 1972Mcd (27740) 107
K(LuH-1L+H)=6.30

Lu+++ gl NaCl 25°C 0.10M U 1970PKe (27741) 108
K(LuH-1L+H)=6.50

C3H12N09P3 H6L NTPA CAS 6419-19-8 (2920)
Nitrilotris(methylenephosphonic acid); N(CH2PO3H2)3

Lu+++ g1 KN03 25°C 0.10M C K(LuL+H)=6.90 1991SKb (28575) 109

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

Lu+++ cal NaClO4 25°C 0.10M U H K1=2.68 B2=4.03 19760Ca (28656) 110

DH(K1)=10.3 kJ mol⁻¹, DS=86 J K⁻¹ mol⁻¹; DH(B2)=16.3, DS=132

Lu+++ gl NaClO4 25°C 0.10M C H K1=2.676 B2= 4.04 19760Cb (28657) 111
By calorimetry: DH(K1)=10.3 kJ mol⁻¹, DS(K1)=85.8 J K⁻¹ mol⁻¹;
DH(B2)=16.3, DS(B2)=132.

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
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Lu+++	gl	oth/un	25°C	0.10M	U		K1=2.710	1987TSb (28892)	112
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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
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Lu+++	gl	oth/un	25°C	0.10M	U T H		K1=4.65	1987TSb (28916)	113
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30 C:K=4.02; 35 C: 3.55. DH=-170 kJ mol⁻¹, DS=-518 J K⁻¹ mol⁻¹

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++	gl	NaClO4	25°C	0.10M	U		K1=3.59	1973CDc (29101)	114
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Lu+++	gl	NaClO4	25°C	0.10M	U		K1=3.60 B2=5.68	1970RFa (29102)	115
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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
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Lu+++	cal	NaClO4	25°C	0.10M	C		K1=2.47 B(LuHL)=5.98 K(Lu+HL)=1.90	1986LCa (29208)	116
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Lu+++	gl	NaClO4	25°C	0.10M	U		K1=2.81	1973CDc (29209)	117
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C4H4O5 H2L Oxobutanedioic CAS 328-42-7 (1733)
2-Oxosuccinic acid, Oxalacetic acid; HOOC.CH2.CO.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++	gl	oth/un	25°C	?	U		K1=5.9 B2=10.6	1956GNc (29272)	118
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C4H6O2 HL Methylacrylic (6992)
2-Methylpropenoic acid; CH2:C(CH3)COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	gl	KCl	25°C	0.10M	U			K1=2.32	1995PAa (29701)	119

C4H6O4		H2L		Succinic acid		CAS	110-15-6	(112)		
1,4-Butanedioic acid; HOOCH ₂ CH ₂ COOH										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	gl	NaClO4	25°C	0.10M	M	H		K1=3.31	1986CDb (29993)	120
DH=17.3 kJ mol ⁻¹ , DS=121 J K ⁻¹ mol ⁻¹										
Lu+++	ix	NaClO4	25°C	0.15M	U				1968KKc (29994)	121
								K(Lu+HL)=1.76		
								K(LuHL+HL)=1.3		

C4H6O4		H2L		Me-Malonic Acid		CAS	516-15-2	(816)		
Methylpropanedioic acid; HOOCH(CH ₃)COOH										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	gl	KCl	25°C	0.20M	U			K1=4.39 B2=7.00	1975PLa (30129)	122

C4H6O5		H2L		Malic acid		CAS	617-48-1	(393)		
2-Hydroxybutane-1,4-dioic acid, Hydroxy-succinic acid; HOOCH ₂ CH(OH)COOH										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	gl	KNO3	20°C	0.10M	U				1980SDa (30671)	123
								B(LuHL)=7.37		
Lu+++	gl	KNO3	20°C	0.10M	U			K1=4.98 B2=8.23	1980SDB (30672)	124
Lu+++	gl	NaClO4	25°C	0.10M	U			K1=5.08 B2=8.67	1970RFa (30673)	125

C4H6O5		H2L		Diglycolic acid		CAS	110-99-6	(243)		
Di(carboxy)methyl ether, 2,2'-Oxydiethanoic acid; HOOCH ₂ OCH ₂ COOH										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	EMF	NaClO4	20°C	1.00M	U			K1=5.79 B2=10.75	1972G0a (30894)	126
								B3=13.42		
Lu+++	cal	NaClO4	25°C	1.0M	C	H			1963GRd (30895)	127
DH(K1)=5.146 kJ mol ⁻¹ , DS(K1)=126 J K ⁻¹ mol ⁻¹ ; DH(B2)=3.27, DS(B2)=213; DH(B3)=-15.98, DS(B3)=198.										
Lu+++	EMF	NaClO4	20°C	1.00M	U			K1=5.64 B2=10.55	1963GTa (30896)	128
								B3=13.16		

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
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Lu+++ sp oth/un 25°C 0.0 U T H K1=5.30 1975YBa (31298) 129
DH(K1)=8.4 kJ mol⁻¹, DS=125.5 J K⁻¹ mol⁻¹

Lu+++ gl alc/w 25°C 40% U I K1=5.40 1972SSj (31299) 130
Medium: 0-40% EtOH, 0.05 M. 40% EtOH, I=0: K1=6.82

Lu+++ gl KCl 24°C 0.20M U K1=3.76 1966DDa (31300) 131

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
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Lu+++ gl NaCl04 21°C 0.10M M 1987WLa (31882) 132
B(LuHL)=12.71

Lu+++ gl NaCl04 30°C 0.10M U K1=6.07 B2=10.90 1984YLa (31883) 133

Lu+++ gl KCl 25°C 0.10M U K1=6.25 B2=11.58 1968DRb (31884) 134

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
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Lu+++ gl KCl 25°C 1.0M U M 1988KTa (32299) 135
K(Lu(edta)+L)=2.31

Lu+++ EMF KCl 25°C 1.0M U M 1977GMa (32300) 136
K(LuA+L)=4.60
K(LuA+H2L)=0.70
K(LuA+H3L)=1.99

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

Lu+++ gl NaCl04 25°C 1.00M U K1=7.06 B2=12.87 1972GGa (32301) 137
B3=16.15
B(LuHL)=10.60
B(LuH2L)=12.71

Lu+++ cal KNO3 20°C 0.10M U HM 1971GKb (32302) 138
K(LuA+L)=2.51

DH(LuA+L)=-16.74 kJ mol⁻¹, DS=-9.2 J K⁻¹ mol⁻¹. DH(LuAL)=-27.24, DS=335.

H4A=EDTA

Lu+++ gl KNO3 25°C 0.10M U M K1=7.61 B2=13.73 1962THa (32303) 139
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

Lu+++ gl diox/w 20°C 50% U K1=8.53 B2=15.86 1971MAf (32544) 140
Medium: 50% v/v dioxan, 0.1 M NaClO4

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

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

Lu+++ gl NaClO4 21°C 0.10M M 1987WLa (32708) 141
B(LuH-1L)=-3.71

Lu+++ gl NaClO4 30°C 0.10M U K1=4.39 B2=7.47 1984YLa (32709) 142

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

Lu+++ gl KCl 60°C 0.10M U K1=6.44 B2=11.14 1978NBa (33088) 143
B3=8.83

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

Lu+++ gl NaClO4 25°C 2.00M U H K1=1.65 B2=2.77 1965CGa (33236) 144
By calorimetry: DH(K1)=22.6 kJ mol⁻¹, DS=106.6 J K⁻¹ mol⁻¹; DH(K2)=15.5, DS=73

Lu+++ gl NaClO4 25°C 0.50M U K1=1.81 B2=2.32 1964SPa (33237) 145

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

Lu+++ gl NaClO4 25°C 0.20M U K1=3.18 B2=6.05 1964DVa (33487) 146
K3=2.03
K4=1.92

Lu+++ gl NaClO4 20°C 0.10M U K1=3.665 B2=6.47 1964PKb (33488) 147
B3=8.82

Lu+++ gl NaClO4 25°C 0.50M U K1=3.21 B2=5.85 1964SPa (33489) 148
B3=8.21

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

Lu+++ gl KNO3 25°C 0.10M C K1=3.30 B2=5.90 1975PFb (33682) 149
K3=1.85

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

Lu+++ EMF KNO3 25°C 0.10M U K1=3.16 B2=5.74 1976PKb (33705) 150
K3=2.08

Lu+++ gl NaClO4 25°C 0.50M U K1=2.94 B2=5.19 1964SPa (33706) 151
B3=6.90

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

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

Lu+++ cal non-aq 25°C 100% U H K1=4.31 B2=7.78 1997CDa (34770) 152
B3=9.90
B4=11.46

Medium: MeCN. DH(K1)=-35.2 kJ mol⁻¹, DS=36, DH(B2)=-69.2, DS=83;
DH(B3)=-106, DS=166, DH(B4)=-128, DS=209

C4H11O4P HL (4276)
Diethylphosphoric acid; (C2H5O)2.PO.OH

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

Lu+++ kin oth/un 25°C U K1=2.35 1971MGb (35262) 153

C4H12N2O L CAS 2752-17-2 (312)
Bis-(2-aminoethyl)ether; H2N.CH2.CH2.O.CH2.CH2.NH2

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

Lu+++ EMF non-aq 25°C 100% C H K1=2.82 B2= 4.79 2002CDb (35507) 154
Method: comp. reactn. using Ag electrode. Medium: DMSO, 0.10 M Et4NClO4.

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Method: Pt/quinhydrone electrode.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	cal	NaClO4	25°C	2.00M	U	H	K1=1.45	1976YCa (36307)	161

DH=9.79 kJ mol⁻¹ and DS=60.67 J mol⁻¹ K⁻¹.

C5H5O3F3 HL (7056)

2-Oxa-6-trifluorohexa-3,5-dione; CH3.O.CO.CH2.CO.CF3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	diox/w	25°C	50%	M	I	K1=6.07 K3=3.91	1994SSa (37067)	162

Medium: 50% dioxan, I=0 corr. At 35 C: K1=5.96, K2=5.13, K3=3.77

C5H6O4 H2L Itaconic acid CAS 97-65-4 (398)

Methylenesuccinic acid; HOOC.CH2.C(:CH2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	KCl	25°C	0.20M	U		K1=2.80 K(Lu+HL)=1.65	1989MFa (37429)	163

C5H7NO3 HL (4313)

Isonitrosoacetylacetone; HO.N:CH.CO.CH2.CO.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	diox/w	20°C	50%	U		K1=5.33 B2=8.83	1971MAf (37529)	164

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
Lu+++	gl	diox/w	20°C	50%	U		K1=6.30 B2=11.31	1971MAf (37706)	165

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
Lu+++	gl	KCl	25°C	0.10M	U		K1=6.04 K3=3.59	1995PAa (38015)	166

Lu+++	dis	NaClO4	25°C	1.0M	C		B2=10.58 B3=13.81 B4=15.60	1989ALa (38016)	167
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Method: extraction of 177Lu from 1.0 M NaClO4 into benzene/HL.

Lu+++	gl	NaClO4	20°C	0.10M	U	M	1973TZa (38017)	168	
							K(Lu(EDTA)+L)=3.68		

Lu+++ gl alc/w ? 50% U I K1=7.34 1971KOa (38018) 169
Medium: 5-80% MeOH, 0.005 LuCl3, 0.005 HL. K1(5%)=6.25, K1(80%)=8.59

Lu+++ gl NaClO4 25°C 2.0M U K1=5.98 B2=10.76 1964YCa (38019) 170

Lu+++ gl oth/un 30°C 0.10M U K1=6.23 B2=11.00 1960GFa (38020) 171
K3=3.63

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

Lu+++ gl KCl 25°C 0.20M U K1=4.47 1989ZPa (38245) 172
In 70.4% v/v EtOH/H2O: K1 = 6.32

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

Lu+++ gl NaClO4 25°C 0.10M U K1=3.07 B2=5.13 1970RFa (38265) 173

C5H8O4 H2L Glutaric acid CAS 110-94-1 (420)
Pentanedioic acid; HOOC.CH2.CH2.CH2.COOH

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

Lu+++ gl NaClO4 25°C 0.10M M H K1=3.16 1986CDb (38331) 174
DH=19.0 kJ mol⁻¹, DS=124 J K⁻¹ mol⁻¹

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

Lu+++ gl KCl 24°C 0.20M U K1=4.04 1966DDa (38431) 175

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

Lu+++ gl NaClO4 25°C 0.10M U B2=6.15 1981ZLa (38627) 176

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

Lu+++ gl NaClO4 25°C 0.10M U B2=5.63 1981ZLa (38741) 177

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

Lu+++ gl KCl 25°C 0.10M U K1=7.34 B2=13.43 1980MGc (39260) 178
B3=15.41
B(Lu+20H+L)=18.86

Lu+++ nmr oth/un 25°C 1.00M U K1=7.07 1972KNb (39261) 179

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

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

Lu+++ gl KNO3 25°C 0.10M U K1=3.45 B2=6.30 1969PCa (40258) 180
K3=2.05

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

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

Lu+++ gl NaClO4 25°C 1.0M U K1=2.76 1968GCa (40282) 181

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

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

Lu+++ gl NaClO4 25°C 0.10M U K1=2.34 B2=3.97 1970RDa (40300) 182

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

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

Lu+++ gl KNO3 25°C 0.10M C K1=3.25 B2=5.83 1975PFb (40315) 183
K3=1.78

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

Lu+++ cal oth/un 25°C 0.03M U H K1=4.30 1981PBa (40727) 184

Lu+++ gl KCl 25°C 0.10M U T K1=4.30 1974BFa (40728) 185

C5H11NS2 HL CAS 147-84-2 (2126)
Diethyldithiocarbamic acid; (CH3.CH2)2N.CSSH

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

Lu+++ sp non-aq ? 100% U M 1968SRg (41356) 186
K(Lu(HA)3+3HL=LuL3+3H2A)=4.75

Medium: CCl4. H2A=dithizone

C6H5NO2 HL Picolinic acid CAS 98-98-6 (391)
2-Pyridine-carboxylic acid; C5H4N.CO0H

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

Lu+++ gl NaCl04 20°C 0.10M U K1=5.36 1987EGb (42561) 187
Soln. contains 0.5 M t-butanol

Lu+++ gl NaCl04 25°C 0.50M U K1=4.09 B2=7.47 1977GGb (42562) 188
B3=10.00

Lu+++ gl KNO3 25°C 0.10M U K1=4.41 B2=8.27 1968PIa (42563) 189
K3=2.98
K4=2.23

Lu+++ gl NaCl04 25°C 2.0M U K1=4.54 B2=7.65 1965YCa (42564) 190

Lu+++ gl KNO3 25°C 0.10M U K1=4.45 B2=8.20 1964THb (42565) 191
B3=11.4

C6H5NO2 HL Nicotinic acid CAS 59-67-6 (419)
3-Pyridine-carboxylic acid; C5H4N.CO0H

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

Lu+++ gl NaCl04 25°C 0.20M U K1=2.19 1973FDa (42675) 192

C6H5NO3 HL 4-Nitrophenol CAS 100-02-7 (454)
4-Nitrohydroxybenzene; HO.C6H4.NO2

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

Lu+++ gl R4N.X 25°C 0.10M C K1=1.46 1990CBe (42812) 193

C6H5NO3 HHL CAS 824-40-8 (878)
Pyridine-2-carboxylic acid N-oxide (Picolinic acid N-oxide); C5H4N(O)C00

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

Lu+++ gl NaClO4 25°C 2.0M U K1=3.48 B2=6.32 1965YCa (42836) 194

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

Lu+++ gl KNO3 25°C 0.10M C K1=9.2 1988ZKa (42932) 195
B(Lu2L3)=19.0

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

Lu+++ sp KCl 25°C 0.10M M I K1=6.45 1989PEa (42956) 196

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

Lu+++ sp KCl 25°C 0.10M U K1=5.64 1987PLa (43112) 197

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

Lu+++ sp KCl 25°C 0.10M U K1=5.71 1987PLa (43154) 198

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

Lu+++ EMF NaCl 25°C 0.10M U K1=11.31 1969PKe (43784) 199

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

Lu+++ sp KCl 25°C 0.10M C I K1=6.334 1987PEa (44227) 200
In 0.087 M KCl, K1=6.346.

Lu+++ gl NaClO4 25°C 2.0M U K1=6.24 B2=11.84 1964YCa (44228) 201

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
Lu+++	gl	KNO3	25°C	0.10M	C		K1=14.0 K(LuL+H)=5.8	1988ZKa (44468)	202
Lu+++	gl	NaClO4	25°C	0.50M	C		K1=13.29 B2=22.86 B(LuHL2)=30.29	1976LAb (44469)	203

C6H7O3F3		HL					(7057)		
3-Oxa-7-trifluorohepta-4,6-dione; CH3CH2.O.CO.CH2.CO.CF3									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	diox/w	25°C	50%	M	I	K1=6.15 B2=11.48 K3=4.06	1994SSa (45188)	204
Medium: 50% dioxan, I=0 corr. At 35 C: K1=6.01, K2=5.28, K3=3.84									

C6H8O4		H2L					CAS 2583-25-7 (958)		
2-Allylpropanedioic acid; HOOCH(CH2.CH:CH2).COOH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	KCl	25°C	0.20M	U		K1=4.03	1989ZPa (45471)	205
In 70.4% v/v EtOH/H2O: K1 = 5.98									

C6H8O6		H2L					CAS 50-81-7 (285)		
Ascorbic acid (Vitamin C);									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	NaClO4	25°C	2.00M	U	IH	K(Lu+HL)=1.32	1988HSa (45646)	206
DH=5.4 kJ mol ⁻¹ , DS=43.8 J K ⁻¹ mol ⁻¹									
In 0.1 M NaClO4: K=1.7, DH=4.4 kJ mol ⁻¹ , DS=49 J K ⁻¹ mol ⁻¹									

C6H8O7		H3L					CAS 77-92-9 (95)		
2-Hydroxypropane-1,2,3-tricarboxylic acid; HOOCCCH2.CH(OH)(COOH).CH2COOH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	KNO3	25°C	0.10M	U	M	B(Lu(IDA)L)=9.4	1975TDa (46161)	207
Lu+++	dis	NaClO4	25°C	0.15M	U		K(Lu+HL+L)=11.82	1973HHc (46162)	208
Lu+++	gl	alc/w	25°C	25%	U	I	K1=8.98	1972BKd (46163)	209
Medium: EtOH/H2O, 0.05 M (NaCl,NaClO4). 0%, K1=8.12, 50%=10.08									

Lu+++ ix NaCl 25°C 0.10M U K1=7.62 B2=13.00 197200a (46164) 210
 K(Lu+HL)=5.66
 K(LuHL+HL)=9.10

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++	ISE	NaCl04	25°C	0.10M	C	I	K1=12.25	1997LBb (46898)	211
Method: Cu ISE and competitive complexation by Cu. Data for 0.1-5.0 M.									
At I=0.0 M, K1=14.10.									

Lu+++	ISE	KNO3	25°C	0.10M	C		K1=12.45	1980NSf (46899)	212
Competitive method using Cd ion-selective electrode.									

Lu+++	gl	KNO3	20°C	1.0M	C		K2=8.60	1978GHb (46900)	213
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Lu+++	gl	NaCl04	25°C	0.50M	U		K1=12.12	1977GGb (46901)	214
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Lu+++	EMF	KCl	25°C	1.0M	U	M		1977GMa (46902)	215
							K(LuA+L)=5.25		
							K(LuA+H2L)=1.40		
							K(LuA+H3L)=2.01		
							K(LuA+H4L)=3.04		

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

Lu+++	cal	KNO3	20°C	0.10M	U	HM		1971GKb (46903)	216
							K(LuA+L)=2.81		

H4A=EDTA. DH(LuA+L)=-15.06 kJ mol⁻¹, DS=2.5 J K⁻¹ mol⁻¹.
 DH(LuLA)=-25.6 kJ mol⁻¹, DS=346 J K⁻¹ mol⁻¹

Lu+++	nmr	oth/un	25°C		?	U	M	1971KTe (46904)	217
							K(LuL+EDTA)=2.30		

Lu+++	gl	oth/un	20°C	0.20M	U			1970VMa (46905)	218
							B(LuL(OH))=6.87		

Lu+++	gl	KNO3	25°C	0.10M	U	T H T	K1=12.49 B2=21.91	1962MFb (46906)	219
15 C: K1=12.48, K2=9.49; 20 C: 12.47, 9.44; 30 C: 12.55, 9.44; 35 C: 12.54, 9.39; 40 C: 12.58, 9.41. DH(K1)=8.3 kJ mol ⁻¹ , DS=266 J K ⁻¹ m ⁻¹ ; DH(K2)=-4.6, DS=165									

Lu+++	vlt	KNO3	20°C	0.10M	U			1957NOa (46907)	220
							B(Lu2L3)=38.81		

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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 Lu+++ cal oth/un 25°C 0.03M U H K1=3.77 1981PBa (47576) 221

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++	gl	NaClO4	25°C	0.10M	U		K1=3.221 K3=2.15 K4=1.54	B2=5.94 1966PRb (47992)	222
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C6H10O4 H2L Adipic acid CAS 124-04-9 (401)
 1,6-Hexanedioic acid; HOOC.(CH2)4.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++	gl	NaClO4	25°C	0.10M	M	H	K1=3.09	1986CDb (48077)	223
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DH=18.4 kJ mol⁻¹, DS=121 J K⁻¹ mol⁻¹

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++	oth	NaClO4	25°C	0.10M	U		K1=4.84	1984AFa (48344)	224
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Laser excitation spectroscopy, competition method

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++	gl	NaClO4	25°C	0.10M	U	M	K1=4.68 K(Lu(edta)+L)=4.30	1997PPb (48479)	225
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C6H11NO5 H2L HIMDA CAS 93-62-9 (192)
 N-(2-Hydroxyethyl)iminodiethanoic acid; HO.CH2.CH2.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++	gl	KNO3	20°C	1.00M	U		K1=8.62 K(LuL2(OH)+H)=9.04	B2=16.45 1974Cmd (48756)	226
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Lu+++	oth	NaNO3	20°C	0.10M	U	M	K1=9.1 B2=17.05	1966JMc (48757)	227
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Method: paper electrophoresis. Mixed complexes with HEDTA

Lu+++	gl	KCl	25°C	0.10M	U		K1=9.40 B2=16.38	1965DTa (48758)	228
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Lu+++	ISE	KNO3	25°C	0.10M	U		K1=9.50 B2=17.52	1963TLa (48759)	229
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C6H12N2O4 H2L EDDA CAS 5657-17-0 (119)
1,2-Diaminoethane-N,N'-diethanoic acid; HOOC.CH2.NH.CH2.CH2.NH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	gl	R4N.X	25°C	0.10M	C			K1=9.09	1988CCb (49250)	230
Lu+++	gl	KNO3	25°C	0.10M	U			K1=9.09 B2=17.57	1962THb (49251)	231

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
Lu+++	gl	KNO3	25°C	0.10M	U			K1=3.58 B2=6.05 K3=1.30	1979PPa (49496)	232

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
Lu+++	EMF	alc/w	25°C	80%	U	I		K1=6.05	1966KRb (49735)	233
Medium: 80% MeOH. K1=5.09(50%)										
Lu+++	gl	KCl	25°C	0.20M	U			K1=2.72 B2=4.78	1963K0c (49736)	234

C6H13NO2 HL CAS 60-32-2 (1846)
6-Aminohexanoic acid; H2N.CH2.CH2.CH2.CH2.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	gl	KCl	20°C	0.20M	U			K1=5.13 B2=9.60	1990PLa (50219)	235

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
Lu+++	gl	KNO3	20°C	0.10M	U			K1=5.46 B2=9.76	1982RFa (50382)	236
Lu+++	gl	alc/w	20°C	50%	U	I		K1=6.70	1970KRb (50383)	237
Medium: 0-80% MeOH, 0.03 M KCl. K1(0%)=5.46, K1(20%)=6.10, K1(80%)=7.86										

Lu+++	oth	NaNO3	20°C	0.10M	U			K1=7.5 B2=13.50	1966JMc (50384)	238
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Method: paper electrophoresis

C6H15N3O3 L (6613)
1,3,5-Triamino-1,3,5-trideoxy-cis-inositol,5-Amino-5-deoxy-streptamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	KCl	25°C	0.10M	C		B(LuH-6L2)=-11.3	1998HGa (51453)	239

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

Lu+++	ISE	non-aq	25°C	100%	C	H	K1=6.16 B2=8.02	1993CCb (52202)	240
Medium: DMSO, 0.1 M Et4NClO4. Method: Ag+ ISE. By calorimetry, DH(K1)=-61.1 kJ mol-1, DS=-87; DH(B2)=-88.7, DS=-144.									

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

Lu+++	gl	KNO3	25°C	0.10M	C		K(LuL+H)=7.42 K(LuHL+H)=5.9	1991SKb (52348)	241

C7H4N2O7		H2L					CAS 609-99-4	(400)	
3,5-Dinitrosalicylic acid; (O2N)2.C6H2(OH).COOH									

Lu+++	gl	oth/un	24°C	0.20M	U		K1=5.51	1972PSd (52489)	242
Medium: LiCl									

C7H5NO4		H2L	Dipicolinic aci				CAS 449-83-2	(418)	
2,6-Pyridinedicarboxylic acid; C5H3N.(COOH)2									

Lu+++	cal	NaClO4	25°C	0.50M	C	H		1963GRd (52786)	243
DH(K1)=-9.17 kJ mol-1, DS(K1)=142 J K-1 mol-1; DH(B2)=-25.08, DS(B2)=236; DH(B3)=-52.96, DS(B3)=231.									

Lu+++	EMF	oth/un	20°C	0.50M	U		K1=9.03 B2=16.80 K3=4.68	1961GRa (52787)	244

C7H5NO4		HL					CAS 121-92-6	(490)	
3-Nitrobenzoic acid; O2N.C6H4.COOH									

Lu+++	gl	NaClO4	25°C	0.10M	C	H	K1=1.64	1986CLc (52869)	245

DH=9.0 kJ mol⁻¹, DS=62 J K⁻¹ mol⁻¹

C7H5NO4 HL CAS 62-23-7 (489)

4-Nitrobenzoic acid; O2N.C6H4.COOH

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

Lu+++ gl NaClO4 25°C 0.10M M H K1=1.67 1999YKa (52910) 246

By calorimetry: DH(K1)=8.87 kJ mol⁻¹, DS(K1)=61.7 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

Lu+++ gl NaClO4 25°C 0.10M C H K1=1.80 1986CLc (53238) 247

DH=9.2 kJ mol⁻¹, DS=65 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

Lu+++ gl NaClO4 25°C 0.10M C H K1=1.89 1986CLc (53258) 248

DH(K1)=11.8 kJ mol⁻¹, DS=76 J K⁻¹ mol⁻¹

C7H5O6BrS H2L (1626)

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

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

Lu+++ gl NaClO4 25°C 0.10M C H T 1993ALa (53371) 249

B(1,1,1)=12.33

B(1,0,1)=7.56

B(1,0,2)=13.42

B(1,-1,1)=0.42

B(p,q,r); pLu+qH+rL=(Lu)pHqLr. B(1,-2,1)=-6.85.

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

Lu+++ gl KNO3 25°C 0.10M U K1=7.69 B2=14.33 1969CMb (53680) 250

K3=5.44

K4=3.96

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
Lu+++	cal	NaClO4	25°C	0.10M	U	H	K1=1.92 B2=3.77	1982CBc (53841)	251
DH1= 11.5 kJ mol ⁻¹ , DS1= 76 J K ⁻¹ mol ⁻¹									

Lu+++	gl	alc/w	25°C	99%	U		K1=6.32 B2=11.82 K3=3.28	1974BPb (53842)	252
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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
Lu+++	gl	NaClO4	25°C	0.1M	C	H		1996HYa (54255)	253
By calorimetry: DH(K1)=2.98 kJ mol ⁻¹ , DH(B2)=18.58 J K ⁻¹ mol ⁻¹									

Lu+++	gl	NaClO4	25°C	0.1M	C	H		1996HYa (54256)	254
By calorimetry: DH(K1)=3.61 kJ mol ⁻¹ , DH(B2)=9.46 J K ⁻¹ mol ⁻¹									

Lu+++	gl	NaClO4	25°C	0.10M	C	T		1989HMa (54257)	255
							K(Lu+HL)=1.65 K(LuHL+HL)=2.10		

Lu+++	ix	mixed	20°C	50%	U			1976TRa (54258)	256
							K(Lu+HL)=2.53 K(Lu+2HL)=4.27 K(Lu+3HL)=5.86		

Medium: 50% v/v acetone/H2O, 0.25 M NaClO4

Lu+++	gl	alc/w	25°C	100%	U		K1=5.82 B2=10.69 K3=3.79	1973BPd (54259)	257
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Medium: 99.9% MeOH, 0.1 M NaCl

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	NaClO4	25°C	0.10M	C			1988LLa (54384)	258
							K(Lu+HL)=1.94		

Lu+++	gl	alc/w	25°C	99%	U		K1=6.70 B2=12.29 K3=3.43	1974BPb (54385)	259
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C7H6O3 H2L CAS 99-96-7 (1371)
 4-Hydroxybenzoic acid; HO.C6H4.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	NaClO4	25°C	0.10M	M	H	K1=1.61	1999YKa (54425)	260

Lu+++	gl	NaCl04	25°C	0.10M	C							1988LLa (54426)	261
K(Lu+HL)=2.10													
Lu+++	gl	alc/w	25°C	99%	U			K1=6.68	B2=12.72			1974BPb (54427)	262
K3=3.45													

C7H6O6S		H3L				CAS 5965-83-3		(399)					
5-Sulfosalicylic acid, 2-Hydroxy-5-sulfobenzoic; H03S.C6H3(OH).COOH													

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values		Reference	ExptNo		
Lu+++	gl	NaCl04	20°C	1.0M	U			K1=7.33	B2=13.30			1972CBb (55021)	263
Lu+++	sp	NaCl04	20°C	0.10M	U			K1=8.43	B2=15.46			1968KTb (55022)	264
K(Lu+HL)=2.47													

C7H6O9S2		H3L				CAS 56507-30-3		(2659)					
3,5-Disulfosalicylic acid; (H03S)2.C6H2(OH).COOH													

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values		Reference	ExptNo		
Lu+++	gl	NaCl04	25°C	0.50M	C	T		K1=8.86	B2=14.85			1976LAc (55098)	265

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values		Reference	ExptNo		
Lu+++	gl	NaCl04	25°C	0.10M	C			K1=2.22	B2=4.53			1989HMa (55241)	266
Lu+++	gl	NaCl04	25°C	0.10M	U	H		K1=4.67				1982KYc (55242)	267
By calorimetry, DH(K1)=9.75 kJ mol-1, DS(K1)=122.13 J K-1 mol-1.													
Lu+++	gl	non-aq	25°C	100%	U			K1=7.29	B2=13.57			1970BBh (55243)	268
K3=3.83													
K4=2.49													
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		
Lu+++	gl	NaCl04	25°C	0.10M	M	H		K1=1.96				1999YKa (55386)	269
By calorimetry: DH(K1)=12.60 kJ mol-1, DS(K1)=79.8 J K-1 mol-1.													
Lu+++	gl	KCl	25°C	0.20M	U			K1=2.17				1977EBa (55387)	270

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Lu+++ gl KCl 25°C 0.20M M T H K1=9.11 1991BPb (55691) 271
K(LuOH+L)=16.55

DH(K1)=-133 kJ mol⁻¹, DS(K1)=-272 J K⁻¹ mol⁻¹. DH(Lu(OH)L)=-246, DS(Lu(OH)L)=-506. Also data for 35, 45 and 55 C.

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
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Lu+++ sp KCl 25°C 0.10M M I K1=6.76 1986PLb (56130) 272

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
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Lu+++ sp KCl 25°C 0.10M M I K1=6.41 1986PLb (56149) 273

C7H10O4 H2L CAS 5802-62-3 (71)

Cyclopentane-1,1-dicarboxylic acid; $C_5H_8.(COOH)_2$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
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Lu+++ gl KNO3 25°C 0.10M U K1=4.22 B2=6.65 1971PJb (56735) 274

C7H11NO4 H2L CAS 499-82-1 (3163)

Piperidine-2,6-dicarboxylic acid; $C_5H_9N(COOH)_2$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
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Lu+++ gl KNO3 25°C 0.10M U K1=6.71 B2=12.55 1963THb (56809) 275

C7H11N06 H3L (2926)

2-Aminobutanoic-N-propane-1,3-dioic acid; $\text{HOOC} \cdot \text{CH}(\text{C}_2\text{H}_5)\text{NH} \cdot \text{CH}(\text{COOH})_2$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Lu+++ g1 KNO3 25°C 0.1M U K1=9.44 1982KKc (56848) 276

C7H12O4 H2L CAS 510-20-3 (482)

Diethylpropanedioic acid (Diethylmalonic acid); $\text{HOOC} \cdot \text{C}(\text{C}_2\text{H}_5)_2 \cdot \text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Lu+++ gl KNO3 25°C 0.10M U K1=4.69 B2=7.40 1968PFa (57367) 277

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

Lu+++ gl NaCl 20°C 0.10M U K1=3.22 1977SSc (57406) 278

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

Lu+++ gl NaClO4 25°C 0.10M C K1=3.03 B2=4.86 1976SPa (57877) 279

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

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

Lu+++ sp KNO3 12°C 0.10M U 1965GEa (58521) 280
K(Lu+H2L)=3.45

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

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

Lu+++ cal non-aq 25°C 100% C H 2004MIa (58641) 281
Method: calorimetric titration. Medium: chloroform. DH(LuL3+A)=8.5 kJ
mol-1, DS=81 J K-1 mol-1; DH(LuL3+2A)=-11, DS=50. HA is benzoic acid.

Lu+++ gl alc/w 22°C 80% U K1=6.27 B2=11.87 1995MTa (58642) 282
K3=4.79

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

Lu+++ gl mixed 25°C 50% U K1=5.96 1980SBc (58643) 283
Medium: 50% MeCN

Lu+++ dis non-aq 25°C 100% U T M 1972KKd (58644) 284

K(LuL3+bpy)=6.49
K(LuL3+2bpy)=8.63
K(LuL3+A)=5.17
K(LuL3+2A)=6.88

Medium: benzene. K(LuL3+phen)=7.27, K(LuL3+2phen)=11.88. A=4,4'-dipyridyl.
Temperature range 15-35 C.

Lu+++ dis non-aq 25°C 100% U M 1972KKd (58645) 285
K(LuL3+bpy)=5.52

Medium: CCl₄

Lu+++ dis non-aq 25°C 100% U M 1972KKd (58646) 286
K(LuL3+bpy)=4.62
K(LuL3+2bpy)=7.70

Medium: CHCl₃

Lu+++ dis non-aq 25°C 100% U M 1972KKd (58647) 287
K(LuL3+bpy)=5.99
K(LuL3+2bpy)=9.06

Medium: cyclohexane

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Lu+++ cal NaClO4 25°C 0.10M U H K1=2.58 1982CBc (59056) 288
DH= 19.23 kJ mol⁻¹, DS= 114 J K⁻¹ mol⁻¹

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
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Lu+++ gl diox/w 20°C 50% U K1=6.53 B2=12.02 1971MAf (59104) 289
Medium: 50% v/v dioxan, 0.1 M NaClO4

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Lu+++ g1 diox/w 20°C 50% U K1=7.43 B2=13.70 1971MAf (59339) 290
Medium: 50% dioxan, 0.1 M NaClO4

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
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Lu+++ gl NaClO4 25°C 0.1M C H K1=1.82 1996HYa (59554) 291
By calorimetry: DH(K1)=15.76 kJ mol⁻¹

Lu+++ gl NaClO4 25°C 0.10M C H K1=1.82 1990HYa (59555) 292
By calorimetry: DH(K1)=15.8 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
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Lu+++	sp	alc/w	?	3%	U		K1=8.01	1967GDb (59600)	293
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Medium: 3% EtOH, 0.2 M NaClO4

C8H8O3		HL		o-Anisic acid			CAS 579-75-9	(2337)	
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2-Methoxybenzoic acid; CH3O.C6H4.CO0H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++	gl	NaClO4	25°C	0.10M	M	H	K1=1.88	1988CLb (59740)	294
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DH=10.6 kJ mol⁻¹, DS=72 J K⁻¹ mol⁻¹

C8H8O3		HL		Mandelic Acid			CAS 611-72-3	(80)	
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2-Phenyl-2-hydroxyethanoic acid; C6H5.CH(OH).CO0H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++	gl	NaClO4	25°C	0.10M	C		K1=3.25 B2=5.83	1989HMa (59848)	295
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Lu+++	gl	NaClO4	25°C	2.0M	U	T	K1=2.77	1972DCb (59849)	296
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C8H8O3		HL		m-Anisic acid			CAS 586-38-9	(2804)	
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3-Methoxybenzoic acid; CH3O.C6H4.CO0H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++	gl	NaClO4	25°C	0.10M	M	H	K1=2.03	1988CLb (59914)	297
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DH=11.9 kJ mol⁻¹, DS=79 J K⁻¹ mol⁻¹

C8H8O3		HL		p-Anisic acid			CAS 100-09-4	(1373)	
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4-Methoxybenzoic acid; CH3O.C6H4.CO0H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++	gl	NaClO4	25°C	0.10M	M	H	K1=2.01	1988CLb (59957)	298
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DH=13.4 kJ mol⁻¹, DS=84 J K⁻¹ mol⁻¹

C8H8O4		HL					CAS 520-45-6	(4478)	
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3-Acetyl-2-hydroxy-6-methylpyran-4-one, Dehydroethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++	gl	diox/w	35°C	50%	U		K1=4.92 B2=8.50	1971MAa (60093)	299
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Medium: 50% dioxan, 0.1 M NaClO4

C8H9N04		H2L					(4520)		
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Dehydroethanoic acid oxime;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	gl	diox/w	35°C	50%	U			K(Lu+HL)=4.90 K(Lu+2HL)=8.31	1971MAa (60499)	300
Medium: 50% dioxan, 0.01 M NaClO4										

C8H10O4		L						CAS 34241-51-5	(5701)	
3-Acetyl-6-methylhydropyrane-2,4-dione;										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	gl	alc/w	22°C	20%	U			K1=4.60 B2=8.28 K3=3.19	1988ZTa (60851)	301

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
Lu+++	gl	KCl	30°C	0.10M	C			K1=5.90 B2=9.96	1996SZa (60871)	302
For the -5-en-2-exo isomer, K1=6.29, B2=11.34.										

C8H11NO8		H4L						CAS 7408-20-0	(2608)	
Amino-di(butanedioic acid);HN(CH(COOH)CH2.COOH)2										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	gl	KCl	25°C	0.10M	U			K1=12.25 B2=18.97 B(LuHL)=16.37	1979BEb (61211)	303

C8H11O4P		H2L						(4536)		
(alpha-Hydroxy-alpha-methylbenzyl)phosphonic acid;										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	gl	NaCl	25°C	0.10M	U			K(Lu+HL)=3.37	1973BSg (61312)	304

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
Lu+++	gl	oth/un	25°C	0.10M	U			K1=2.890	1987TSb (61439)	305

C8H12N2O8		H4L						CAS 35039-85-1	(4537)	
1,2-Diaminoethane-N,N'-dimalonic acid; (HOOC)2.CH.NH.CH2.CH2.NH.CH(COOH)2										
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo

Lu+++ gl KNO3 20°C 0.10M U K1=12.45 B2=18.91 1975DPa (61513) 306

Lu+++ gl KNO3 25°C 0.10M U K1=11.39 1972GBd (61514) 307
By polarography K1=11.48

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

Lu+++ gl NaClO4 25°C 0.10M M H K1=4.35 1986CDb (61712) 308
DH=22.2 kJ mol⁻¹, DS=158 J K⁻¹ mol⁻¹

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

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

Lu+++ ISE non-aq 25°C 100% U K1=5.00 1982MDa (62695) 309
Medium: propylene carbonate

C8H18N2O10P2 H6L EDDADPO CAS 2310-83-0 (2436)
1,2-Diaminoethane-N,N'-diethanoic-N,N'-dimethylphosphonic acid;
(-CH2.N(CH2.COOH)(CH2.PO3H2))2

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

Lu+++ gl KCl 25°C 0.10M U 1965DKb (62903) 310
K(Lu+HL)=17.7
K(Lu+H4L)=9.2

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

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

Lu+++ gl non-aq 25°C 100% C K1=4.41 1989BP a (62990) 311
Medium: anhydrous propylene carbonate, 0.1 M Et4NClO4

C8H19NO5 L Bis-tris CAS 6976-37-0 (2827)
Bis-(2-hydroxyethyl)imino-tris(hydroxymethyl)methane;

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

Lu+++ gl NaCl 30°C 0.10M C K1=2.34 2002Nwa (63063) 312
B(Lu2L)=2.00
Constants expressed on the molality scale.

C8H19O4P HL CAS 107-66-4 (2130)

Dibutylphosphoric acid; (C4H9O)2P(O)OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	kin	oth/un	25°C	0.02M	U		K1=3.03	1974GMc (63185)	313
Lu+++	kin	oth/un	25°C	?	U		K1=3.55	1971MGB (63186)	314

C8H22N2O6P2		H4L					CAS 13516-59-1	(3850)	
2,2'-(Ethylenedi-imino)bis(propylphosphonic acid);									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	KCl	25°C	0.10M	U		K1=13.37 K(Lu+HL)=7.67	1965DKb (63341)	315

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	diox/w	35°C	75%	U		K1=7.70 B2=13.85 K3=4.90	1971MAb (63567)	316

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

C9H5NO4		HL					CAS 22308-86-7	(4607)	
3-Nitroso-4-hydroxycoumarin (oximidobenzotetronic acid);									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	sp	diox/w	20°C	50%	U		K1=3.08 B2=5.06	1977MBb (63611)	317

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	NaClO4	25°C	0.10M	U		K1=5.82 B2=10.32	1973MAa (63700)	318

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	oth/un	20°C	0.10M	U		K1=6.84	1977SKd (63815)	319

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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 Lu+++ gl NaClO4 25°C 0.10M U H K1=4.80 1994CRa (63972) 320
 K(Lu+HL)=2.93

DH(K1)=19.5 kJ mol⁻¹; DS=157 J K⁻¹ mol⁻¹

C9H7N L CAS 91-22-5 (1538)

Quinoline;

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

Lu+++ gl NaClO4 25°C 0.5M M H K1=4.02 1991KBb (64065) 321

By calorimetry: DH(K1)=2.08 kJ mol⁻¹, DS(K1)=83.9 J K⁻¹ mol⁻¹.

C9H7NO HL Oxine CAS 148-24-3 (504)

8-Hydroxyquinoline (8-quinolinol);

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

Lu+++ sol none RT 0.0 U 1981FCa (64305) 322

Kso(LuL3)=-33.46

Method: spectrophotometry.

 Lu+++ gl oth/un 20°C 0.10M U K1=7.74 1977SKd (64306) 323

Lu+++ gl diox/w 30°C 50% U K1=9.79 B2=18.40 1970GMb (64307) 324

Medium: 50% dioxan, 0.3 M NaClO4

C9H7NO2 HL CAS 1127-45-3 (4614)

8-Hydroxyquinoline-N-oxide;

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

Lu+++ gl diox/w 30°C 50% U K1=7.70 1970GMb (64408) 325

Medium: 50% dioxan, 0.3 M NaClO4

C9H7NO4S H2L Sulfoxine CAS 84-88-8 (448)

8-Hydroxyquinoline-5-sulfonic acid;

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

Lu+++ cal KNO3 20°C 0.10M U HM 1971GKb (64558) 326

K(LuA+L)=4.82

DH(LuA+L)=-26.33 kJ mol⁻¹, DS=2.09 J K⁻¹ mol⁻¹

DH(LuAL): DH=-36.82, DS=345.7. 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

Lu+++ sp NaNO3 25°C 0.10M C K1=8.78 19850Hb (64712) 327
 K(Lu+HL)=4.77
 K(LuL+H)=5.43

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

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

Lu+++ sp NaClO4 ? 0.20M U K1=8.85 1967GDc (64946) 328
 K(LuHL)=10.97

 Lu+++ gl NaClO4 25°C 0.20M U K1=8.64 B2=15.70 1966GDa (64947) 329
 K3=4.60

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

Lu+++ gl KCl 30°C 0.10M U K1=4.29 B2= 7.62 1996SZa (64978) 330

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

Lu+++ gl NaClO4 25°C 0.10M C K1=2.31 B2=3.97 1989HMa (65463) 331

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

Lu+++ gl NaClO4 25°C 0.10M C K1=2.09 B2=3.97 1989HMa (65477) 332

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

Lu+++ gl KCl 30°C 0.10M C K1=4.16 B2=6.65 1996SZa (65574) 333

For the -2,5-dien-2-exo isomer, K1=4.29, B2=7.62.

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

Lu+++ gl NaClO4 24°C 0.10M U K1=4.28 1986ZBa (65589) 334

$$K(\text{Lu}+\text{HL})=1.20$$

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
Lu+++	gl	KCl	30°C	0.10M	U			K1=4.88 B2= 7.72	1996SZa (65606)	335

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
Lu+++	gl	KCl	30°C	0.10M	C			K1=4.88 B2=7.72	1996SZa (65621)	336

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
Lu+++	gl	NaCl	25°C	0.15M	U	H		K1=3.99	1992ZNa (65952)	337

By calorimetry: DH(K1)=3.13 kJ mol⁻¹, DS(K1)=86.91 J K⁻¹ mol⁻¹.

Lu+++	gl	KCl	25°C	0.10M	U			K1=4.45 B2=7.95	1972BFe (65953)	338
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C9H11NO3 H2L Tyrosine CAS 60-18-4 (4)
2-Amino-3-(4-hydroxyphenyl)propanoic acid; HO.C6H4.CH2.CH(NH2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	gl	KCl	25°C	0.10M	U				1972BFe (66231)	339

$$K(\text{Lu}+\text{HL})=4.55$$

$$K(\text{LuHL}+\text{HL})=4.5$$

C9H11NO6S H3L CAS 73487-23-7 (5467)
N,N-Dimethyl-2,3-dihydroxy-5-sulfonatobenzamide; HS O3.C6H2(OH)2.CONMe2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	gl	KNO3	25°C	0.10M	C			K1=13.3	1988ZKa (66465)	340

$$B(\text{Lu2L3})=27.6$$

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
Lu+++	ISE	KNO3	25°C	0.10M	U			K1=12.76	1983KBd (66740)	341

Hg-electrode.

C9H13NO6 H3L (3881)

2,6-Dicarboxypiperidyl-N-ethanoic acid;

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

Lu+++ gl KNO3 25°C 0.10M U K1=11.74 B2=20.66 1968TKe (66888) 342

C9H16N2O6 H3L MEDTA CAS 40423-02-7 (5717)

N-Methyldiaminoethane-N,N',N'-triethanoic acid; H00C.CH2.N(CH3)CH2.CH2.N(CH2.COOH)2

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

Lu+++ cal NaClO4 25°C 0.50M M IH K1=14.18 1986RCa (67641) 343

DH=-16.3 kJ mol⁻¹, DS=217 J K⁻¹ mol⁻¹

C9H16O4 H2L CAS 1636-27-7 (485)

Dipropylpropanedioic acid (Di-n-propylmalonic acid);

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

Lu+++ gl KNO3 25°C 0.10M U K1=4.78 B2=7.53 1968PFa (67775) 344

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

Lu+++ gl alc/w 22°C 80% U K1=6.22 B2=12.20 1995MTa (68429) 345

K3=5.30

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

C10H6O3 HL CAS 481-39-0 (3295)

5-Hydroxy-1,4-naphthoquinone;

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

Lu+++ gl diox/w 25°C 50% C T H K1=8.44 B2=15.96 1992SAa (68477) 346

K3=7.22

At 35 C: K1=8.16, K2=7.06, K3=5.91; DH(K1)=-49.3 kJ mol⁻¹

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

Lu+++ gl NaClO4 25°C 0.10M U H K1=4.60 1994CRa (68522) 347

K(Lu+HL)=3.64

DH(K1)=21.0 kJ mol⁻¹, DS=159 J K⁻¹ mol⁻¹; DH(Lu+HL)=14.3, DS=118

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

Lu+++ sp KCl 25°C 0.10M M I K1=4.48 1976PEa (68581) 348

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

Lu+++ gl KCl 25°C 0.10M M K1=4.33 1979LSb (68815) 349

C10H7NO5S H2L (4766)

1-Nitroso-2-hydroxynaphthalene-6-sulfonic acid;

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

Lu+++ sp KCl 25°C 0.10M C K1=4.58 1973PMb (68849) 350

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

Lu+++ sp KCl 25°C 0.10M U K1=5.06 1978PPb (68948) 351

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

Lu+++ gl alc/w 22°C 80% U K1=6.79 B2=13.28 1995MTa (69154) 352

K3=5.61

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

Lu+++ sp non-aq 25°C 100% C T K1=2.68 2005SYa (69599) 353

In ethylacetate;At 50 C K1=2.39

Lu+++ cal non-aq 25°C 100% U M 1972KKc (69600) 354

K(LuA3+L)=4.75

K(LuA3+2L)=7.75

Medium: CHCl3. A=4,4,4-trifluoro-1-(2-thienyl)-1,3-butanedione

C10H8O2	H2L	CAS 92-44-4	(1658)
2,3-Dihydroxynaphthalene;			

Lu+++ g1 NaCl04 20°C 0.10M U M 1973Pac (69773) 355
K(LuA+L)=8.17, H4A=EDTA

C10H8O5S H3L DHNSA (877)
2,3-Dihydroxynaphthalene-6-sulfonic acid;

Lu+++ gl NaClO4 25°C 0.50M C K1=10.44 B2=19.28 1976LAd (69853) 356
B3=24.1
B(LuHL2)=26.05

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

Lu+++ gl alc/w 25°C 80% U K1=8.37 B2=14.81 1967DZa (70747) 357
K3=4.45

Lu+++ gl alc/w 24°C 80% U K1=8.37 B2=14.81 1967DZb (70748) 358
K3 = 4.45

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

Lu+++ gl NaCl04 25°C 0.10M M K1=4.04 1977Hcb (70854) 359

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

Lu+++ g1 KN03 25°C 0.10M U K1=9.72 B2=17.47 1964THa (71265) 360

C10H12O2	HL	CAS 1946-74-3	(202)
3-Isopropyltropolone;			

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
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Lu+++ sp alc/w ? 3% U K1=7.95 1967GDb (71591) 361
Medium: 3% EtOH, 0.2 M NaClO4

C10H15N5O10P2 H3L ADP CAS 20398-34-9 (2181)
Adenosine-5'-diphosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++	EMF	KNO3	25°C	0.10M	C T H		K1=11.92 K(LuL+H)=3.42	1990HLA (72989)	362
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Method: Competitive reaction with Hg++, using Hg indicator electrode.
Data for 15-35 C. DH(K1)=-43.8 kJ mol⁻¹, DS(K1)=81.1 J K⁻¹ mol⁻¹.

Lu+++	kin	oth/un	30°C	0.05M	C		K1eff=5.10	1989FVa (72990)	363
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Competitive reaction with MgL. Medium: 0.05 M PIPES, pH 7.0.

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
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Lu+++	gl	KCl	25°C	0.10M	U		K1=13.66 K(Lu+HL)=7.17	1980MMe (73152)	364
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Lu+++	gl	KCl	25°C	0.10M	U		K2=4.80	1979MMe (73153)	365
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Lu+++	gl	KNO3	20°C	0.10M	U		K1=14.15 B2=20.12	1975DPa (73154)	366
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Lu+++	vlt	KNO3	25°C	0.10M	U		K1=14.32	1971BGb (73155)	367
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C10H16N2O8 H4L EDTA CAS 60-00-4 (120)
1,2-Diaminoethane-N,N,N',N'-tetraethanoic acid, Sequestric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++	gl	NaClO4	20°C	0.02M	U	M	K(LuL+PO4)=3.12	1982MPd (73934)	368
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Lu+++	vlt	KNO3	20°C	0.10M	U		K1=19.99	1978NLb (73935)	369
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Lu+++	gl	NaClO4	25°C	0.50M	U		K1=18.19	1977GGb (73936)	370
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Lu+++	gl	KCl	25°C	1.0M	U		K(LuL+H)=1.15	1976GMb (73937)	371
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Lu+++	EMF	KCl	25°C	0.10M	U	T	K(LuL+H)=0.7	1974BKb (73938)	372
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Lu+++	nmr	oth/un	20°C	1.00M	U	M		1974TKa (73939)	373
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K(LuL+Citrate)=1.2

Lu+++ nmr oth/un 40°C 0.10M U 1969MGc (73940) 374
K(Lu(OH)L(H2O)n-1+H)=11.7
K(LuL(H2O)n+H) < 2.0

Lu+++ dis oth/un 25°C ? U K1=18.25 1969PJc (73941) 375
Method: paper electrophoresis. Medium: pH=1.86

Lu+++ ix KCl 25°C 0.10M U H K1=19.14 1959BDb (73942) 376
DH(K1)=2.7 kJ mol⁻¹, DS=375 J K⁻¹ mol⁻¹

Lu+++ gl oth/un 20°C 0.01M U K1=20.07 1955WSa (73943) 377
Polarography also used

Lu+++ gl KNO3 20°C 0.10M U T K1=19.83 1954SGa (73944) 378

Lu+++ gl KCl 20°C 0.10M U I T K1=19.06 1953WSa (73945) 379
By polarography K1=19.07. In 0.1 M KNO3 K1=19.65

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

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

Lu+++ kin oth/un 30°C 0.05M C 1989FVa (74758) 380
K1eff=5.60
Competitive reaction with MgL. Medium: 0.05 M PIPES, pH 7.0.

Lu+++ gl KCl 25°C 0.10M U K1=6.33 B2=10.47 1988SSd (74759) 381
K(Lu+HL)=3.88

Lu+++ kin oth/un 25°C 0.05M C K1=7.36 1983MCc (74760) 382
Method: inhibition of the hexokinase reaction, pH 8.0 (0.05 M TAPS).

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

Lu+++ gl NaClO4 25°C 0.50M U K1=15.32 1977GGb (75437) 383

Lu+++ EMF KCl 25°C 1.0M U K2=3.56 1977GMa (75438) 384
K(LuL+HL)=1.82
K(LuL+H2L)=1.32
K(LuL+H3L)=1.39
K(LuL+H4L)=1.59

Method: Pt/H2 electrode.

Lu+++ EMF KCl 25°C 1.0M U M 1977GMa (75439) 385

Method: Pt/H₂ electrode.

Lu+++ gl KNO₃ 25°C 0.10M U M 1963TLb (75441) 387
K(LuL+A)=4.51
K(LuL+B)=3.88

Lu+++ gl KNO₃ 15°C 0.10M U T H K₁=15.87 1961MFb (75443) 389
K₁=15.89(20 C), 15.88(25 C), 15.85(30 C), 15.92(35 C), 15.80(40 C)
DH(K₁)=0.9 kJ mol⁻¹(25 C), DS=307 J K⁻¹ mol⁻¹

Medium: propylene carbonate, 0.1 M Et₄NClO₄

C10H26N4O6P2 H4L CAS 200951-96-8 (7643)
1,4,7,10-Tetraazacyclododecane-1,7-bis(methanephosphonic acid);

Lu+++	g1	KCl	25°C 0.10M C	K1=19.3 *K(LuL)=-8.2 K(LuL+H)=7.2 B(LuHL2)=38.7	1998BRa (76806) 395
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C11H8O3 L CAS 1133-72-8 (2614)
2-Aceto-1,3-indandione;

Lu+++ gl diox/w 30°C 75% U T K1=4.13 B2=8.20 1984APa (77038) 396

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

Lu+++ gl diox/w 35°C 50% U K1=4.31 B2=7.13 1971MAa (77181) 397
Medium: 50% dioxan, 0.01 M NaClO4

C11H8O6S H3L CAS 66695-90-7 (1996)
1-Hydroxy-4-sulfo-2-naphthoic acid;

Lu+++ gl NaClO4 25°C 0.10M C K1=8.81 B2=15.68 1979Lab (77230) 398
K(Lu+HL)=1.82

C11H8O9S2 H4L CAS 67097-84-1 (1995)
1-Hydroxy-4,7-disulfo-2-naphthoic acid;

Lu+++ cal NaClO4 25°C 0.10M C H K1=8.80 B2=14.5 1986LLc (77283) 399
K(Lu+HL)=1.99

C11H9N04 H2L CAS 4321-82-7 (4829)
3-Acetyl-4-hydroxycoumarin oxime;

Lu+++ gl diox/w 35°C 50% U K(Lu+HL)=4.03 1971MAa (77424) 400

$$K(\text{Lu}+2\text{HL})=6.66$$

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
Lu+++	sp	NaNO ₃	25°C	0.10M	C		K ₁ =10.70 K(Lu+HL)=4.39 *K(LuHL)=-5.99	19840Ha (77558)	401

Medium pH 4.8-6.3.

Lu+++	sp	KCl	20°C	0.10M	U		K(Lu+HL)=3.81	1971EKa (77559)	402
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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
Lu+++	gl	KCl	25°C	0.10M	U T H		K ₁ =5.1	1976BFc (78215)	403
For 55C K ₁ = 4.55									

Lu+++	gl	KCl	25°C	0.10M	U		K ₁ =5.2 B ₂ =9.90	1972BFe (78216)	404
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C11H₁₂N₂O₅ 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
Lu+++	gl	oth/un	30°C	0.10M	U		B ₂ =22.18	1985EEb (78323)	405
Medium: not stated. For 3'-sulfophenylhydrazo-, B ₂ =22.23; for 2'-sulfo-phenylhydrazo-, B ₂ =24.92; for 4'-methyl-2'-sulfophenylhydrazo-, B ₂ =24.21.									

C11H₁₃N₄ L CAS 15658-60-3 (4587)

Diethyl 2,6-pyridinedicarboxylate; Dipicolinic acid diethyl ester;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	sp	non-aq	20°C	100%	C		K ₁ =7.0 B ₂ =14.00 B ₃ =18.0	1997RPa (78535)	406

Medium: acetonitrile.

C11H₁₃N₅ H₃L HBIDA CAS 7372-13-6 (1603)

N-(2-Hydroxybenzyl)iminodiethanoic acid; HO.C₆H₄.CH₂.N(CH₂.COOH)₂

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	KNO ₃	25°C	0.10M	C		K ₁ =14.87 B ₂ =27.76	1989YSa (78632)	407

$$K(\text{Lu}+\text{HL})=6.71$$

Lu+++ gl KNO3 20°C 0.10M U K1=14.62 B2=25.88 1983MSc (78633) 408

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

Lu+++ gl KNO3 25°C 0.10M U K1=7.60 B2=12.99 1964THa (78887) 409

C11H15NO5 HL CAS 1429-25-0 (2696)

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

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

Lu+++ sp KCl 25°C 0.10M M I 1986POa (79052) 410

$$B(\text{LuHL})=11.87$$

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

Lu+++ gl KNO3 20°C 0.10M U K1=15.98 1981NSc (79307) 411

Lu+++ EMF KNO3 25°C 0.10M U K1=16.60 1980KBc (79308) 412

Lu+++ vlt KNO3 20°C 0.10M U K1=20.64 1978NLb (79309) 413

Lu+++ vlt KNO3 20°C 0.10M U K1=20.56 1964ICb (79310) 414

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

Lu+++ gl KNO3 25°C 0.10M U K1=11.17 1976GKd (79369) 415

C11H18N2O8 H4L CAS 4408-81-5 (923)

1,3-Diaminopropane-N,N,N',N'-tetraethanoic acid; ((HOOCH2)2N.CH2.)2.CH2

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

Lu+++ ix KNO3 20°C 0.10M U H K1=15.54 1971AWa (79456) 416

DH=14.75 kJ mol⁻¹, DS=348.6 J K⁻¹ mol⁻¹

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
Lu+++	gl	KNO3	25°C	0.10M	M		K1=15.87	1986PLc (79564)	417

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
Lu+++	gl	KNO3	25°C	0.10M	U		K1=12.15	1976GKd (79600)	418

C11H20O4		H2L					CAS 2283-16-1	(2854)	
2,2-Dibutylpropanedioic acid; HOOC.C(C4H9)2.COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	KNO3	25°C	0.10M	U		K1=4.78 B2=7.76	1968PFa (79770)	419

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
Lu+++	gl	alc/w	22°C	80%	U		K1=6.20 B2=11.87 K3=5.28	1995MTa (80186)	420
Medium: 0.1 M NaClO4 in 80% (v/v) EtOH/H2O.									

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	sp	non-aq	25°C	100%	C	H	K1=2.09	2002KNc (80477)	421
Medium: N,N-dimethylformamide, 0.20 M Et4NClO4.									
By calorimetry: DH(K1)=-14.1 kJ mol ⁻¹ .									

Lu+++	dis	non-aq	25°C	100%	C	HM		1998YHa (80478)	422
							K(LuA3+L)=7.69		
Method: solvent extraction from 0.10 M NaClO4 into CHCl3. HA is									
1-(2-thienyl)-4,4,4-trifluoro-1,3-butanedione. DH(LuA3+L)=-20 kJ mol ⁻¹ .									

Lu+++	gl	oth/un	25°C	0.10M	U		K1=2.93	1984PMa (80479)	423

C12H11O4P		HL					CAS 838-85-7	(2133)	
Diphenylphosphoric acid; (C6H5O)2P(O)OH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	kin	oth/un	25°C	0.02M	U		K1=2.97	1974GMc (80951)	424

C12H12N03Cl HL (1055)
2-Chloro-4-dimethylamino-benzylidenepyruvic acid; (CH3)2N.C6H3Cl.CH:CH.CO.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	sp	NaCl04	25°C	0.50M	U		K1=2.248	1987MSa (80969)	425

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
Lu+++	gl	alc/w	22°C	0.1M	U		K1=6.83 B2=12.76 K3=4.70	2000TBb (81076)	426

Medium: 0.1 M NaCl04 in 70% v/v EtOH/H2O

C12H13N03 HL (1054)
4-Dimethylamino-benzylidenepyruvic acid; (CH3)2N.C6H4.CH:CH.CO.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	sp	NaCl04	25°C	0.50M	U		K1=2.367	1987MSa (81199)	427

C12H17N04 HL (2695)
3-Hydroxy-6-(hydroxymethyl)-2-(1-piperidinylmethyl)-4H-pyran-4-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	sp	KCl	25°C	0.10M	M I		B(LuHL)=14.46	1986POa (81717)	428

C12H18N2O5S H2L CAS 80459-15-0 (1595)
2-Nitroso-5-(N-propyl-3-sulfopropylamino)phenol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	KNO3	25°C	0.10M	C		K1=6.03 B2=11.01	1988YSa (81815)	429

C12H18N2O8 H2L CAS 93031-52-8 (5829)
1,4-Dioxa-7,10-diazayclododecane-5,12-dione-7,10-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	R4N.X	25°C	0.10M	C		K1=6.80	1988CCb (81839)	430

C12H18N2O8 H4L CAS 76079-31-7 (2587)
trans-1,2-Diaminocyclohexane-N,N'-di(propanedioic acid)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++ EMF KNO3 25°C 0.10M U K1=14.25 1985SGa (81871) 431

Lu+++ EMF KNO3 25°C 0.10M U K1=15.71 1980SGb (81872) 432

C12H20N2O8 H4L CAS 1798-13-6 (4935)

1,2-Diaminobutane-N,N,N',N'-tetraethanoic acid;

(HOOC.CH2)2N.CH2.CH(C2H5).N(CH2.COOH)2

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

Lu+++ vlt KNO3 20°C 0.10M U K1=20.97 1968NLa (82028) 433

C12H20N2O8 H4L CAS 40623-42-5 (1101)

1,2-Diaminoethane-N,N'-di(2-pentane-1,5-dioic acid); (CH2NHCH(COOH)CH2CH2COOH)2

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

Lu+++ gl KNO3 20°C 0.10M U K1=10.00 B2=16.52 1975DPa (82082) 434

Lu+++ gl KNO3 25°C 0.10M U K1=9.50 1973GBd (82083) 435

C12H20N2O8 H4L CAS 61368-60-3 (3389)

1,2-Diaminoethane-N,N'-diethanoic-N,N'-di-2-propanoic acid;

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

Lu+++ vlt KNO3 20°C 0.10M U K1=19.41 1976NKa (82137) 436

C12H20N2O8 H4L CAS 40623-42-5 (3388)

1,2-Diaminoethane-N,N'-diethanoic-N,N'-dipropanoic acid;

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

Lu+++ gl NaClO4 25°C 0.10M U IH K1=14.48 1988RNa (82171) 437

B(Lu+HL)=6.79

DH(K1)=3.25 kJ mol⁻¹, DH(Lu+HL)=24.7, DS(K1)=288 J K⁻¹ mol⁻¹

Lu+++ vlt R4N.X 30°C 0.01M C K1=16.50 1981GMh (82172) 438

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

Lu+++ gl NaClO4 25°C 0.50M M H K1=11.44 1985CBa (82228) 439

K(LuL+H)=5.94

K(LuHL+H)=4.76

DH(K1)=27.4 kJ mol⁻¹, DS=311 J K⁻¹ mol⁻¹ (by calorimetry)

C12H20N2O8 H4L BDTA CAS 868-43-9 (1742)
DL-2,3-Diaminobutane-N,N,N',N'-tetraethanoic acid;
(HOOC.CH2)2N.CH(CH3).CH(CH3).N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	vlt	oth/un	20°C	0.10M	U		K1=21.33	1966DMa (82314)	440

Lu+++	vlt	KNO3	20°C	0.10M	U		K1=21.33	1966NSb (82315)	441
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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
Lu+++	sp	NaClO4	20°C	0.10M	U		K1=18.10	1971ISa (82404)	442

Lu+++	vlt	oth/un	20°C	0.10M	U		K1=18.11	1966DMa (82405)	443
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C12H20N2O8S H4L TEDTA CAS 923-74-0 (3394)
2,2'-Thiobis(ethyliminodiethanoic acid); S(CH2.CH2.N(CH2.COOH)2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	KNO3	25°C	0.10M	C		K1=14.10	1985TPa (82466)	444

C12H20N2O9 H4L EEDTA CAS 923-73-9 (2112)
Oxa-bis(ethyleneimino)diethanoic acid; ((HOOC.CH2)2N.CH2.CH2)2O

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	EMF	KNO3	20°C	0.10M	U		K1=17.75	1962MMc (82548)	445

C12H21NO6 H3L (7209)
1-Carboxy-1-aminoheptane-N,N-diethanoic acid; HOOC.CH(C6H13)N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	alc/w	20°C	40%	U		K1=12.17	1985LBc (82700)	446

Medium: 40% v/v MeOH/H2O, 0.1 M KNO3

C12H24N4O4 H2L (7343)
1,4,7,10-Tetraazacyclododecane-1,7-bis(ethanoic acid);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	R4N.X	25°C	0.10M	C		K1=13.16	1998CCb (83088)	447

C12H24O6 L 18-Crown-6 CAS 17455-13-9 (577)

1,4,7,10,13,16-Hexaoxacyclooctadecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	non-aq	25°C	100%	C		K1=7.20	1989BPa (83468)	448
Medium: anhydrous propylene carbonate, 0.1 M Et4NClO4									

C12H26O6		L			Pentaglyme		CAS 1191-87-3	(2498)	
2,5,8,11,14,17-Hexaoxaoctadecane; (CH3.O.CH2.CH2.O.CH2.CH2.O.CH2.)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	non-aq	25°C	100%	C		K1=4.14	1989BPa (84008)	449
Medium: anhydrous propylene carbonate, 0.1 M Et4NClO4									

C12H27N3O3		L					CAS 490025-63-3	(8901)	
1,3,5-Trideoxy-1,3,5-tris(ethylamino)-cis-inositol;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	KCl	25°C	0.1M	C		B(Lu3H-6L3)=-16.9	2002DGc (84075)	450

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
Lu+++	gl	R4N.X	25°C	0.10M	U		K1=14.16 K(Lu+HL)=10.65 K(Lu+H2L)=6.55	1996BJa (84159)	451
Medium: 0.1 M Me4NCl									

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
Lu+++	gl	NaNO3	25°C	0.20M	C T H		K1=9.15	1991KKa (84340)	452
At 15 C K1=8.96; at 35 C K1=9.32. DH=29.7 kJ mol-1, DS=276.0 J K-1 mol-1									
Lu+++	gl	NaCl	20°C	0.10M	C		K1=11.8	1988Sjb (84341)	453

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
Lu+++	gl	alc/w	22°C	80%	U		K1=5.65 B2=10.63 K3=4.30	1995MTa (84457)	454

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

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
Lu+++	gl	diox/w	30°C	75%	U		K1=9.30 B2=17.30	1988ESb (85249)	455

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	oth/un	25°C	0.10M	U		K1=12.769	1987KSc (85362)	456

C13H12N4O L Diphenylcarbazon. 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
Lu+++	EMF	alc/w	20°C	50%	U		K1=3.90	1971MAc (85415)	457

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
Lu+++	EMF	alc/w	20°C	50%	U		K1=2.30	1971MAc (85465)	458

Medium: 50% EtOH, 0.1 M NaClO4

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	diox/w	30°C	75%	U		K1=11.32 B2=21.40	1988ESb (85612)	459

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	KCl	25°C	1.0M	U		K1=14.57	1989CMb (86124)	460

K(LuHL+H)=2.96

K(LuL+H)=3.63

C13H22N2O8	H4L	CAS 1798-14-7 (921)							
(Pentamethylenedinitrilo)tetraethanoic acid; ((HOOC.CH2)2N.CH2.CH2)2CH2									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference ExptNo
Lu+++	gl	KNO3	25°C	0.10M	C			K1=11.36 K(Lu+HL)=7.33	1982PPd (86199) 461

C13H22N2O8	H4L	CAS 1198-14-7 (5004)							
1,2-Diaminopentane-N,N,N',N'-tetraethanoic acid; (HOOCCH2)2NCH2CH(C3H7)N(CH2COOH)2									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference ExptNo
Lu+++	vlt	KNO3	20°C	0.10M	U			K1=20.99	1974NLa (86230) 462

C13H22N2O8	H4L	(7164)							
2,4-Diaminopentane-N,N,N',N'-tetraethanoic acid; (HOOCCH2)2NCH(CH3)CH2CH(CH3)N(CH2COOH)2									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference ExptNo
Lu+++	gl	KNO3	20°C	0.10M	U			K1=14.01	1981NSc (86258) 463

C13H22N2O8	H4L	(5003)							
3-Methyl-1,2-diaminobutane-N,N,N',N'-tetraethanoic acid;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference ExptNo
Lu+++	vlt	KNO3	20°C	0.10M	U			K1=20.79	1968NLb (86285) 464

C13H22N2O9	H4L	DETAP							
CAS 36829-96-6 (5602) Bis(2-aminoethyl)ether-N,N,N'-triethanoic acid-N'-(3-propanoic acid);									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference ExptNo
Lu+++	gl	KNO3	25°C	0.10M	C			K1=15.14 K(Lu+HL)=9.40	1985PLa (86306) 465

C14H8O4	H2L	Alizarin							
CAS 72-48-0 (1058) 1,2-Dihydroxyanthraquinone;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference ExptNo
Lu+++	gl	oth/un	25°C	0.10M	U			K1=13.16	1981EIa (86646) 466

C14H8O7S	H3L	DASA							
CAS 83-61-4 (950) 1,2-Dihydroxyanthraquinone-3-sulfonic acid, Alizarin Red S;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference ExptNo

Lu+++ sp oth/un 25°C ? U 1967SAa (86740) 467

K(?)=9.2

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

Lu+++ gl mixed 30°C 0.10M U T H K1=13.00 B2=23.26 1988TRb (87722) 468
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

Lu+++ kin oth/un 25°C 0.02M U K1=3.91 1974GMc (87795) 469

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

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

Lu+++ gl diox/w 25°C 75% C T H K1=13.87 B2=26.15 1997EIa (87871) 470
Medium: 75% v/v dioxane/H2O, 0.10 M KNO3. Data for 10-40 C. DH(K1)=-8.81
kJ mol⁻¹, DS(K1)=-14.45 J K⁻¹ mol⁻¹; DH(K2)=-8.15, DS(K2)=-14.03.

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

Lu+++ gl mixed 30°C 0.10M U T H K1=13.16 B2=23.84 1988TRb (87889) 471
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

Lu+++ gl NaClO4 25°C 1.00M C H K1=16.26 1992YNa (87958) 472
By calorimetry: DH(K1)=5.4 kJ mol⁻¹, DS=329 J K⁻¹ mol⁻¹

C14H19NO7 HL (6775)
16-Nitro-3,6,9,12-tetraoxabicyclo[12.3.1]octadeca-1(18),14,16-trien-18-ol;

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

Lu+++ gl R4N.X 25°C 0.10M C K1=3.05 1990CBe (88150) 473

C14H20O5 L Benzo15-crown-5 CAS 14098-44-3 (608)
2,3-Benzo-1,4,7,10,13-pentaoxacyclopentadeca-2-ene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	ISE	R4N.X	25°C	0.10M	C		K1=2.41	1986XJa (88305)	474

C14H22N2O8 H4L cis-1,2-CDTA CAS 92761-75-6 (2846)
cis-1,2-Diaminocyclohexane-N,N,N',N'-tetraethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	KCl	25°C	1.0M	U		K1=4.81 K(LuL+H)=6.44	1987CMe (88432)	475

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
Lu+++	gl	KCl	25°C	1.0M	U		K1=8.42 K(LuHL+H)=4.82 K(LuL+H)=7.02	1987CMe (88445)	476

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
Lu+++	gl	KCl	25°C	1.0M	U		K1=9.77 K(LuHL+H)=5.35 K(LuL+H)=5.5	1987CMe (88459)	477

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
Lu+++	gl	KCl	25°C	1.0M	U		K1=21.52 K(LuL+H)=1.11	1987CMe (88712)	478

Lu+++	gl	KCl	25°C	1.00M	U		K1=21.52	1984MFa (88713)	479
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Lu+++	gl	NaClO4	25°C	0.50M	U		K1=19.90	1977GGb (88714)	480
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Lu+++	vlt	KNO3	20°C	0.10M	U		K1=21.51	1954SGa (88715)	481
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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
Lu+++	gl	KCl	25°C	1.0M	U		K1=9.90 K(LuHL+H)=5.44 K(LuL+H)=5.67	1987CMe (88861)	482
Lu+++	gl	KCl	25°C	1.00M	U		K1=9.90	1984MFb (88862)	483

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 <th>Cal</th> <th>Flags</th> <th>Lg K values</th> <th>Reference</th> <th>ExptNo</th>	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	R4N.X	25°C	0.10M	C		K1=7.71	1988CCb (88883)	484

C14H23N3O10		H5L		DTPA		CAS 67-43-6 (238)			
Diethylenetriamine-pentaethanoic acid; H00C.CH2.N(CH2.CH2.N(CH2.COOH)2)2									
Metal	Mtd	Medium	Temp	Conc <th>Cal</th> <th>Flags</th> <th>Lg K values</th> <th>Reference</th> <th>ExptNo</th>	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	cal	KN03	25°C	0.10M	C T			1988MIa (89309)	485
							DH1=-22.70 kJ/mol DS1=354.2 J/(mol.K)		
DH(K1)=-21.3 kJ mol-1, DS=301.8 J mol-1 K-1. Also data for 283 and 313 K									
Lu+++	cal	NaClO4	25°C	0.50M	U	H		1977CGc (89310)	486
DH(K1)=-32.0 kJ mol-1									
Lu+++	gl	NaClO4	25°C	0.50M	U		K1=20.77	1977GGb (89311)	487
Lu+++	sp	oth/un	20°C	?	U		K1=22.32	1969KAf (89312)	488
Lu+++	cal	KN03	27°C	0.10M	U	H		1968CLd (89313)	489
DH(K1)=-21.3 kJ mol-1, DS=358 J K-1 mol-1									
Lu+++	EMF	KN03	25°C	0.10M	U	H	K1=22.44	1962MTc (89314)	490
DH(K1)=-19.2 kJ mol-1, DS=365 J K-1 mol-1									

C14H23O2P		HL				CAS 64266-08-6 (2137)			
Phenyl(2-ethylhexyl)phosphinic acid; (C6H5)(2-C2H5C6H12)P(O)OH									
Metal	Mtd	Medium	Temp	Conc <th>Cal</th> <th>Flags</th> <th>Lg K values</th> <th>Reference</th> <th>ExptNo</th>	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	kin	oth/un	25°C	0.02M	U		K1=4.77	1974GMc (89472)	491

C14H23O2P		HL				CAS 31066-81-6 (2136)			
Phenyl(n-octyl)phosphinic acid; (C6H5)(C8H17)P(O)OH									
Metal	Mtd	Medium	Temp	Conc <th>Cal</th> <th>Flags</th> <th>Lg K values</th> <th>Reference</th> <th>ExptNo</th>	Cal	Flags	Lg K values	Reference	ExptNo

Lu+++ kin oth/un 25°C 0.02M U K1=4.72 1974GMc (89475) 492

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

Lu+++ vlt KNO3 20°C 0.10M U K1=18.90 1969NDc (89513) 493

C14H24N2O8 H4L (7165)
1,2-Diaminohexane-N,N,N',N'-tetraethanoic acid; (H00CCH2)NCH2CH(C4H9)N(CH2C00H)2

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

Lu+++ vlt KNO3 20°C 0.10M U K1=20.81 1974NLa (89533) 494

C14H24N2O8 H4L HMDTA CAS 1633-00-7 (920)
1,6-Diaminohexane-N,N,N',N'-tetraethanoic acid; ((H00C.CH2)2N.CH2.CH2.CH2)2

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

Lu+++ gl KCl 25°C 1.00M U M 1976BKa (89587) 495
K(LuEDTA+L)=2.0
K(LuEDTA+HL)=1.8

Lu+++ gl KCl 25°C 0.10M U 1974KPd (89588) 496
K(Lu+HL)=7.46

C14H24N2O8 H4L CAS 1633-00-7 (5076)
4-Methyl-1,2-diaminopentane-N,N,N',N'-tetraethanoic acid;
(H00CCH2)2NCH2CH(N(CH2C00H)2CH2CH(CH3)2

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

Lu+++ vlt KNO3 20°C 0.10M U K1=20.92 1968NLb (89636) 497

C14H24N2O8 H2L CAS 17619-53-3 (5833)
Diaminoethane-N,N'-Di(ethylaceto)-N,N'-diethanoic acid;
(-CH2.N(CH2.C00H)CH2.C00C2H5)2

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

Lu+++ gl R4N.X 25°C 0.10M C K1=10.39 1988CCb (89654) 498

C14H24N2O8 H4L EDTP (2936)
Diaminoethane-N,N,N',N'-tetrapropanoic acid; (H00C.CH2CH2)2N.CH2CH2.N(CH2CH2.C00H)2

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

Lu+++ gl NaCl04 25°C 0.10M U 1995HAa (89686) 499

K(Lu+HL)=4.58
K(Lu+H2L)=3.54
K(Lu+H3L)=2.62
B(LuHL)=14.01

B(LuH2L)=19.09, B(LuH3L)=22.34

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
Lu+++	gl	KNO3	25°C	0.10M	U		K1=12.14 K(Lu+HL)=8.13	1984TPa (89733)	500

C14H24N2O10 EGTA CAS 67-42-5 (349)
Ethyleneglycol-0,0'-bis(2-aminoethyl ether)-N,N,N',N'-tetraethanoic acid; H4L

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	KCl	25°C	1.0M	U	M	K2=1.71 K(LuL+ida)=0.9	1985KBb (89892)	501

Lu+++	EMF	KNO3	20°C	0.10M	U		K1=17.81	1962MMc (89893)	502
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C14H25N3O8 H4L DEATA CAS 97315-55-4 (5601)
N,N-Bis(2-aminoethyl)ethylamine-N',N',N'',N''-tetraethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	KNO3	25°C	0.10M	C		K1=17.68	1985TPa (90103)	503

C14H25N3O9 H4L CAS 4454-15-3 (5078)
((N-(2-Hydroxyethyl)-2,2'-iminodiethylene)dinitrilo)tetraethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	vlt	KCl	?	0.10M	U		K1=13.35	1968VL a (90117)	504

C14H26N2O7 H2L (1567)
1,4,10-Trioxa-7,13-diazacyclpentadecane-N,N'-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	R4N.X	25°C	0.10M	M		K1=10.33	1986COb (90196)	505

C14H26N4O6 H3L DOTRA (6701)
1,4,7,10-Tetraazacyclododecane-1,4,7-triethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++ sp R4N.X 25°C 0.10M C K1=23.0 1993KCa (90252) 506
Medium: Me4NCl

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

Lu+++ gl R4N.X 25°C 0.25M C K1=6.55 1981BBe (90403) 507
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

Lu+++ gl R4N.X 25°C 0.10M C K1=6.01 1988CCc (90483) 508

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

Lu+++ gl non-aq 25°C 100% C K1=5.78 1989BPa (90528) 509
Medium: anhydrous propylene carbonate, 0.1 M Et4NClO4

C14H30O7 L CAS 1072-40-8 (2499)
2,5,8,11,14,17,20-Heptaoheneicosane; CH3.0.(CH2.CH2.0)6.CH3

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

Lu+++ gl non-aq 25°C 100% C K1=4.57 1989BPa (90700) 510
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

Lu+++ gl R4N.X 25°C 0.10M U K1=14.91 1996BJa (90767) 511
K(Lu+HL)=10.80
K(Lu+H2L)=6.83

Medium: 0.1 M Me4NCl

C14H34N4O6P2 H4L CAS 200952-02-9 (7644)
1,4,7,10-Tetraazacyclododecane-1,7-bis(methanephosphonic acid monoethyl ester);

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

Lu+++ gl KCl 25°C 0.10M C K1=9.88 1998BBra (90845) 512

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

Lu+++ gl alc/w 21°C 50% C K1=9.73 1986CMb (91228) 513
Other constants in 75%, 50% and 75% n-C3H7OH/H2O and i-C3H7OH/H2O

Lu+++ sp alc/w 21°C 50% U I K1=9.96 1981MCb (91229) 514
Medium: 50% MeOH, 0.1 M NaClO4. In 75% MeOH K1=11.28

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

Lu+++ gl alc/w 20°C 75% U T H K1=12.07 B2=21.29 1993RAa (92029) 515
Medium: 75% v/v MeOH/H2O; 0.10 M KNO3

Lu+++ gl mixed 30°C 0.10M U T H K1=13.25 B2=25.09 1988TRb (92030) 516
Medium: 0.1 M KNO3 in 75% v/v isopropanol/water

C15H20N2O6 H3L BEDTA CAS 65311-06-0 (2944)
N-Benzylldiaminoethane-N,N',N''-triethanoic acid;

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

Lu+++ gl KNO3 25°C 0.10M C K1=13.93 1978MPb (92154) 517

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

Lu+++ sp non-aq 25°C 100% M K1=8.1 B2=15.20 1997RPb (92286) 518
B3=22.9

Medium: acetonitrile.

C15H25N3O10 H5L (5127)
Diethylenetriamine-N,N,N'',N'''-tetraethanoic acid-N'-propanoic acid;

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

Lu+++ EMF KCl ? 0.10M U K1=16.28 1966VL a (92376) 519

Lu+++ vlt oth/un ? ? U K1=18.59 1966VL a (92377) 520

C15H25N3O10 H5L (6100)
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
-----
Lu+++      gl  KNO3   25°C 0.10M C          K1=19.34      1989SPa (92396) 521
                        K(Lu+HL)=13.09
*****
C15H26N4O9      H4L                      (7685)
Diethylenetriamine-N,N,N',N'',N''-pentaethanoic acid N'-methanamide;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Lu+++      gl  KCl    25°C 0.10M C          K1=20.2      2000SBb (92434) 522
*****
C15H26N4O9      H4L                      CAS 137076-43-8 (5085)
Diethylenetriamine-N,N,N',N'',N''-pentaethanoic acid N-methanamide;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Lu+++      gl  KCl    25°C 0.10M C          K1=19.1      2000SBb (92449) 523
*****
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
-----
Lu+++      kin oth/un 25°C 0.02M U          K1=5.71      1972GSe (92657) 524
*****
C16H11N3O10S2      H4L Chromotrope 2B CAS 548-80-1 (896)
2-((4-Nitrophenyl)azo)chromotropic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Lu+++      sp  oth/un 25°C    ?  U          K1eff=5.2    1967SAa (92864) 525
*****
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
-----
Lu+++      gl  oth/un 25°C 0.10M U          K1=8.11 B2=13.00 1985AAa (93098) 526
Data also for 12 other 4-substituted phenyl analogues
*****
C16H12N5O3      L                      CAS 77251-11-7 (5928)
1-Phenyl-3-methyl-4(2'-nitrophenylhydrazo)-5-pyrazolone;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Lu+++      gl  diox/w 30°C 75% M          K1=8.13      1987ESa (93132) 527

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C16H13N2O10AsS2 H5L Thorin I CAS 3688-92-4 (2609)
1-((2-Arsonophenyl)azo)-2-hydroxy-3,6-naphthalylidysulfonic acid;

Lu+++	gl	NaClO4	30°C	0.10M	U		1976Nda	(93200)	528
						K(Lu+H2L=LuH2L)=6.17			
						K(LuHL+H)=6.60			
						K(LuL+H)=8.54			
						K(LuL+OH)=3.26			

C16H13N2O11AsS2 H6L Arsenazo I CAS 520-10-5 (277)
2-(2'-Arsonophenylazo)chromotropic acid;

Lu+++ sp oth/un 20°C 0.10M U K(Lu+H2L)=8.42 1971SSd (93261) 530

C16H18N2O3 HL (5564)
2-(2-Acetylphenylhydrazone)-5,5-dimethyl-1,3-cyclohexa

Lu+++ gl diox/w 30°C 75% U K1=10.85 B2=19.70 1988ESb (93781) 531

C16H18N4O4 H2L CAS 161563-39-9 (8399)
1,3-Phenylenediamine bisazoacetylacetone;

Lu+++ gl diox/w 25°C 50% U K1=6.86 B2=12.66 1997MAb (93861) 532
Medium: 50% v/v dioxan/H2O, 0.10 M NaClO4. For the 1,4-phenylenediamine
derivative, K1=8.22, K2=7.35.

C16H18N4O4	H2L	CAS 161563-40-2	(8400)
1,3-Phenylenediamine	bisazobenzoylacetone;		

Lu+++ gl diox/w 25°C 50% U K1=5.95 B2=10.35 1997MAb (93868) 533
Medium: 50% v/v dioxan/H2O, 0.10 M NaClO4. For the 1,4-phenylenediamine
derivative, K1=6.40, K2=5.00.

C16H20N2O8 H4L CAS 6411-02-5 (1919)
1-Phenyl-ethylenediamine-N,N,N',N'-tetraethanoic acid (DL)

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Lu+++      vlt KNO3   20°C 0.10M U      K1=19.83      1969NDb (94042) 534
*****
C16H23NO8      HL                      (6776)
19-Nitro-3,6,9,12,15-pentaoxabicyclo[15.13.1]heneicosa-1(21),17,19-trien-21-ol;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Lu+++      gl  R4N.X   25°C 0.10M C      K1=2.74      1990CBe (94261) 535
*****
C16H23NO8      L                      CAS 53408-96-1 (1765)
2,3-(4'-Nitrobenzo)-1,4,7,10,13,16-hexaoxacyclooctadeca-2-ene;
4'-Nitrobenzo-18-crown-6
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Lu+++      ISE R4N.X   25°C 0.10M C      K1=3.60      1986XJa (94269) 536
*****
C16H26N2O10     H2L                      CAS 93031-54-0 (5831)
1,4,7,10-Tetraoxa-13,16-diazacyclooctadecane-11,18-dione-13,16-diethanoic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Lu+++      gl  R4N.X   25°C 0.10M C      K1=8.57      1988CCb (94572) 537
*****
C16H27N5O8      H3L                      (6621)
1,4,7-Tris(carboxymethyl)-1,4,7,10,13-pentaazacyclopentadecan-9,14-dione;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Lu+++      sp  KCl      25°C 0.08M U      K1=11.1      1994FCa (94672) 538
*****
C16H27N5O8      H3L                      (6915)
4,10,13-Tris(carboxymethyl)-1,4,7,10,13-pentaazacyclopentadeca-8,15-dione;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Lu+++      sp  KCl      25°C 0.08M U      K1=14.3      1994FCa (94687) 539
*****
C16H28N2O8      H4L                      (5167)
1,2-Diaminoethane-N,N'-diethanoic-N,N'-di-2-(3-methyl)butanoic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Lu+++      vlt KNO3   20°C 0.10M U      K1=15.77      1969NDc (94715) 540
By glass electrode: K1=15.50
*****
C16H28N2O8      H4L                      (5168)
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1,2-Diaminoethane-N,N'-diethanoic-N,N'-di-2-pentanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	vlt	KNO3	20°C	0.10M	U		K1=18.92	1969NDc (94741)	541

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
Lu+++	vlt	KNO3	20°C	0.10M	U		K1=20.75	1979MBd (94767)	542

C16H28N4O8 H4L DOTA CAS 60239-18-1 (1017)									
1,4,7,10-Tetraazacyclododecane-1,4,7,10-tetraethanoic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	NaCl	37°C	1.0M	C		K1=23.5	1994TBb (94913)	543
Method: Competitive reaction with Eu3+ ion.									

Lu+++	EMF	NaCl	20°C	1.00M	C		K1=29.2	1986LDb (94914)	544

C16H29N5O8 H3L (6505)									
Diethylenetriaminepentaethanoic acid N,N'-bismethylamide;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	NaClO4	25°C	0.10M	C	H	K1=17.06	1993RCa (95000)	545
DH(K1)=-19.1 kJ mol-1, DS(K1)=263 J K-1 mol-1									

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
Lu+++	gl	R4N.X	25°C	0.10M	U		K1=10.84	1983CRb (95046)	546

C16H30N4O12P2 H6L CAS 330623-46-6 (8581)									
1,5,8,12-Tetraaza-3,10-dihydroxy-3,10-dioxide-3,10-diphosphacyclotetradecane-1,5,8,12-tetraOAc;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	NaCl	25°C	0.16M	C		K1=11.71	2002SSa (95088)	547
							K(Lu+HL)=10.82		
							K(Lu+H2L)=7.52		

C16H35O2P	HL	CAS 13525-99-0	(2135)
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Di(2-ethylhexyl)phosphinic acid; (2-C₂H₅C₆H₁₂)₂P(O)OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Lu+++	kin	oth/un	25°C	0.02M	U			K1=5.22	1974GMc (95502)	548
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C17H13N4O3 HL (5927)
1-Phenyl-3-methyl-4-(2'-carboxyphenylhydrazo)-5-pyrazolone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Lu+++	gl	diox/w	30°C	75%	M			K1=16.54 B2=30.73	1987ESa (95769)	549
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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
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Lu+++	dis	alc/w	21°C	50%	U			K1=5.21 B2=11.01 B3=17.40	1990CKa (95891)	550
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Medium: 50% MeOH/H₂O, 0.1 M NaClO₄

Lu+++	gl	NaNO ₃	20°C	0.10M	U	M			1981GCa (95892)	551
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B(Lu+3L+2TBP)=25.10
B(Lu+3L+TBPOxide)=24.0
B(Lu+3L+4TBPOxide)=35.7

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
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Lu+++	gl	diox/w	30°C	75%	M			K1=8.70 B2=17.13	1987ESa (96010)	552
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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
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Lu+++	gl	alc/w	22°C	0.1M	U			K1=5.65 B2=10.15	2000TBb (96287)	553
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Medium: 0.1 M NaClO₄ in 70% v/v EtOH/H₂O

C17H23N4O4BrS H2L (1594)
2-(5-Bromo-2-pyridylazo)-5-(N-propyl-3-sulfopropylamino)phenol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Lu+++	sp	NaNO ₃	25°C	0.10M	C			K1=8.77 K(Lu+HL)=2.79	19880Ha (96422)	554
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 C17H29N3O10 H4L CAS 89378-46-1 (5528)
 (Bis(3-(bis(carboxymethyl)amino)propyl)methylammonio)ethanoate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	KNO3	25°C	0.10M	U		K1=9.83 K(Lu+HL)=6.43	1984TPa (96574)	555

 C17H32N4O7 H3L CAS 120041-08-9 (6702)
 10-Hydroxypropyl-1,4,7,10-tetraazacyclododecane-1,4,7-triethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	sp	R4N.X	25°C	0.10M	C		K1=23.3	1993KCa (96717)	556

Medium: Me4NCl

 C18H16N2O3 HL (5560)
 2-(2-Acetylphenylhydrazon)-1-phenyl-but-1,3-dione;
 C6H5.CO.C(CO.CH3):N.NH.C6H4.COCH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	diox/w	30°C	75%	U		K1=11.00 B2=20.60	1988ESb (97174)	557

 C18H18N4 L CAS 16858-01-8 (1528)
 Tris(2-pyridylmethyl)amine; (C5H4NCH2)3N

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	nmr	KCl	25°C	1.0M	C		K1=2.07	2004BRa (97265)	558

Method: 1H nmr measurements in D2O.

 C18H20N2O6 H4L CAS 10328-28-6 (3501)
 Ethylenedinitrilo-N,N'-bis(2'-hydroxyphenyl)-N,N'-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	KNO3	25°C	0.10M	C		K1=19.2 K(Lu+HL)=14.1 K(Lu+H2L)=9.3 *K(LuH2L)=-6.8 *K(LuHL)=-8.4	1992GVa (97404)	559

 C18H20N2O6 H4L CAS 10328-28-6 (429)
 N,N'-Ethylene-bis-(2-(2'-hydroxyphenyl))glycine; (HOOCH(C6H4OH)NHCH2.)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	EMF	KNO3	25°C	0.10M	C T H		K1=21.68	1985HWb (97435)	560

$$K(\text{LuL}+\text{H})=7.26$$

Method: Hg (and glass) electrode, using Hg(II) as competitive indicator ion. Data for 10-35 C. DH(K1)=-87.3 kJ mol⁻¹, DS(K1)=122 J K⁻¹ mol⁻¹.

C18H25N3O8 H4L BEATA CAS 87732-99-8 (5600)
N,N-Bis(2-aminoethyl)aniline-N',N',N'',N''-tetraethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++	gl	KNO3	25°C	0.10M	C		K1=14.74	1985TPa (97656)	561
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C18H26N6 L (6628)
3,6,14,17,23,24-Hexaazatricyclo[17.3.1.1]tetracos-1(23),8,10,12(24),19,21-hexaene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++	gl	KCl	25°C	0.10M	M		K1=7.8	1996MBb (97717)	562
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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
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Lu+++	gl	non-aq	25°C	100%	U		K1=2.80	1982MDa (97808)	563
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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
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Lu+++	gl	R4N.X	25°C	0.10M	C		K1=8.93	1988CCb (97912)	564
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C18H30N4O12 H6L TTHA CAS 869-52-3 (694)
Triethylenetetraaminehexaethanoic acid;((HOOC.CH2)2N.CH2.CH2.N(CH2.COOH).CH2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++	EMF	KNO3	25°C	0.10M	C T H		K1=23.91	1987HCa (98066)	565
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$$K(\text{LuL}+\text{H})=5.12$$

$$K(\text{LuHL}+\text{H})=2.26$$

Method: Hg electrode; competitive reaction with Hg(II).

Data for 15-35 C. At 25 C, DH(K1)=126 kJ mol⁻¹, DS(K1)=879 J K⁻¹ mol⁻¹.

Lu+++	vlt	R4N.X	30°C	0.01M	C		K1=19.40	1981GMh (98067)	566
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Method: polarography, using Cd as indicator ion. Medium: 0.01 M Et4NBr.

C18H32N4O8 H4L TETA CAS 60239-22-7 (1019)
1,4,8,11-Tetraazacyclotetradecane-1,4,8,11-tetraethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	NaNO3	25°C	0.20M	C T H		K1=15.31	1991KKa (98213)	567
At 15 C K1=15.20;at 35 C K1=15.40. DH=17.1 kJ mol-1, DS=351.2 J K-1 mol-1									

C18H34N2O8		H2L					CAS 68670-15-5	(5851)	
1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-di-(3-propanoic acid);									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	R4N.X	25°C	0.10M	C		K1=6	1988CCc (98340)	568

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
Lu+++	gl	NaCl	25°C	0.10M	C I		K1=18.8	1996TKa (98381)	569
In 0.1 M Me4NCl K=20.9									

C18H39N3O3		L					CAS 490025-64-4	(8902)	
1,3,5-Tris(butylamino)-1,3,5-trideoxy-cis-inositol;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	KCl	25°C	0.1M	C			2002DGc (98880)	570
							B(Lu3H-6L3)=-17.6		

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
Lu+++	gl	R4N.X	25°C	0.10M	U		K1=6.64	1996BJa (98895)	571
Medium: 0.1 M Me4NCl									

C20H18N4O2		HL					(5917)		
Pyruvic monohydrazone-3-hydrazino-4-benzyl-6-phenylpyridazine;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	diox/w	30°C	75%	U			1985RSb (99836)	572
							K(Lu+HL)=5.39		
							K(Lu+2HL)=10.69		

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
Lu+++	gl	KNO3	20°C	0.10M	U		K1=20.70 K(LuL+H)=4.86 K(LuHL+H)=4.43	1985SNb (100009)	573

Lu+++	gl	KNO3	25°C	0.10M	U		K1=20.38 K(Lu+H2L)=7.06	1967LMd (100010)	574
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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
Lu+++	gl	NaNO3	25°C	0.20M	C T H		K1=16.71	1991KKa (100542)	575

At 15 C K1=16.67;at 35 C K1=16.74. DH=5.85 kJ mol⁻¹, DS=355.5 J K⁻¹ mol⁻¹

C20H35N5O10 H3L (6623)

1,4,7-Tris(carboxymethyl)-13,16-dioxa-1,4,7,10,19-pentaazacycloheicosa-9,20-dione

;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	sp	KCl	25°C	0.08M	U		K1=17.0	1994FCa (100560)	576

C20H37N5O10 H3L MEA CAS 129009-83-2 (7322)

N,N'-Bis(2-methoxyethylcarbamoylmethyl)diethylenetriamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	gl	NaClO4	25°C	0.10M	C H		K1=18.00	1997ICa (100736)	577

DH(K1)=-21.1 kJ mol⁻¹, DS=274

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
Lu+++	kin oth/un		25°C	0.02M	U		K1=4.86	1974GMc (100909)	578

C21H17N5 L (7365)

2,6-Bis(1-methylbenzimidazol-2-yl)pyridine

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Lu+++	sp	non-aq	20°C	100%	U		K1=9.0 B2=15.40 K3=4.9	1997PBa (101090)	579

Medium: CH3CN

C22H14O9 H5L CAS 4431-00-9 (3513)

Aurintricarboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	sp	oth/un	25°C	?	U			K(Lu+HL)=5.3(?)	1967SAa (101503)	580

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
Lu+++	sp	oth/un	?	?	U			K1=16.72	1971SSi (101548)	581

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
Lu+++	sp	NaCl04	25°C	0.10M	U			K(Lu+H5L)=7.21	1975NMa (101635)	582

Lu+++	sp	oth/un	20°C	?	U			K(Lu+H4L)=15.05	1972SSi (101636)	583
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C22H20O13 H5L Carminic acid CAS 1260-17-9 (714)
Carminic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	sp	oth/un	?	0.10M	U			K(LuOH+2H3L)=19.29	1970PLc (101704)	584

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
Lu+++	EMF	KN03	25°C	0.10M	C T H			K1=11.92 K(LuL+H)=3.42	1990HLA (101900)	585

Method: Competitive reaction with Hg++, using Hg indicator electrode.

Data for 15-35 C. DH(K1)=-43.8 kJ mol⁻¹, DS(K1)=81.1 J K⁻¹ mol⁻¹.

C22H26N4O10 H4L BAPTA (7230)
1,2-Bis(o-aminophenoxy)ethane-N,N,N',N'-tetraethanoic acid;
(HOOCCCH2)2NCH(OC6H4NH2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Lu+++ gl R4N.X 25°C 0.10M C K1=10.42 1993YTa (101980) 586

C22H35N3O4 L (7928)
4-(t-Butoxycarbonylethyl)-2,6-bis(diethylcarbamoylethyl)pyridine;

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

Lu+++ sp non-aq 25°C 100% C K1=8.7 B2=15.30 2001MSa (102248) 587
B3=20.3

Medium: acetonitrile, 0.10 M Et4NClO4

C22H37N5O14 H7L CAS 3234-59-1 (2425)

Tetraethylenepentamineheptaethanoic acid;

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

Lu+++ vlt R4N.X 30°C 0.01M C K1=19.15 1981GMh (102335) 588

Method: polarography, using Cd as indicator ion. Medium: 0.01 M Et4NBr.

Lu+++ gl KNO3 25°C 0.10M U K1=19.14 1968MIc (102336) 589
K(Lu+HL)=13.26
B(LuH-1L)=5.11

C22H41N5O10 H3L MMEA CAS 192631-00-8 (7323)

N,N'-Bis(methyl-2-methoxyethylcarbamoylethyl)diethylenetriamine;

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

Lu+++ gl NaClO4 25°C 0.10M C H K1=19.28 1997ICa (102394) 590
DH(K1)=-29.5 kJ mol⁻¹, DS=241

C23H16O9Cl2S H4L Chrome azuro1 S CAS 1667-99-8 (711)

Chromazuro1 S;

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

Lu+++ sp oth/un 25°C ? U 1967SPf (102564) 591
K(?)=10.4

C23H18N2O3 HL (5561)

2-(2-Acetylphenylhydrazono)-1,3-diphenyl-prop-1,3-dione;

C6H5.CO.C(CO.C6H5):N.NH.C6H4.COCH3

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

Lu+++ gl diox/w 30°C 75% U K1=11.02 B2=19.35 1988ESb (102597) 592

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
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Lu+++	sp	oth/un	25°C	?	U		B2=9.2	1968MDc (102632)	593
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C24H18N4O18As2S2	10L						CAS 2604-69-5	(4164)	
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2,7-Bis(2'-arsono-5'-carboxyphenylazo)chromotropic acid;

H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++	sp	KN03	20°C	0.20M	U			1965BMd (102876)	594
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B(LuH12L2)=96.8

C24H38N4O6	L						CAS 380488-78-8	(7921)	
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3-[2,6-Bis(diethylcarbamoyl)pyridine-4-yl)-N-(tert-butoxycarbonyl)alanine methyl ester;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++	sp	non-aq	25°C	100%	C		K1=8.7 B2=15.20	2001MSa (103317)	595
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B3=20.5

Medium: acetonitrile, 0.10 M Et4NClO4

C24H42N6O12	H6L						(6546)		
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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
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Lu+++	gl	NaNO3	25°C	0.20M	C T H		K1=24.26	1991KKa (103380)	596
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K(Lu+H2L)=17.03

Also 15 C and 35 C. DH(K1)=-1.25 kJ mol⁻¹, DS(K1)=460.0 J K⁻¹ mol⁻¹

C24H45N5O12	H3L	HEMEA					CAS 185214-83-9	(7324)	
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N,N'-Bis(2-hydroxyethyl-2-methoxyethylcarbamoylmethyl)diethylenetriamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++	gl	NaClO4	25°C	0.10M	C H		K1=17.75	1997ICa (103445)	597
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DH(K1)=-29.5 kJ mol⁻¹, DS=241

C24H51OP	L						CAS 78-50-2	(4162)	
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Trioctylphosphine oxide; (C8H17)3P:O

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Lu+++	dis	non-aq	25°C	100%	U			1990MMd (103542)	598
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K(LuA3+L)=6.69

K(LuA3L+2L)=8.84

Medium: benzene. HA=1-phenyl-3-methyl-4-benzoyl-5-pyrazolone.

C26H23N5O2 HL (5918)
Hippuric monohydrazone-3-hydrazino-4-benzyl-6-phenylpyridazine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	gl	diox/w	30°C	75%	U			K1=11.76 B2=22.29	1985RSb (103883)	599

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
Lu+++	gl	R4N.X	25°C	0.10M	C			K1=14.69	1993YTa (103966)	600

C26H32N4O14 H4L CAS 372109-77-8 (8980)
9,20-Dihydroxy-10,21-dioxo-23,24-dioxa-3,6,14,17-tetraazatricyclotetracosatetraen
etraethanoic:

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	gl	NaCl	25°C	0.16M	M			K1=16.5 K(LuL+H)=9.6 K(LuHL+H)=9.4 K(Lu+H2L)=8.26 K(Lu+H3L)=6.1	2001SKe (104049)	601

K(Gd+HL)=12.1.

C26H34N6O8 H4L CAS 132709-65-0 (8941)
3,6,14,17,23,24-Hexaazatricyclotetracos-1,8,10,12,19,21-hexaene-3,6,14,17-tetraace
tic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	sp	KCl	25°C	0.10M	C			K1=21.7	1996MBb (104096)	602

Method: competitive titration with arsenazo-III.

C26H38N6 L CAS 180684-75-7 (7295)
1,8,14,17,24,31-Hexaazatricyclo[25.3.1.1.0.0]dotriaconta-10,12,14,26,28,

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	gl	KNO3	25°C	0.20M	C			K1=6.0	1996FJa (104207)	603

C27H24N4O L BAHP (1023)
Benzoylacetone-monohydrazone-3-hydrazino-4-benzyl-6-phenylpyridazine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	gl	diox/w	30°C	75%	U			K1=8.84	1983RSa (104387)	604

C27H27N5O2 L CAS 502691-12-5 (8900)
2,6-Bis[(1-methylbenzimidazol-2-yl)]pyridine-4-carboxylate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	sp	non-aq	25°C	100%	C			K1=8.0 B2=14.40 K3=2.9	2002MRc (104423)	605

Medium: acetonitrile, 0.10 M Et4NClO4. By 1H nmr, K1=7.9, K2=6.5, K3=3.1.

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
Lu+++	gl	non-aq	25°C	100%	U			K1=2.51	1980MDb (104844)	606

Medium: Propylene carbonate.

Medium: propylene carbonate

C28H40O10 L DiBz-30-crown10 CAS 104946-67-0 (1776)
2,3:17,18-Dibenzo-1,4,7,10,13,16,19,22,25,28-decaoxacyclotriaconta-2,17-diene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	ISE	non-aq	25°C	100%	U			K1=4.80	1982MDa (104894)	607

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
Lu+++	gl	diox/w	30°C	75%	U	I		K1=10.01	1983RRa (105406)	608

In 75% MeOH: K1=7.74; 75% DMF: 6.64

C31H32N2O13S H6L Xylenol orange CAS 63721-85-5 (432)
5,5'-Bis-N,N-bis(carboxymethyl)aminomethyl-4'-hydroxy-3,3'-dimethylfuchsone-2"-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Lu+++	sp	NaCl	20°C	0.20M	U			K(Lu+H2L)=9.94	1967KUc (105479)	609

Lu+++	sp	NaClO4	20°C	0.20M	U			K(Lu+HL)=14.09	1966KSd (105480)	610
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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

$$K(\text{LuH}_2\text{L}+\text{H})=4.00$$

Also data for LuHnL(OH) species

C45H66N10O6 L CAS 362613-35-2 (7912)

Tris[3-(6-diethylcarbamoylpyridine-2-carboxamide)propyl]amine;

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

Lu+++ sp non-aq 25°C 100% C I K1=6.5 2001RDa (107232) 617

$$K(\text{Lu}+\text{HL})=6.8$$

Medium: CH3CN. In 95% v/v CH3CN/H2O, K1=5.6, K(Lu+HL)=5.6.

C52H69N07 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

Lu+++ sp non-aq 25°C 100% C K1=4.82 2002BBc (107515) 618

Method: uv/vis spectroscopy. Medium: DMSO. Also data for the 25-methoxy-ethyl(carbamoylmethoxy)- and 25-di-(n-hexyl-carbamoyl)methoxy- derivatives

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EXPLANATORY NOTES

DATA Flags are :-

T Data at other TEMPERATURES
 I Data with various BACKGROUNDS
 H Data for THERMOCHEMICAL quantities
 M Data for TERNARY Complexes

EVALUATION Flags are :-

T or IUP=T signifies EVALUATION RATING = Tentative by IUPAC

END