

SC-Database

Software version = 5.81 Data version = 4.62

Experiment list contains 1122 experiments for

(no ligands specified)

2 metals : Eu++, Eu+++

(no references specified)

(no experimental details specified)

S04-- H2L Sulfate CAS 7664-93-9 (15)

Sulfate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu++	sol	oth/un	20°C	0.0	U				1965SSh (16158)	1
								Kso=-8.33		

Eu++	EMF	KCl	24°C	1.0M	U	T			1964KSf (16159)	2
								Kso=-6.6		
								Kso=-6.3(45 C), -6.2(54 C). At I=0 corr.: Kso=-8.8(25 C), -8.3(48 C), -8.0(69C)		

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
Eu++	gl	KCl	25°C	0.1M	U			K1=4.14	1976BGa (32233)	3
								K(EuL+L)=2.40		

Eu++	gl	NaClO4	25°C	0.50M	U			K1=4.93 B2=7.51	1973CTa (32234)	4
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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
Eu++	gl	NaClO4	15°C	0.10M	U			K1=5.25 B2=7.22	1983JLa (37950)	5

C6H9NO6 H3L NTA CAS 139-13-9 (191)

Nitrilotriethanoic acid; N(CH2.COOH)3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu++	gl	NaClO4	25°C	0.50M	U	T		K1=5.85 B2=8.62	1973CTa (46784)	6
								B(EuHL)=12.95		

C6H10O7 HL Galacturonic CAS 685-73-4 (290)

D-Galacturonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu++      gl  NaClO4  25°C  1.00M  C          K1=1.81          1977Mca (48387)  7
*****
C6H11NO5          H2L      HIMDA          CAS 93-62-9  (192)
N-(2-Hydroxyethyl)iminodiethanoic acid; HO.CH2.CH2.N(CH2.COOH)2
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values          Reference ExptNo
-----
Eu++      gl  KCl      25°C   0.1M  U          K1=4.30          1976BGa (48719)  8
                        K(EuL+L)=2.75
*****
C6H12N2O4          H2L      EDDA          CAS 5657-17-0  (119)
1,2-Diaminoethane-N,N'-diethanoic acid; HOOC.CH2.NH.CH2.CH2.NH.CH2.COOH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values          Reference ExptNo
-----
Eu++      gl  KCl      25°C   0.1M  U          K1=3.90          1976BGa (49235)  9
                        K(Eu+HL)=2.10
                        K(EuL+L)=3.41
*****
C8H9N3O7          H2L      Uramildiacetic CAS 13055-06-5  (185)
5-Amino-2,4,6-trioxo-1,3-perhydrodiazimino-N,N-diethanoic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values          Reference ExptNo
-----
Eu++      EMF R4N.X  20°C   0.10M  U          K1=11.56  B2=22.18  1972GLb (60630)  10
Medium: N(CH3)4Br
*****
C8H12N2O8          H4L          CAS 35039-85-1  (4537)
1,2-Diaminoethane-N,N'-dimalonic acid; (HOOC)2.CH.NH.CH2.CH2.NH.CH(COOH)2
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values          Reference ExptNo
-----
Eu++      vlt KNO3    25°C   0.10M  U          K1=4.52          1974G0d (61502)  11
                        K(Eu+HL)=2.45
                        K(Eu+H2L)=1.20
*****
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
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values          Reference ExptNo
-----
Eu++      vlt KNO3    25°C   0.10M  U          K1=4.20          1974G0d (73126)  12
                        K(Eu+HL)=2.23
                        K(Eu+H2L)=1.15
*****
C10H16N2O8         H4L      EDTA          CAS 60-00-4  (120)
1,2-Diaminoethane-N,N,N',N'-tetraethanoic acid, Sequestric acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values          Reference ExptNo
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Eu++	gl	oth/un	25°C	0.10M	U		K1=10.18	1969BBd (73723)	13
Eu++	vlt	oth/un	?	1.0M	U		K1=9.1 K(Eu+HL)=3.90 K(Eu+H2L)=1.60	1969TKd (73724)	14

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
Eu++	gl	KCl	25°C	0.1M	U		K1=10.20 K(Eu+HL)=5.96	1976NGc (75371)	15

C11H13NO6		H4L					CAS 1911-59-2	(4852)	
2,3-Dihydroxybenzyliminodiethanoic acid; (HO)2.C6H3.CH2.N(CH2.COOH)2									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu++	gl	KCl	25°C	0.10M	U		K(Eu+HL)=4.52	1972GLb (78660)	16

C11H13NO6		H4L					CAS 59036-09-8	(2111)	
2,5-Dihydroxybenzyliminodiethanoic acid; (HO)2.C6H3.CH2.N(CH2.COOH)2									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu++	gl	KCl	25°C	0.10M	U		K(Eu+HL)=5.17	1972GLb (78675)	17

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
Eu++	vlt	KNO3	25°C	0.10M	U		K1=2.50 K(Eu+HL)=1.45 K(Eu+H2L)=0.90	1974G0d (82067)	18

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
Eu++	dis	alc/w			U		K1=4.72	1993MKa (83351)	19
Medium: 10 mol/l H2O in EtOH; for 100% H2O K1=2.70 ionic strength ~0.003 M, temp. is not indicated									
Eu++	sol	oth/un	25°C	0.08M	U		K1=2.53	1989KMa (83352)	20

In 10 M H2O in EtOH: K1=4.72

Eu++ vlt R4N.X 25°C 0.10M C K1=2.7 1984SSg (83353) 21
Method: radiopolarography. Medium: 0.10 M Me4NI.

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

Eu++ vlt oth/un ? 1.0M U K1=10.69 1973TKc (88632) 22

Eu++ EMF KNO3 25°C 0.10M U T H K1=18.77 1962MHa (88633) 23
DH(K1)=23.0 kJ mol⁻¹, DS=435 J K⁻¹ mol⁻¹. At 20 C: K(EuL+H)=2.17

Eu++ vlt oth/un 20°C ? U K1=10.2 1955EHa (88634) 24
K(Eu+HL)=3.1

C14H23N3O10 H5L DTPA CAS 67-43-6 (238)
Diethylenetriamine-pentaethanoic acid; HOOC.CH2.N(CH2.CH2.N(CH2.COOH)2)2

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

Eu++ gl KCl 25°C 0.1M U K1=13.01 1976NGc (89217) 25
K(Eu+HL)=8.44

Eu++ vlt oth/un ? 0.10M U K1=10.2 1973TKd (89218) 26
K(Eu+H3L)=1.64
K(Eu+H4L)=0.22

C14H25N3O9 H4L (8077)
N''-(2-Hydroxyethyl)-diethylenetriamine-N,N, N',N''-tetraethanoic acid;

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

Eu++ gl KCl 25°C 0.1M U K(Eu+HL)=6.37 1976NGc (90126) 27

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

Eu++ gl R4N.X 25°C 0.10M C K1=9.85 2000BTb (95035) 28
K(EuL+H)=4.97

Medium: 0.10 M (CH3)4NCl

C16H32N2O5 L Cryptand 2,2,1 CAS 31364-42-8 (837)
1,10-Diaza-4,7,13,16,21-pentaoxabicyclo[8,8,5]tricosane (2,2,1);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu++	EMF	non-aq	25°C	100%	C	H	K1=5.80	1995CDb (95201)	29
Medium: DMSO, 0.1 M Et4NClO4. DH=-50.2 kJ mol-1, DS=-57 J K-1 mol-1.									

C18H15B		L					CAS 960-71-4	(2107)	
Triphenylboron; B(C6H5)3									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu++	sol	alc/w	25°C	18%	U		K1=0.23 B2=1.72	1988MKc (96975)	30

C18H30N2O12		H4L					(7125)		
1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-bis(malonic acid);									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu++	gl	R4N.X	25°C	0.10M	C		K1=13.07	2000BTb (97927)	31
							K(EuL+H)=4.42		
Medium: 0.10 M (CH3)4NCl									

C18H36N2O6		L				Cryptand 2,2,2	CAS 23978-09-8	(514)	
1,10-Diaza-4,7,13,16,21,24-hexaoxabicyclo[8.8.8]hexacosane;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu++	EMF	non-aq	25°C	100%	C	H	K1=5.33	1995CDb (98567)	32
Medium: DMSO, 0.1 M Et4NClO4. DH=-36.0 kJ mol-1, DS=-19 J K-1 mol-1.									

e-		HL				Electron	(442)		
Electron;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	oth	none	25°C	0.0	U			1974JOb (459)	33
							K(Eu+3e+Eu(s))=-101.4(-2.00V)		
							K(Eu+e=Eu(II))=-6(-0.35V)		
Method: Literature evaluated data									

Eu+++	EMF	oth/un	25°C	dil	U			1973MHb (460)	34
							K(Eu+e=Eu++)=-5.9(-350mV)		

Eu+++	EMF	R4N.X	25°C	1.00M	U	I		1969BTa (461)	35
							K(Eu+e=Eu++)=-6.44(-381mV)		
Medium: Me4NCl. In 1 M LiClO4, K(Eu + e=Eu(II))=-6.41(-379mV)									

Eu+++	kin	NaClO4	25°C	2.00M	U			1966ASa (462)	36
							K'=0.1		
K': Eu + Cr++ =Eu++ + Cr+++. K(Eu + Cr++ + Cl=Eu++ + CrCl++)=-0.36									

Eu+++ EMF none 25°C 0.0 M 1965MAc (463) 37
K(Eu+e=Eu++)=-5.9, -350 mV

Eu+++ EMF none 25°C 0.0 M 1963AMa (465) 39
K(Eu+e=Eu++)=-9.3, -550 mV

Eu+++ oth none 25°C 0.0 U 1952Lab (467) 41
K(Eu+3e)=-122.0(-2410 mV)

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

Br- Bromide;	HL	Bromide	CAS 10035-10-6	(19)
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Eu+++      dis NaClO4 25°C  1.0M U      K1=-0.2  B2=-0.7  1963Cub  (1922)  45
Medium: HClO4
*****
BrO3-      HL      Bromate      (6017)
Bromate;
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Eu+++ dis NaClO4 20°C 0.10M U T H K1=0.62 1972RCa (2411) 47
DH(K1)=-13.4 kJ mol⁻¹. K1=0.77(2 C), 0.76(10 C), 0.56(30 C), 0.48(40 C).

C03-- H2L Carbonate CAS 465-79-6 (268)
Carbonate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	NaCl04	25°C	0.70M	C			K1=5.85 K(Eu+HCO3=EuHCO3)=1.42	2004LBb (3205)	48
Medium: 0.70 m NaCl04. Calculated for I=0, K1=7.48, B2=12.63, K(Eu+HCO3=EuHCO3)=2.47, K(Eu+HL=EuL+H)=-2.85, K(Eu+2HL=EuL2+2H)=-8.03										
Eu+++	dis	NaCl04	25°C	0.70M	C	I		K1=5.75 B2=10.11	1998LBb (3206)	49
Method: H2O/tributylphosphate distribution and ICP-mass spectrometry Values calculated for I=0.0 M, K1=7.73, B2=13.19										
Eu+++	dis	NaCl04	25°C	0.70M	C			K1=5.81 B2=10.14 K(Eu+HL)=1.84	1993LBa (3207)	50
Eu+++	dis	NaCl04	25°C	0.10M	C			K1=6.92 B2=10.42 K(Eu+HCO3)=4.77 K(Eu+2HCO3)=6.74	1988RCb (3208)	51
Solvent extraction of 152Eu into CHCl3 using 1,10-phenanthroline or 1-nitroso-2-naphthol, pH 8-9 (Tris buffer).										
Eu+++	sp	oth/un	25°C	0.10M	C			B2=10.1	1988TBa (3209)	52
Eu+++	dis	NaCl04	25°C	0.68M	C	T		K1=5.85 B2=10.03 K(Eu+HL)=1.15	1987CBb (3210)	53
At 15 C: K1=5.79, B2=9.95, K(Eu+HL=EuHL)=1.04; and at 35 C: K1=5.86, B2=10.04 and K(Eu+HL=EuHL)=1.48.										
Eu+++	dis	NaCl04	25°C	0.68M	C			K1=5.86 B2=10.10	1987CBc (3211)	54
Method: distribution of 152Eu between 0.68 m NaCl04/NaHCO3 and tributyl phosphate. Conditional constants in terms of total carbonate, [C03]tot.										
Eu+++	sol	none	25°C	0.0	C				1986FMa (3212)	55
Kso(Eu2(C03)3)=-35.03										
Eu+++	sol	none	25°C	0.0	C				1986HMa (3213)	56
Kso(Eu2(C03)3)=-35.03										
Method: spectrophotometry.										
Eu+++	dis	NaCl04	25°C	1.00M	U			K1=5.93 B2=10.72	1982LUb (3214)	57
Eu+++	dis	oth/un	20°C	2.5M	C				1979DBb (3215)	58
B4=14.33 Media: 2.5 M (NH4)2N03/hexane. Analysis by NAA. By competition with edta; K1(Eu(edta))=17.22 recalculated for I=2.5 from J.Am.Chem.Soc.,75 1953,4196										
Eu+++	sol	none	25°C	0.0	U			K1=7.11 B2=10.56	1978RMb (3216)	59

Eu+++ ix oth/un 25°C var U I 1964SMc (3217) 60

K3=1.94

Medium: K2CO3. In KHC03: K3K4=4.55, K5=1.24, K6K7=2.00

C6N6Fe--- H3L Ferricyanide (2491)

Hexacyanoferrate (III); Fe(III)(CN)6---

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

Eu+++ cal none 25°C 0.00 M K1=3.65 1972SCd (3644) 61

DH(K1)=4.1 kJ mol⁻¹, DS=83.7 J K⁻¹ mol⁻¹

Eu+++ sol none 25°C 0.0 U K1=3.96 1963LMb (3645) 62

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

Chloride;

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

Eu+++ dis oth/un 30°C 0.2M C I K1=2.1 2002JSa (4807) 63

Extraction of Eu with dinonyl naphthalene sulfonic acid from 0.2 M HClO4 into n-heptane. In 1.0 M HClO4, K1=0.84, in 0.5 M HClO4, K1=1.45.

Eu+++ dis NaClO4 25°C 1.0M C I K1=-0.17 1998SKa (4808) 64

Medium: 1.0 M NaClO4/HClO4. Extraction of trace conc. of 152Eu into toluene/bis(2-ethylhexyl)phosphoric ac. Data for 0-0.28 mole fraction DMSO.

Eu+++ dis NaCl 25°C 1.0M C K1=-0.34 1997HTb (4809) 65

Method: by solvent extraction from 1.0 M NaCl into CHCl3, 0.1 M 1,1,1-trifluoro-4-(2-thienyl)-2,4-pentanedione.

Eu+++ dis NaClO4 25°C 1.0M C I 1997SNc (4810) 66

Kout(Eu+Cl)=-0.174

Method: extraction of 152,154Eu into toluene/bis(2-hexyl)phosphoric acid from 1.0 M NaClO4 solution. Data for 0-0.40 mole fraction MeOH in H2O.

Eu+++ cal non-aq 25°C 100% U H K1=3.15 B2=5.20 1991ITa (4811) 67

K3=1.66

K4=1.03

Medium: DMF, 0.2 M Et4NClO4. DH(K1)=13.1 kJ mol⁻¹, DH(K2)=19.5, DH(K3)=13 DH(K4)=55. DS(K1)=104, DS(K2)=104, DS(K3)=74 J K⁻¹ mol⁻¹

Eu+++ oth NaClO4 22°C 5.00M U K1=0.886 1983BHb (4812) 68

Determined by luminescence excitation spectroscopy

Eu+++ dis NaClO4 20°C 3.00M U K1=0.52 B2=0.22 1982FKb (4813) 69

Eu+++ sol NaClO4 25°C ? U K1=0.34 1982MAa (4814) 70

Eu+++ cal non-aq 25°C 100% U K1=1.91 B2=3.61 1980VCa (4815) 71
Medium: diemthylacetamide

Eu+++ dis NaClO4 25°C 1.00M U T H K1=0.07 1975MHa (4816) 72
DH=-10.5 kJ mol⁻¹ and DS=-52.3 J mol⁻¹ K⁻¹.

Eu+++ sp alc/w 25°C 50% U I K1=0.55 1971KBf (4817) 73
Klin=-0.68
Medium: 50% w/w MeOH/H2O, 3 M LiClO4. K1=0.04(0%)

Eu+++ sp alc/w 25°C 50% U I K1=0.53 1971KBg (4818) 74
Klin=-0.51
Medium: 50% v/v EtOH/H2O. K1=0.98, Klin=0.02(90%)

Eu+++ dis NaClO4 30°C 1.0M U K1=0.01 B2=-0.37 1971KNb (4819) 75
Data also in HClO4, LiClO4, and NH4ClO4

Eu+++ ix NaClO4 25°C 4.0M U K1=-0.06 B2=-0.48 1967SSc (4820) 76
B3=-1.7
Method:cation exchange. In 4 M HClO4: K1=-0.27, B2=-0.90, B3=-2.0

Eu+++ ix NaClO4 26°C 1.0M U K1=0.13 1964BPb (4821) 77
In 1 M HClO4: K1=-0.10, B2=0.82

Eu+++ dis NaClO4 20°C 1.0M U K1=-0.01 1964IKa (4822) 78
Medium: HClO4. By cation exchange:K1=-0.03 (or K1=0.2, B2=-0.6

Eu+++ dis NaClO4 25°C 4.0M U K1=-0.15 B2=-0.72 1964SEa (4823) 79

Eu+++ dis NaClO4 25°C 1.0M U H K1=-0.1 B2=-0.7 1963CUB (4824) 80
DH(K1)=-0.2 kJ mol⁻¹, DS=13 J K⁻¹ mol⁻¹ ('unitary functions')

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

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

Eu+++ cal NaClO4 25°C 0.1M U H 1977CEa (6033) 81
DH(K1)=-6.3

Eu+++ dis NaClO4 20°C 0.10M U T H K1=0.08 1972RCa (6034) 82
DH(K1)=-21 kJ mol⁻¹; K1=0.32(2 C), 0.11(10 C), -0.05(30 C), -0.30(40 C)

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

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

Eu+++ ix oth/un 25°C 0.02M C T H K1=3.72 B2= 6.11 2004LMa (6846) 83
Medium: 0.025 M HNO3. Applying Pitzer parameters: at I=0, K1=9.86.

Data for 5 to 45 C. DH(K1)=8.2 kJ mol⁻¹, DH(B2)=18.6.

Eu+++ ISE NaClO4 25°C 0.0 C I K1=4.27 2000LBa (6847) 84
 Method: Fluoride ISE. Values calc. from data for I=0.015-0.70 M NaClO4.
 At I=0.70 M, K1=3.352.

Eu+++ ix KNO3 25°C 0.02M C K1=3.70 B2= 6.21 1999SBc (6848) 85
 Medium: 0.025 M HNO3. Additional method: ICP-MS.
 Assumed K1(HF) = 3.03, derived from literature values.

Eu+++ dis NaClO4 25°C 0.68M U K1=3.23 B2=5.32 1993LBb (6849) 86

Eu+++ ISE none 25°C 0.0 C H K1=3.07 B2=6.28 1989MJa (6850) 87
 Kso=-13.1

Also by conductivity and radiometry. DH(Kso)=39.8 kJ mol⁻¹; DS=-157.0.

Eu+++ ISE R4N.X 25°C 0.50M C K1=3.07 B2=6.28 1989MJb (6851) 88

Eu+++ cal NaClO4 25°C 1.00M C H 1988GBa (6852) 89
 DH(K1)=9.61 kJ mol⁻¹; DS(K1)= 94.8 J mol⁻¹ K-1

Eu+++ ISE NaClO4 25°C 1.0M C H K1=3.27 B2= 5.90 1987BGd (6853) 90
 Method: F ion selective electrode. By calorimetry: DH(K1)=9.61 kJ mol⁻¹.

Eu+++ dis NaCl 25°C 1.00M U 1982BKa (6854) 91
 B(EuF(OH)2)=16.70

Eu+++ gl KCl 25°C 1.00M U M 1981KTb (6855) 92
 K(EuEDTA+F)=1.73
 K(Eu(EDTA)F+F)=0.48

Eu+++ sol none 25°C 0.0 C H 1981MEb (6856) 93
 Kso(EuF3)=-15.22

Method: radiometric measurements using 154Eu. Data for 25-45 C. DH(Kso)=
 39.8 kJ mol⁻¹, DS=-157. Kso=-13.1(conductivity); -12.70 (potentiometry).

Eu+++ dis NaCl 25°C 1.00M U K1=3.08 B2=5.52 1980BKa (6857) 94

Eu+++ ISE NaClO4 25°C 0.50M U M 1980YGa (6858) 95
 K(Eu(Crypt.2,2,2)+F)=4.48
 K(Eu(Ctypt.2,2,2)+2F)=6.84

Eu+++ ISE NaClO4 25°C 0.50M U M 1980YGa (6859) 96
 K(Eu(Crypt.2,2,1)+F)=4.30
 K(Eu(Crypt.2,2,1)+2F)=6.48

Eu+++ dis NaClO4 25°C 1.00M U T H K1=3.13 1975MHa (6860) 97
 DH=-17.2 kJ mol⁻¹ and DS=2.1 J mol⁻¹ K-1.

Eu+++ oth NaClO4 25°C 0.10M U K1=3.35 1973MSg (6861) 98

method:electromigration or transference number

Eu+++ ISE NaCl04 25°C 0.50M U K1=3.40 1969ALa (6862) 99

Eu+++ ISE oth/un 25°C 0.03M U 1968LIa (6863) 100
Kso(EuF3(s))=-16.7

Eu+++ EMF NaCl04 25°C 1.0M U H K1=3.19 1967WCa (6864) 101
By distribution: K1=3.20. By calorimetry: DH(K1)=38.5 kJ mol⁻¹, DS=189.8

Eu+++ dis NaCl04 25°C 0.50M U K1=3.39 B2=6.48 1966LNb (6865) 102

GeW11039----- H8L CAS 37369-86-1 (2466)
alpha-Heteromonogermanium-polytungstate;

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

Eu+++ sp NaCl04 25°C 1.0M C K1=6.5 B2=11.10 2003VCa (7468) 103
Method: laser-induced fluorescence.

H2PO2- HL Hypophosphite CAS 6303-21-5 (6304)
Hypophosphite;

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

Eu+++ sp oth/un 25°C 0.0 U K1=2.27 1964BAb (7644) 104

I- HL Iodide CAS 10034-85-2 (20)
Iodide;

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

Eu+++ dis NaCl04 25°C 1.00M U T K1=0.24 1975MHa (8021) 105

Eu+++ dis NaCl04 25°C 1.0M U K1=-0.3 1963CUb (8022) 106

IO3- HL Iodate CAS 7782-68-5 (1257)
Iodate;

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

Eu+++ cal NaCl04 25°C 0.1M U H 1977CEa (8512) 107
DH(K1)=11.2

Eu+++ dis NaCl04 25°C 0.10M U T H K1=1.15 1973CBd (8513) 108
DH(K1)=11.1 kJ mol⁻¹; K1=1.00(0 C), 1.30(40 C)

Eu+++ dis NaCl04 20°C 0.10M U TIH K1=0.90 1972RCa (8514) 109
DH(K1)=-10.9 kJ mol⁻¹; K1=1.03(2 C), 0.94(10 C), 0.85(30 C), 0.77(40 C)
K1=1.28(I=0.04), 1.05(I=0.07), 0.72(I=0.15), 0.71(I=0.20)

```

-----
Eu+++      sol oth/un 25°C  0.0  U                      1966FPb (8515) 110
                                         Kso=-11.32
-----
Eu+++      sol none  25°C  0.0  U                      1963LMb (8516) 111
                                         Kso(EuL3)=-11.29
*****
I04-      HL      Periodate      CAS 13444-71-8 (6063)
Periodate;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      sol oth/un 25°C  dil  U                      1974LOa (8603) 112
                                         Kso(Eu(H2IO6)(H2O)3)=-10.35
*****
Mo04--     H2L      Molybdate      (443)
Molybdate;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      con oth/un 25°C  .001M U      K1=4.74      1968DKc (8729) 113
*****
Mo12042U----- H8L                      (2922)
Uranium-12-molybdate;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      gl  oth/un 20°C  0.10M U                      1989SBb (8773) 114
                                         B(EuHL)=8.42
                                         B(Eu2L)=7.50
*****
NO3-      HL      Nitrate      CAS 7697-37-2 (288)
Nitrate;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      cal NaCl04 25°C  2.0M C  IH      K1=-0.26      1998BMb (9665) 115
DH(K1)=-0.9 kJ mol-1. From Pitzer extrapolation to I=0.0, K1=0.54,
DH(K1)=-2.1 kJ mol-1
-----
Eu+++      cal NaNO3 25°C  2.0M C  H      K1=-0.21      1998BMc (9666) 116
Method: By competition with xylitol.
-----
Eu+++      dis none  25°C  0.0  U                      K1=2.17      1992MSb (9667) 117
-----
Eu+++      sp  NaCl04 15°C  3.0M U TIH      K1=0.87  B2=1.21  1987SSa (9668) 118
At 25C, K1=0.76, K2=0.25; at 37C, K1=0.65, K2=0.14. In MeOH/H2O, 87% mole
fraction, 15C, K1=1.19, K2=0.61, K3=0.30; 37C, K1=1.03, K2=0.42, K3=0.22 etc
-----
Eu+++      sp  NaCl04 25°C  3.0M C T H      K1=0.76  B2= 1.01  1986SGe (9669) 119

```

Data for 15-37 C. DH(K1)=-16.8 kJ mol⁻¹, DS(K1)=-41 J K⁻¹ mol⁻¹;
DH(K2)=-15.9, DS(K2)=-48.5.

Eu+++ oth NaClO4 22°C 0.50M U K1=0.201 1983BHb (9670) 120
Determined by luminescence excitation spectroscopy

Eu+++ dis NaClO4 25°C 1.00M U T K1=1.23 1975MHa (9671) 121

Eu+++ dis R4N.X 25°C 2.0M U K1=0.26 1973CDd (9672) 122
Medium: NH4ClO4

Eu+++ dis R4N.X 30°C 1.0M U K1=0.31 B2=0.04 1971KNb (9673) 123
Medium: NH4ClO4

Eu+++ sp KNO3 ? var U 1970KSf (9674) 124
K(Eu+3L+HL)=-0.44
K(EuL3HL+2HL)=-1.40

Eu+++ oth NaClO4 30°C 1.0M U K1=0.38 1968SRa (9675) 125
Method:dilatometry,densimetry

Eu+++ ix NaClO4 25°C 4.0M U I K1=0.12 B2=-0.52 1967SSc (9676) 126
In 4 M HClO4: K1=0.17, B2=-0.72

Eu+++ dis NaClO4 25°C 1.0M U I K1=0.31 1965CSb (9677) 127
Medium: I HClO4. K1=0.43(I=0.2),1.23(I=0). In 1 M HClO4: K1=0.32(0 C),
0.30(25 C),0.26(45 C),0.25(55 C). DH=-2.4 kJ mol⁻¹, DS=-2.1 J K⁻¹ mol⁻¹

Eu+++ ix NaClO4 26°C 1.0M U K1=0.20 1964BPb (9678) 128
In 1 M HClO4: K1=0.15, B2=-0.4

N3- HL Azide CAS 7782-79-8 (441)
Azide;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
Eu+++ dis none 25°C 0.0 U K1=0.40 B2=0.60 1983MCb (10206) 129
B3=0.70

OH- HL Hydroxide (57)
Hydroxide;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
Eu+++ gl NaCl 25°C 1.0M C 2003RSa (11300) 130
*K1=-8.35
*Kso(Eu(OH)3)=18.44
*Kso by radiometric titration using 152Eu.

Eu+++ gl NaClO4 25°C 0.0 C IH 2000KBa (11301) 131

*K1=-7.76									
In 0.7 M NaClO ₄ , *K1=-8.06. DH(*K1)=45 kJ mol ⁻¹ .									
Eu+++	gl	NaCl	25°C	0.10M	U	I		1999FBa (11302)	132
*B(1,3)=-22.21									
In 0.1 M Me ₄ NCl, *B(1,3)=-22.74.									
Eu+++	dis	oth/un	30°C	0.01M	C			1989MKb (11303)	133
*K1=-3.30									
Medium: ClCH ₂ COOH									
Eu+++	con	oth/un	25°C	dil	C			1988MCa (11304)	134
*K1=-6.70									
Method: conductivity of 0.5 mM EuCl ₃ solution as function of pH.									
Eu+++	dis	NaCl	21°C	0.7M	U			1983CCb (11305)	135
K[Eu(OH)+H]=7.3									
Eu+++	gl	NaClO ₄	25°C	1.0M	U			1982NCa (11306)	136
K(EuOH+H)=8.12									
K[Eu(OH) ₂ +2H]=15.45									
Eu+++	dis	NaCl	25°C	1.00M	U		K1=5	B2=13.72	1981BKa (11307) 137
Eu+++	ISE	NaClO ₄	25°C	0.50M	U	M		1980YGa (11308)	138
K(Eu(Crypt.2,2,1)+OH)=5.48									
K(Eu(Ctypt.2,2,1)+2OH)=6.84									
Eu+++	EMF	alc/w	25°C	25%	U	I		1972USa (11309)	139
*K1=-7.78									
Medium: 25% v/v EtOH/H ₂ O, I=0.05 M NaClO ₄ . *K1=-8.03(v=0), -7.47(v=50), -7.68(v=0,I=0)									
Eu+++	dis	NaClO ₄	?	0.10M	U			1971GDb (11310)	140
*K1=-4.8									
Medium: LiClO ₄									
Eu+++	oth	KCl	15°C	0.01M	U		K1=11.2	1969MKb (11311)	141
Conc. of KCl:0.005 M. Method: paper electrophoresis									
Eu+++	gl	NaClO ₄	25°C	0.30M	U			1966FKa (11312)	142
*K1=-8.31									
Eu+++	sol	none	25°C	0.0	U			1961AEa (11313)	143
Kso(Eu(OH) ₃)=-26.54 aged									
Eu+++	gl	oth/un	25°C	var	U			1951MFb (11314)	144
Kso(Eu(OH) ₃)=-23.05									
Eu+++	gl	oth/un	25°C	var	U			1944MKa (11315)	145

Kso(Eu(OH)3)=-21.5

O2-- H2L Peroxide CAS 7772-84-1 (2813)
Peroxide; -0.0-

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

Eu+++ gl NaNO3 25°C 0.10M C 2003MYd (12661) 146
K(4Eu+4H2O2=Eu4(O2)2(O2H)2(OH)4+10H)=-45.7, K(3Eu+2H2O2=Eu3(O2)2(OH)4+8H)=
-40.6, K(4Eu+4H2O2=Eu4(O2)4(OH)4+12H)=-58.4. Spectrophotometric values.

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

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

Eu+++ sol none 25°C 0.0 M 1997LBd (13167) 147

Kso(EuP04)=-25.96

Calculated from data for 0.10 M HClO4 solution.

Eu+++ sol oth/un 25°C 0.0 C I 1993FKb (13168) 148

Kso(EuP04)=-27.74

In synthetic seawater, Ks(EuP04)=-24.13.

Eu+++ sol none 25°C 0.0 C 1991FBa (13169) 149

Kso(EuP04)=-25.75

PW11039----- H7L (2467)
alpha-Heteromonophospho-polytungstate;

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

Eu+++ sp NaClO4 25°C 1.0M C K1=6.7 B2=13.20 2003VCa (13402) 150

Method: laser-induced fluorescence.

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

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

Eu+++ gl KCl 25°C 0.50M U 1989APd (13583) 151

K(Eu+H2L)=4.52

Eu+++ kin none 25°C 0.0 U B2=20.27 1967SSo (13584) 152

P2W17061----- Polytungstate (2102)
alpha-Heterodiphospho-polytungstate (usually alpha1 isomer)

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

Eu+++ sp NaClO4 25°C 1.0M C K1=7.5 B2=13.20 2003VCa (13716) 153
 Method: laser-induced fluorescence. For P2W18O62-----, K1=3.8

Eu+++ cal NaClO4 25°C 1.0M C H 2002VCa (13717) 154
 DH(K1)=-8.55 kJ mol⁻¹, DS(K1)=112.2 J K⁻¹ mol⁻¹.

Eu+++ cal NaClO4 25°C 1.0M C H K1=3.29 2002VCa (13718) 155
 DH(K1)=-1.17 kJ mol⁻¹, DS(K1)=70.0 J K⁻¹ mol⁻¹.

By entropy titration: DH(K1)=-1.34 kJ mol⁻¹, DS(K1)=63.85 J K⁻¹ mol⁻¹.

P3010----- H5L CAS 10380-08-2 (1001)

Tripolyphosphate; from (HO)2PO.O.PO(OH).O.PO(OH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Eu+++	gl	KNO3	25°C	0.10M	U T H		B2=8.8	1974KRa (13854)	156
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K(Eu+2HL)=6.6

K(Eu+2HL)=7.0 and B2=9.1 (35 C), K(Eu+2HL)=6.5 and B2=8.5 (45 C)

DH(Eu+2HL)=-11 kJ mol⁻¹; DH(B2)=-29

Eu+++	gl	NaClO4	30°C	0.30M	U		K1=7.46	1963KUa (13855)	157
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Eu+++	gl	NaClO4	?	0.10M	U		B2=16.91	1962RKa (13856)	158
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K(Eu+HL)=4.90

K(Eu+2HL)=8.68

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

Thiocyanate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Eu+++	dis	oth/un	25°C	1.0M	C		K1=0.35	1997HTb (14935)	159
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Method: by solvent extraction from 1.0 M NaSCN into CHCl3, 0.1 M

1,1,1-trifluoro-4-(2-thienyl)-2,4-pentanedione.

Eu+++	oth	NaClO4	22°C	0.10M	U		K1=0.775	1983BHb (14936)	160
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Determined by luminescence excitation spectroscopy

Eu+++	dis	NaClO4	25°C	5.0M	U T H T		K1=0.43	1974KCa (14937)	161
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K1=0.40(10 C), 0.45(40 C), 0.48(55 C). By calorimetry, DH(K1)=3.4 kJ mol⁻¹

Eu+++	dis	R4N.X	30°C	1.00M	U		K1=0.13 B2=0.29	1974KMa (14938)	162
-------	-----	-------	------	-------	---	--	-----------------	-----------------	-----

Medium: NH4ClO4/NH4SCN, pH 2.8

Eu+++	dis	R4N.X	25°C	2.0M	U		K1=0.23 B2=0.49	1973CDd (14939)	163
-------	-----	-------	------	------	---	--	-----------------	-----------------	-----

Medium:NH4NO3

Eu+++	dis	NaClO4	30°C	1.0M	U	T	K1=0.13 B2=0.18	1971KNb (14940)	164
-------	-----	--------	------	------	---	---	-----------------	-----------------	-----

Eu+++	dis	NaClO4	25°C	1.0M	U	T	K1=0.70 B2=0.83	1965CKb (14941)	165
-------	-----	--------	------	------	---	---	-----------------	-----------------	-----


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*K1=-7.11
*B2=-15.27
*B3=-27.23
*B(2,3)=-18.51
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
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$$\Delta H(\text{Eu}+\text{H3L})=9.6 \text{ kJ mol}^{-1}, \Delta S=102 \text{ J K}^{-1} \text{ mol}^{-1}; \Delta H(\text{Eu}+2\text{H3L})=2.4, \Delta S=118$$
$$\begin{aligned} K(\text{Eu}+\text{H}_2\text{L}) &= 4.04 \\ K(\text{Eu}+2\text{H}_2\text{L}) &= 7.11 \\ K(\text{Eu}+\text{H}+\text{H}_2\text{L}) &= 5.99 \\ K(\text{Eu}+2\text{H}+2\text{H}_2\text{L}) &= 10.41 \end{aligned}$$
$$K(Eu+H_2L)=5.65$$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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 $K_3 = 1.5$

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
Eu+++	ix	R4N.X	25°C	0.05M	C		K1=5.60 B2= 9.90 K(Eu+HL)=2.21	2001SBf (18868)	198
Medium: 0.05 M NH4NO3. At I=0, K1=6.52, B2=11.09.									
Eu+++	gl	KCl	25°C	1.0M	U	M		1988KTa (18869)	199
							K(Eu(edta)+L)=3.20		
Eu+++	dis	NaClO4	25°C	0.68M	C		K1=4.89 B2= 8.70 B3=11.2	1987CBc (18870)	200
Method: distribution of 152Eu between 0.68 m NaClO4 and tributyl phosphate									
Eu+++	oth	oth/un	25°C	0.10M	U		K1=5.40 B2=9.08	1971STe (18871)	201
Method : electrical migration or transference number									
Eu+++	sol	NaClO4	20°C	1.00M	U		K1=5.04 B2=8.70 B3=11.57 B4=13.09	1969GGa (18872)	202
Eu+++	ix	oth/un	18°C	0.10M	U		K1=2.90 B2=6.78 B3=9.60	1967ABa (18873)	203
Eu+++	dis	NaClO4	25°C	0.50M	U		K1=4.86 B2=8.67	1966LNb (18874)	204
By ion exchange: K1=4.86, B2=8.65									
Eu+++	dis	oth/un	25°C	0.0	U		K1=6.52	1966MAc (18875)	205
Eu+++	dis	R4N.X	20°C	0.10M	U		B2=8.8 B3=12.1	1966STa (18876)	206
Medium : NH4Cl									
Eu+++	dis	NaClO4	25°C	1.0M	U		K1=4.77 B2=8.72 B3=11.4	1964SEa (18877)	207
Eu+++	ix	oth/un	25°C	0.50M	U		K1=4.81 B2=8.57	1963KPb (18878)	208

C2H3O2Cl		HL	Chloroacetic		CAS 79-11-8		(34)		
Chloroethanoic acid; ClCH2.COOH									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	cal	NaClO4	25°C	2.00M	U		K1=1.08	1980ECa (19360)	209

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
Eu+++	gl	NaClO4	25°C	0.20M	C	TI	K1=2.11 B2= 3.42	2002ZTa (19947)	210

Data for I=0.2-1.0 M NaClO₄, 25-170 C. At I=0, K₁=2.91, B₂=4.83.

Eu+++ cal NaCl 25°C 2.0M U H K₁=1.91 1985CLb (19948) 211
DH(K₁)=5.9 kJ mol⁻¹

Eu+++ sp NaNO₃ 25°C 0.10M U K₁=1.79 19850Ha (19949) 212

Eu+++ dis NaClO₄ 25°C 2.00M U T K₁=1.90 1970CSd (19950) 213
0 C, K₁=1.84; 10 C, K₁=1.89; 40 C, K₁=1.91; 55 C, K₁=2.06

Eu+++ sp oth/un 19°C 0.10M U K₁=1.95 B₂=3.84 1966GAe (19951) 214
B₃=5.62

Eu+++ vlt NaClO₄ 25°C 1.0M U K₁=2.51 B₂=3.82 1965MHa (19952) 215
Medium: acetate buffer

Eu+++ EMF NaClO₄ 20°C 0.50M U K₁=1.94 B₂=3.19 1962GRa (19953) 216
B₃=3.79

Method: quinhydrone electrode

Eu+++ gl NaClO₄ 20°C 0.10M U K₁=2.31 B₂=3.91 1962KPa (19954) 217

Eu+++ dis NaClO₄ 25°C 0.07M U K₁=1.91 1962MMa (19955) 218

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

Eu+++ gl NaClO₄ 25°C 0.20M U K₁=5.93 B₂=11.05 1998PJb (20314) 219

Eu+++ gl NaClO₄ 20°C 0.10M U 1964PKa (20315) 220

K(Eu+HL)=2.07
K(EuHL+HL)=1.34

Eu+++ gl NaClO₄ 25°C 2.0M U 1962BCa (20316) 221

K(Eu+HL)=1.75
K(EuHL+HL)=0.8

Eu+++ gl NaClO₄ 20°C 0.50M U 1962GRa (20317) 222

K(Eu+HL)=1.55
K(Eu+2HL)=2.27

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

Eu+++ gl NaClO₄ 25°C 3.0M C 2002TFa (20532) 223

B(Eu₂H-2L₆)=-0.34

$$B(Eu4H-8L8) = -35.1$$

H2A=maleic acid

Eu+++ g1 NaClO4 20°C 0.10M U K1=2.935 B2=5.07 1964PKb (20535) 226
B3=6.52

Eu+++	EMF NaCl04 20°C 0.50M U	K1=2.57	B2=4.61	1962GRb (20536) 227
		B3=5.91		
		B4=6.4		

Method: quinhydrone electrode

[illegible]

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

Eu+++ gl KN03 25°C 0.0 M T H K1=5.55 2003MBa (21540) 230
K(Eu+HL=EuL+H)=-4.09

Extrapolated from data for I=0.07-0.32 M KNO₃. DH(K1)=-13.7 kJ mol⁻¹, DS(K1)=60.3 J K⁻¹ mol⁻¹; DH(Eu+HL)=18.4, DS(Eu+HL)=-16.5.

Eu+++ gl KNO₃ 25°C 0.20M U M K₁=6.37 1990LSb (21541) 231
K(Eu(phen)+L)=6.20

Eu+++	EMF	KCl	25°C	1.0M	U	M	1977G	Ma	(21542)	232
							K(EuA+L)=3.58			
							K(EuA+HL)=2.99			
							K(EuA+H2L)=3.03			

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

Eu+++ dis NaClO₄ 25°C 2.0M U T H K(Eu+HL)=0.7 1968TCa (21543) 233

$K=0.61(0\text{ }^{\circ}\text{C}), 0.78(40\text{ }^{\circ}\text{C}), 0.90(55\text{ }^{\circ}\text{C})$. At $25\text{ }^{\circ}\text{C}$: $\Delta H(K1)=9.6\text{ kJ mol}^{-1}$, $\Delta S=46$

C2H5NO2 HL Acetohydroxamic CAS 546-88-3 (2766)
Acetohydroxamic acid, N-Hydroxyacetamide; CH3.CO.NHOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	vlt	KN03	30°C	0.50M	C		K1=5.26 B2=11.20	1982BNa (21806)	234
Method: polarography.									

C2H60S		L	DMSO				CAS 67-68-5	(329)	
Dimethylsulfoxide; (CH3)2.S0									
Eu+++	sp	non-aq	25°C	100%	U		K8=1.6 K9=0.9	1992MBb (22097)	235
Medium: MeCN. Method: FT-IR and Raman spectroscopy									
Eu+++	cal	non-aq	30°C	100%	U	HM	K(Eu2A6+L)=4.53	1981GMa (22098)	236
Medium: benzene. HA=2,2,6,6-tetramethylheptane-3,5-dione; DH=-35.6, DS=-31									
Eu+++	cal	non-aq	30°C	100%	U	HM	K(EuA3+L)=3.3 K(EuA3L+L)=3.3	1981GMa (22099)	237
Medium: benzene. HA=6,6,7,7,8,8,8-heptafluoro-2,2-dimethyloctane-3,5-dion2									

C2H602		L	Ethyleneglycol				CAS 107-21-1	(924)	
1,2-Dihydroxyethane (Ethane-1,2-diol); HO.CH2.CH2.OH									
Eu+++	gl	NaCl04	22°C	0.10M	U		K(EuH-1L+H)=7.30	1972MCd (22145)	238

C2H606P2		H4L					(5706)		
Ethene-1,1-diphosphonic acid; H2C:C(P03H2)2									
Eu+++	dis	oth/un	25°C	0.20M	U		K(Eu+H2L)=3.70 K(Eu+2H2L)=6.33 K(Eu+H+H2L)=5.71 K(Eu+2H+2H2L)=9.96	1990NHa (22169)	239
Eu+++	gl	KCl	25°C	0.15M	U	I	K(Eu+H2L)=5.16	1989AMa (22170)	240

C2H606P2		H4L					CAS 34169-22-7	(2582)	
trans-1,2-Vinylidenediphosphonic acid; (HO)2P(O)CH:CHP(O)(OH)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	cal	NaClO4	25°C	2.00M	C	H		1995NRa (22183)	241
DH(Eu+H3L)=11.1 kJ mol ⁻¹ , SD=107 J K ⁻¹ mol ⁻¹ ; DH(Eu+2H3L)=3.60, DS=123									

C2H8NO4P		H2L					CAS 1071-23-4	(1864)	
2-Aminoethyl-dihydrogenphosphoric acid; H2N.CH2.CH2.OPO3H2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KCl	20°C	0.10M	U		K1=5.89 K(Eu+HL)=4.18	1987BPb (22670)	242

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
Eu+++	ISE	non-aq	25°C	100%	C	H	K1=1.94 B2=3.27 B3=4.43	1992CBa (23151)	243
Medium: DMSO, 0.10 M Et4NClO4. By calorimetry, DH(K1)=-14.4, DH(B2)=-40, DH(B3)=-72.3 kJ mol ⁻¹ .									

Eu+++	vlt	NaNO3	25°C	0.10M	U	M	B2=14.4 B(EuL(malonate))=11.4 B(EuL(malonate)3)=13.5 B(EuL2(malonate)2)=19.08 B(EuL(succinate))=9.2 B(EuL2(succinate))=17.5; B(EuL(succinate)2)=11.7. All measurements at pH 6	1985SSe (23152)	244

C2H8O6P2		H4L					CAS 6145-33-1	(3543)	
Ethane-1,1-diphosphonic acid; CH3.CH(P03H2)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	dis	oth/un	25°C	0.20M	U		K(Eu+H2L)=4.11 K(Eu+2H2L)=7.63 K(Eu+H+H2L)=6.25 K(Eu+2H+2H2L)=10.85	1990NHa (23267)	245

Method: solvent extraction

C2H8O7P2		H4L					HEDPA CAS 2809-21-4	(436)	
1-Hydroxyethane-1,1-diphosphonic acid; CH3.C(OH)(P03H2)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	cal	NaClO4	25°C	2.00M	C	H		1995NRa (23363)	246
DH(Eu+H3L)=5.1 kJ mol ⁻¹ , DS=98 J K ⁻¹ mol ⁻¹ ; DH(Eu+2H3L)=-9.5, DS=104									

Eu+++ dis oth/un 25°C 0.20M U 1990NHa (23364) 247

K(Eu+H2L)=4.58
K(Eu+H+H2L)=6.43
K(Eu+H+2H2L)=9.76
K(Eu+2H+2H2L)=11.47

K(Eu+2H+3H2L)=14.56

Eu+++ sp oth/un 25°C 0.70M U 1987APa (23365) 248

K(Eu+H2L)=5.81

C2H8O8P2 H4L (6763)
1,2-Dihydroxyethane-1,1-diphosphonic acid; HO.CH2.C(OH)(PO3H2)2

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

Eu+++ dis oth/un 25°C 0.20M U 1990NHa (23413) 249

K(Eu+H2L)=4.11
K(Eu+2H2L)=6.22
K(Eu+H+H2L)=5.15
K(Eu+2H+2H2L)=9.32

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

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

Eu+++ gl oth/un 25°C ? U M K1=2.15 1998PAa (23986) 250

K(EuL+acac)=5.75
K(Eu(acac)L+acac)=4.37

Additional method: nmr. Medium not stated.

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

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

Eu+++ nmr NaClO4 25°C 2.00M U H K1=1.88 1980CCa (24048) 251

DH=-4.89 kJ mol⁻¹. Alternative method: Calorimetry.

Eu+++ dis oth/un 25°C 2.00M U K1=1.97 B2=3.32 1971ALe (24049) 252

B3=3.79

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

Eu+++ sp NaClO4 25°C 0.10M C K1=4.18 B2= 6.62 2000WBa (24432) 253

Method: emission spectroscopy.

Eu+++ vlt NaNO3 25°C 0.10M C M K1=4.0 B2= 5.60 1987KSf (24433) 254
 B3=6.7
 B4=8.46
 B(EuA2L)=8.75
 B(EuA3L)=10.17

Method: polarography. B(EuA2L2)=10.20, B(EuA3L3)=9.04. A is 2-methyl-pyridine. Also data for ternary complexes with 3-Me and 4-Me-pyridine

Eu+++ vlt NaNO3 25°C 0.10M U M K1=4.1 B2=5.6 1985SSe (24434) 255
 B3=6.6
 B4=8.5
 B(EuL(en))=11.4
 B(EuL2(en)2)=19.08

Eu+++ vlt NaNO3 25°C 0.10M C M K1=4.1 B2= 5.60 1984SSf (24435) 256
 B3=6.6
 B4=8.5
 B(Eu(en)2L2)=19.8
 B(Eu(en)L3)=13.5

Method: polarography. B(Eu(py)L2)=11.4. B(Eu(py)L)=5.3, B(Eu(py)2L)=7.8, B(Eu(py)L2)=7.4, B(Eu(py)2L2)=9.4, B(Eu(py)L3)=8.8.

Eu+++ dis NaClO4 25°C 0.10M U K1=4.28 1982SCb (24436) 257
 B(EuHL)=6.96

Eu+++ gl NaClO4 25°C 0.10M U K1=4.72 B2=7.81 1972DCc (24437) 258

Eu+++ gl NaClO4 25°C 1.00M U K1=3.72 B2=6.24 1971DGa (24438) 259
 B(EuHL)=6.48
 B(EuHL2)=9.99

Eu+++ ix NaClO4 25°C 0.15M U 1968KKc (24439) 260
 K(Eu+HL)=1.9
 K(EuHL+HL)=1.1

Eu+++ gl KNO3 25°C 0.10M U K1=4.30 B2=6.99 1968PFa (24440) 261

C3H4O5 H2L Tartronic acid CAS 80-69-3 (839)

Hydroxypropanedioic acid; HO.CH(COOH)2

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

Eu+++ dis NaClO4 25°C 0.10M U K1=4.85 B2=8.62 1967MAc (24617) 262

C3H4O6 H2L CAS 560-27-0 (4233)

Dihydroxypropanedioic acid; HOO.C(OH)2.COOH

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

Eu+++ gl KCl 25°C 0.20M U K1=4.05 1973LPb (24625) 263

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

Eu+++ gl diox/w 20°C 50% U K1=5.81 1971MAf (24642) 264
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

Eu+++ gl diox/w 20°C 50% U K1=6.96 B2=12.95 1971MAf (24804) 265
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

Eu+++ gl oth/un 25°C 2.00M U K1=1.93 B2=3.24 1971ALd (25001) 266
B3=3.86

Eu+++ gl NaClO4 25°C 2.0M U K1=1.98 B2=3.28 1965CGa (25002) 267

Eu+++ gl NaClO4 20°C 0.10M U K1=2.23 B2=3.75 1964PKa (25003) 268

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

Eu+++ gl NaClO4 25°C 0.20M U K1=6.18 B2=11.64 1998PJb (25139) 269

Eu+++ gl NaClO4 25°C 2.00M U 1968CMa (25140) 270
K(Eu+HL)=2.00

Eu+++ gl NaClO4 31°C 2.0M U 1963BCb (25141) 271
K(Eu+HL)=1.81
K(EuHL+HL)=0.8

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

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

Eu+++ gl NaClO4 25°C 2.00M U 1968CMa (25206) 272
K(Eu+HL)=1.64

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Eu+++      gl  NaCl04 31°C  2.0M U                      1963BCb (25207) 273
                                     K(Eu+HL)=2.15
                                     K(EuHL+HL)=1.3

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

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Eu+++      gl  NaCl04 25°C  2.00M U          K1=1.64      1969Jcc (25264) 274

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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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Eu+++      dis NaCl04 25°C  1.00M C   H   K1=2.46   B2=4.28   1984LLa (25436) 275
                                     B3=5.76
                                     B4=6.5

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Solvent extraction (5x10⁻⁴ M HDEHP in n-heptane pH 4.00)

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Eu+++      oth KCl    10°C  1.50M U          K1=2.62   B2=4.22   1972SNa (25437) 276
Method: (gelatinized cellulose acetate), electrophoresis

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Eu+++      dis oth/un 25°C  2.00M U          K1=2.48   B2=4.56   1971ALe (25438) 277
                                     B3=5.83

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Eu+++      gl  NaCl04 25°C  0.20M U          K1=2.55   B2=4.67   1964DVa (25439) 278
                                     K3=0.88
                                     K4=0.51

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Eu+++      gl  NaCl04 20°C  0.10M U          K1=2.949  B2=5.18   1964PKb (25440) 279
                                     B3=6.43

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Eu+++      gl  NaCl04 25°C  2.0M U          K1=2.53   B2=4.60   1961CCa (25441) 280
                                     K3=1.28

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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
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Eu+++      gl  NaCl04 20°C  0.10M U          K1=2.12   B2=3.42   1964PKa (25597) 281

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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
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Eu+++	gl	KN03	25°C	0.20M	U	M	K1=6.62	1990LSb (26166)	282
K(Eu(phen)+L)=6.45									
Eu+++	sp	R4N.X	25°C	1.00M	U		K1=6.07	B2=11.73	1978SGa (26167) 283
Eu+++	dis	oth/un	25°C	2.00M	U		K1=0.74		1971ALe (26168) 284
Eu+++	gl	KN03	25°C	0.10M	U		K1=4.7		1967EMb (26169) 285

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference ExptNo
Eu+++	gl	NaClO4	20°C	0.0	U	T H	K1=7.525	B2=14.05	1980SDc (26772) 286
Extrapolated from data for I=0.10-1.0 M. Data for 35 and 45 C.									
DH(K1)=-5.76 kJ mol ⁻¹ , DS=124 J K ⁻¹ mol ⁻¹ ; DH(K2)=-2.88, DS=115.									

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference ExptNo
Eu+++	gl	NaClO4	22°C	0.10M	U				1972MCd (27675) 287
K(EuH-1L+H)=7.20									

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference ExptNo
Eu+++	gl	NaClO4	22°C	0.10M	U				1972MCd (27731) 288
K(EuH-1L+H)=7.15									

Eu+++	gl	NaCl	25°C	0.10M	U				1970PKe (27732) 289
K(EuH-1L+H)=7.15									

C3H9O4P		L				CAS 512-56-1		(2431)	
Trimethyl phosphate; (CH3O)3.P:O									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference ExptNo
Eu+++	sp	oth/un	25°C	?	U	M			1980BRb (28023) 290
K(EuA3+L=EuA3L)=3.302									
K(EuB3+L=EuB3L)=2.881									
A= 6,6,7,7,8,8,8-Heptafluoro-2,2'-dimethyloctane-3,5-dione anion, B= (3-Hep- tafluoropropyl)hydroxymethylene-d-camphor. Further data available									

C3H9O6P		HL				CAS 17181-54-3		(7537)	
1,3-Dihydroxypropyl-2-phosphoric acid; HOCH2CH(OPO3H2)CH2OH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KCl	25°C	0.10M	C		K1=6.08	1996BGb (28030)	291

C3H9O6P		H2L					CAS 57-03-4	(2984)	
2,3-Dihydroxypropylphosphoric acid, Glycerol 1-phosphate; HO.CH2.CH(OH).CH2.OPO3H2									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KCl	25°C	0.10M	C		K1=7.00	1996BGb (28048)	292
							B(EuH-1L)=1.49		

C3H12N09P3		H6L		NTPA			CAS 6419-19-8	(2920)	
Nitrilotris(methylenephosphonic acid); N(CH2PO3H2)3									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KNO3	25°C	0.10M	C			1991SKb (28560)	293
							K(EuL+H)=7.51		
							K(EuHL+H)=5.45		

C4H204		H2L		Squaric acid			CAS 2892-51-5	(439)	
3,4-Dihydroxy-3-cyclobutene-1,2-dione;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	cal	NaClO4	25°C	0.10M	U	H	K1=2.84 B2=4.12	19760Ca (28646)	294
DH(K1)=8.4 kJ mol-1, DS=82 J K-1 mol-1; DH(B2)=18.0, DS=139									
Eu+++	gl	NaClO4	25°C	0.10M	C	H	K1=2.844 B2= 4.12	19760Cb (28647)	295
By calorimetry: DH(K1)=8.37 kJ mol-1, DS(K1)=82.4 J K-1 mol-1; DH(B2)=18.0, DS(B2)=139.									

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
Eu+++	gl	oth/un	25°C	0.10M	U		K1=3.280	1987TSb (28887)	296

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
Eu+++	gl	oth/un	25°C	0.10M	U T H		K1=4.26	1987TSb (28911)	297
30 C:K=3.85; 35 C: 3.41. DH=-1149 kJ mol-1, DS=-418 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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Eu+++	gl	oth/un	25°C	?	U	M		K1=3.74 K(EuL+acac)=4.96 K(Eu(acac)L+acac)=4.27	1998PAa (29073)	298
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Additional method: nmr. Medium not stated.

Eu+++	EMF	NaClO4	25°C	1.00M	U	M		K1=2.99 B2=4.68 B(EuLA)=5.09	1991WPb (29074)	299
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HA=glycolic acid

Eu+++	vlt	NaNO3	25°C	0.10M	C			B2=4.72	1987KSf (29075)	300
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Method: polarography.

Eu+++	gl	NaClO4	25°C	0.10M	U			K1=3.83	1973CDc (29076)	301
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Eu+++	gl	NaClO4	25°C	0.10M	U			K1=3.83 B2=5.98	1970RFa (29077)	302
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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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Eu+++	gl	NaClO4	25°C	0.10M	C			K1=2.78 B(EuHL)=6.15 K(Eu+HL)=2.07	1986LCa (29196)	303
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Eu+++	gl	NaClO4	25°C	0.10M	U			K1=2.86	1973CDc (29197)	304
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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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Eu+++	gl	NaClO4	25°C	0.50M	M			K1=3.77 B2=7.50	1991MOa (29266)	305
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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
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Eu+++	gl	KCl	25°C	0.10M	U			K1=2.41	1995PAa (29697)	306
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C4H6O2 HL Crotonic acid CAS 107-93-7 (2990)
But-2-enoic acid; CH3.CH:CH.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++ vlt NaClO4 25°C 1.0M C K1=1.78 B2= 2.62 1979RSc (29716) 307

Method: polarography. Medium pH 2.0

C4H6O4 H2L Succinic acid CAS 110-15-6 (112)

1,4-Butanedioic acid; HOOC.CH2.CH2.COOH

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

Eu+++ sp NaClO4 25°C 0.10M C K1=2.99 B2= 4.90 2000Wba (29967) 308

Method: emission spectroscopy.

Eu+++ vlt NaNO3 25°C 0.10M C M K1=2.85 B2= 4.60 1987KSf (29968) 309

B3=5.83

B(EuAL)=4.65

B(EuA2L)=7.24

B(EuAL2)=6.22

A is 3-methylpyridine. B(EuBL)=6.59, B(EuBL2)=7.33; B is 4-methylpyridine.

Method: polarography.

Eu+++ vlt NaNO3 25°C 0.10M U M K1=2.9 B2=4.5 1985SSe (29969) 310

B3=5.9

B(EuL(en))=9.2

B(EuL(en)2)=17.5

B(EuL2(en))=11.7

Eu+++ vlt NaNO3 25°C 0.10M C M K1=2.9 B2= 4.50 1984SSf (29970) 311

B3=5.9

B(Eu(en)L)=9.2

B(Eu(en)2L)=17.5

B(Eu(en)L2)=11.7

Method: polarography. B(Eu(py)L)=5.6, B(Eu(py)2L)=7.0, B(Eu(py)L2)=6.1.

Eu+++ ix NaClO4 25°C 0.15M U 1968KKc (29971) 312

K(Eu+HL)=1.99

K(EuHL+HL)=1.3

C4H6O4 H2L Me-Malonic Acid CAS 516-15-2 (816)

Methylpropanedioic acid; HOOC.CH(CH3).COOH

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

Eu+++ gl KCl 25°C 0.20M U K1=4.23 B2=6.51 1975PLa (30122) 313

C4H6O4S H3L Thiomalic acid CAS 70-49-5 (109)

2-Mercaptosuccinic acid, 2-Sulfany-1,4-butanedioic acid; HOOC.CH(SH).CH2.COOH

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

Eu+++ gl NaClO4 25°C 0.20M U K1=5.91 B2=11.76 1998PJb (30329) 314

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	KN03	30°C	0.10M	U	M		K(Eu(EDTA)+L)=2.247	1984AIa (30622)	315
Eu+++	gl	KN03	20°C	0.10M	U			B(EuHL)=8.24	1980SDa (30623)	316
Eu+++	gl	KN03	20°C	0.10M	U			K1=4.56 K(Eu+HL)=1.87	1980SDb (30624)	317
Eu+++	gl	NaCl04	25°C	0.10M	U			K1=4.85 B2=8.11	1970RFa (30625)	318
Eu+++	EMF	KCl	25°C	0.20M	U			K1=4.34	1964DAb (30626)	319

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	KCl	25°C	1.0M	U	M		1988KTa (30869)	320	
								K(Eu(edta)+L)=2.37		
Eu+++	cal	NaClO4	25°C	1.0M	C	H		1963GRd (30870)	321	
								DH(K1)=-3.27 kJ mol ⁻¹ , DS(K1)=94.6 J K ⁻¹ mol ⁻¹ ; DH(B2)=-12.31, DS(B2)=150; DH(B3)=-18.86, DS(B3)=188.		
Eu+++	EMF	NaClO4	20°C	1.00M	U			K1=5.53 B2=10.04 B3=13.20	1963GTa (30871)	322

Method: quinhydrone electrode

C4H6O6 H2L L-Tartaric acid CAS 87-69-4 (92)
L-Tartaric acid, L-2,3-Dihydroxybutanedioic acid; $\text{HOOC} \cdot \text{CH}(\text{OH}) \cdot \text{CH}(\text{OH}) \cdot \text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	vlt	NaNO3	25°C	0.10M	C	M	K1=4.30	B2= 6.00	1987KSf	(31231) 323
							B3=7.60			
							B4=8.70			
							B5=10.60			
							B(EuAL)=6.30			

Method: polarography. B(EuA2L)=9.38, B(EuA2L2)=11.55, B(EuA2L3)=12.45, B(EuA2L4)=10.70. A is 3-methylpyridine.

Eu+++ gl alc/w 25°C 40% U I K1=5.03 1972SSj (31232) 324
Medium: 0.05, 0-40% EtOH. At I=0, 40% EtOH: K1=6.45

Eu+++	gl	KCl	24°C	0.20M	U		K1=3.40		1966DDa (31233)	325

Eu+++	dis	oth/un	20°C	0.10M	U		B2=6.79		1966STa (31234)	326
Medium: NH4Cl										

Eu+++	oth	NaCl	?	0.10M	U		B2=6.20		1965MSd (31235)	327
Method: paper electrophoresis										

Eu+++	dis	NaCl04	25°C	.054M	U		K1=3.92	B2=6.70	1962MMa (31236)	328

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

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

Eu+++	dis	NaCl04	25°C	1.00M	U T H		K1=1.96		1971RCa (31501)	329
K1(5 C)=1.72, K1(15 C)=1.83, K1(35 C)=2.06. DH=18.8 kJ mol ⁻¹ , DS=100										

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

Eu+++	gl	NaCl04	30°C	0.10M	U		K1=5.20	B2=9.80	1984YLa (31851)	330

Eu+++	gl	KCl	25°C	0.10M	U		K1=5.62	B2=9.77	1968DRb (31852)	331

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

Eu+++	gl	NaCl04	25°C	1.0M	C TI	R	K1=6.48	B2=11.65	2005AAa (32235)	332
B3=15.70										
IUPAC recommended values.Provisional values, 0.1 M KNO3: K1=6.7, B2=12.1										
0.5 M NaCl04: K1=6.62, B3=15.5										

Eu+++	gl	KCl	25°C	1.0M	U	M			1988KTa (32236)	333
K(Eu(edta)+L)=4.46										

Eu+++	gl	NaCl04	25°C	0.20M	U	M	K1=6.91	B2=12.49	1988VSc (32237)	334
K(Eu(HEDTA)+L)=5.76										
K(Eu(CDTA)+L)=4.78										
K(Eu(DTPA)+L)=4.43										

Eu+++	gl	NaCl04	25°C	0.20M	U	M	K1=6.91	B2=12.49	1987VSb (32238)	335
K(Eu(NTA)+L)=5.94										
K(Eu(edta)+L)=4.58										

Eu+++	EMF	KCl	25°C	1.0M	U	M			1977GMA (32239)	336

K(EuA+L)=4.94
K(EuA+H2L)=1.00
K(EuA+H3L)=2.41

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

Eu+++ gl alc/w 25°C 1.0M U I K1=6.96 B2=12.90 1976TBb (32240) 337
K(Ce+3L)=17.6

Medium: 1 M LiCl in 60% MeOH/H2Ov/v; in 100%H2O K1=5.88; B2=10.79; B3=15.02
Also data for EtOH, Dioxane, Acetone mixed solvents

Eu+++ gl NaClO4 25°C 0.50M U K1=6.62 B2=11.13 1973CTa (32241) 338
B3=15.47

Eu+++ gl NaClO4 25°C 1.00M U K1=6.46 B2=11.66 1972GGa (32242) 339
B3=15.79
B(EuHL)=10.81
B(EuH2L)=12.91

Eu+++ gl NaClO4 25°C 1.00M U K1=6.49 B2=11.65 1971GGa (32243) 340
B3=15.70
B(EuHL)=10.79
B(EuH2L)=12.86

Eu+++ EMF KNO3 20°C 0.10M U HM 1971GKb (32244) 341
K(EuA+L)=4.23
DH(EuA+L)=-23.30 kJ mol⁻¹, DS=1.3 J K⁻¹ mol⁻¹. DH(EuAL)=-34.02, DS=297.
H4A=EDTA

Eu+++ gl NaClO4 25°C 1.00M U K1=6.49 B2=11.65 1971GKb (32245) 342
B3=15.70
B(EuHL)=10.79
B(EuH2L)=12.86

Eu+++ sp oth/un 20°C 1.00M U M 1971TKf (32246) 343
K(Eu(EDTA)+L)=5.0

Eu+++ gl KCl 25°C 0.30M U M K1=6.22 B2=10.94 1966MAb (32247) 344
Ternary complexes with N-(2-hydroxyethyl)diaminoethane-triethanoic acid

Eu+++ gl KNO3 25°C 0.10M U K1=6.73 B2=12.11 1962THa (32248) 345

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

Eu+++ gl diox/w 20°C 50% U K1=8.19 B2=15.28 1971MAf (32538) 346
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
Eu+++	gl	NaClO4	30°C	0.10M	U			K1=3.96 B2=6.95	1984YLa (32694)	347

C4H8N2O3 HL Gly-Gly CAS 556-50-3 (54)
Glycyl-glycine; H2N.CH2.CO.NH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	KCl	25°C	0.10M	U			K1=2.65	1973FMa (33022)	348

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
Eu+++	gl	KCl	60°C	0.10M	U			K1=6.49 B2=10.89 B3=13.80	1978NBa (33084)	349

C4H8N2O4 H2L CAS 39156-77-9 (3008)
Hydrazine-N,N-diethanoic acid; H2N.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	KNO3	30°C	0.10M	U	M		K(Eu(EDTA)+L)=3.099	1984AIa (33105)	350

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
Eu+++	gl	NaClO4	25°C	2.00M	U	H		K1=1.98 B2=3.29	1965CGa (33227)	351

By calorimetry: DH(K1)=12.6 kJ mol⁻¹, DS=78.6 J K⁻¹ mol⁻¹; DH(K2)=7.9, DS=51

Eu+++	gl	NaClO4	25°C	0.50M	U			K1=1.98 B2=3.10	1964SPa (33228)	352
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C4H8O2S HL CAS 627-04-3 (3007)
S-Ethylthioethanoic acid; CH3.CH2.S.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	NaClO4	31°C	2.0M	U			K1=1.79 B2=2.69	1963BCb (33405)	353

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
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Eu+++	ix	NaClO4	25°C	0.10M	U	I	K1=2.80 B3=6.61 B4=7.19	B2=5.20	1971ALb (33467)	354
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Range of ionic strengths 0-0.7. K1(0%)=2.78, B2=6.11, B3=8.10, B4=9.40.
K1(0.7)=2.81, B2=4.69, B3=5.67, B4=5.95

Eu+++	ix	alc/w	25°C	83%	U	I	K1=3.45 B3=10.17 B4=11.25	B2=8.34	1968ALa (33468)	355
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Medium: 0-83% MeOH, 0.1 M. K1(0%)=2.78, B2=5.04, B3=6.60, B4=7.19.
K1(50%)=3.07, B2=6.49, B3=8.19, B4=9.00

Eu+++	ix	oth/un	?	?	U		K1=2.70 K3=1.55	B2=4.97	1968LEa (33469)	356
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Eu+++	dis	NaClO4	25°C	0.50M	U		K1=2.72 B3=6.40	B2=5.08	1966LNa (33470)	357
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By ion exchange: K1=2.71, B2=4.97

Eu+++	gl	NaClO4	25°C	0.20M	U		K1=2.79 K3=1.5 K4=1.3	B2=4.86	1964DVa (33471)	358
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Eu+++	gl	NaClO4	20°C	0.10M	U		K1=3.090 B3=7.32	B2=5.54	1964PKb (33472)	359
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Eu+++	gl	NaClO4	25°C	0.50M	U		K1=2.71 B3=5.91	B2=4.92	1964SPa (33473)	360
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Eu+++	gl	NaClO4	25°C	2.0M	U		K1=2.70 K3=1.58	B2=4.94	1961CCa (33474)	361
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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
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Eu+++	gl	KNO3	25°C	0.10M	C		K1=3.05 K3=1.66	B2=5.45	1975PFb (33678)	362
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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
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Eu+++	EMF	KNO3	25°C	0.10M	U		K1=3.11 K3=1.90	B2=5.54	1976PKb (33697)	363
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Eu+++ gl NaClO4 25°C 0.50M U K1=2.80 B2=5.00 1964SPa (33698) 364
B3=6.45

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

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

Eu+++ gl KNO3 25°C 0.0 M T H K1=5.44 2003MBa (34297) 365
K(Eu+HL=EuL+H)=-3.74

Extrapolated from data for I=0.07-0.32 M KNO3. DH(K1)=-136.9 kJ mol⁻¹,
DS(K1)=-355.2 J K⁻¹ mol⁻¹; DH(Eu+HL)=-82.2, DS(Eu+HL)=-374.6.

C4H10N2O4S HL ACES CAS 7365-82-4 (7488)
N-(2-Acetamido)-2-aminoethanesulfonic acid;

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

Eu+++ gl KNO3 25°C 0.10M C K1=3.35 2001AAb (34626) 366
*K(EuL)=-5.56
K(2Eu(OH)L=Eu2(OH)2L2)=9.02

C4H11NO3 L Tris buffer CAS 77-86-1 (550)
2-Amino-2-(hydroxymethyl)-propan-1,3-diol; (HO.CH2)3C.NH2

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

Eu+++ gl NaCl 25°C 0.15M U K1=2.3 1989PBe (35055) 367
By luminescence spectroscopy in D2O, K1=2.44.

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

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

Eu+++ oth oth/un 25°C U K1=1.71 1971MGb (35257) 368
Estimated

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

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

Eu+++ EMF NaClO4 25°C 100% C H K1=5.66 B2=10.11 2000CDa (35776) 369
Medium: DMF, 0.10 M Et4N[CF3SO3]. Method: Ag/Ag⁺ electrode.
By calorimetry: DH(K1)=-52.3, DH(B2)=-111.8 kJ mol⁻¹.

Eu+++ ISE non-aq 25°C 100% C H K1=2.99 B2=5.59 1993CCb (35777) 370
Medium: DMSO, 0.1 M Et4NClO4. Method: Ag⁺ ISE. By calorimetry, DH(K1)=-28.3

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1312 3=aminoacetic acid, 3=3(mech)=ethyphosphonic, acid, (n=20:ven=vinylene)=

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[illegible]

[illegible]

[illegible]

Method: Pt/quinhydrone electrode

2,3,5,6-tetrahydro-2H-pyrimidin-2-one = urea + 2H₂O + CO₂ + pyrimidine-2,4,6-trione

Model	Med	Med2	Med3	Med4	Med5	Med6	Med7	Med8	Med9	Med10	Med11	Med12	Med13	Med14	Med15	Med16	Med17	Med18	Med19	Med20	Med21	Med22	Med23	Med24	Med25	Med26	Med27	Med28	Med29	Med30	Med31	Med32	Med33	Med34	Med35	Med36	Med37	Med38	Med39	Med40	Med41	Med42	Med43	Med44	Med45	Med46	Med47	Med48	Med49	Med50	Med51	Med52	Med53	Med54	Med55	Med56	Med57	Med58	Med59	Med60	Med61	Med62	Med63	Med64	Med65	Med66	Med67	Med68	Med69	Med70	Med71	Med72	Med73	Med74	Med75	Med76	Med77	Med78	Med79	Med80	Med81	Med82	Med83	Med84	Med85	Med86	Med87	Med88	Med89	Med90	Med91	Med92	Med93	Med94	Med95	Med96	Med97	Med98	Med99	Med100	Med101	Med102	Med103	Med104	Med105	Med106	Med107	Med108	Med109	Med110	Med111	Med112	Med113	Med114	Med115	Med116	Med117	Med118	Med119	Med120	Med121	Med122	Med123	Med124	Med125	Med126	Med127	Med128	Med129	Med130	Med131	Med132	Med133	Med134	Med135	Med136	Med137	Med138	Med139	Med140	Med141	Med142	Med143	Med144	Med145	Med146	Med147	Med148	Med149	Med150	Med151	Med152	Med153	Med154	Med155	Med156	Med157	Med158	Med159	Med160	Med161	Med162	Med163	Med164	Med165	Med166	Med167	Med168	Med169	Med170	Med171	Med172	Med173	Med174	Med175	Med176	Med177	Med178	Med179	Med180	Med181	Med182	Med183	Med184	Med185	Med186	Med187	Med188	Med189	Med190	Med191	Med192	Med193	Med194	Med195	Med196	Med197	Med198	Med199	Med200	Med201	Med202	Med203	Med204	Med205	Med206	Med207	Med208	Med209	Med210	Med211	Med212	Med213	Med214	Med215	Med216	Med217	Med218	Med219	Med220	Med221	Med222	Med223	Med224	Med225	Med226	Med227	Med228	Med229	Med230	Med231	Med232	Med233	Med234	Med235	Med236	Med237	Med238	Med239	Med240	Med241	Med242	Med243	Med244	Med245	Med246	Med247	Med248	Med249	Med250	Med251	Med252	Med253	Med254	Med255	Med256	Med257	Med258	Med259	Med260	Med261	Med262	Med263	Med264	Med265	Med266	Med267	Med268	Med269	Med270	Med271	Med272	Med273	Med274	Med275	Med276	Med277	Med278	Med279	Med280	Med281	Med282	Med283	Med284	Med285	Med286	Med287	Med288	Med289	Med290	Med291	Med292	Med293	Med294	Med295	Med296	Med297	Med298	Med299	Med300	Med301	Med302	Med303	Med304	Med305	Med306	Med307	Med308	Med309	Med310	Med311	Med312	Med313	Med314	Med315	Med316	Med317	Med318	Med319	Med320	Med321	Med322	Med323	Med324	Med325	Med326	Med327	Med328	Med329	Med330	Med331	Med332	Med333	Med334	Med335	Med336	Med337	Med338	Med339	Med340	Med341	Med342	Med343	Med344	Med345	Med346	Med347	Med348	Med349	Med350	Med351	Med352	Med353	Med354	Med355	Med356	Med357	Med358	Med359	Med360	Med361	Med362	Med363	Med364	Med365	Med366	Med367	Med368	Med369	Med370	Med371	Med372	Med373	Med374	Med375	Med376	Med377	Med378	Med379	Med380	Med381	Med382	Med383	Med384	Med385	Med386	Med387	Med388	Med389	Med390	Med391	Med392	Med393	Med394	Med395	Med396	Med397	Med398	Med399	Med400	Med401	Med402	Med403	Med404	Med405	Med406	Med407	Med408	Med409	Med410	Med411	Med412	Med413	Med414	Med415	Med416	Med417	Med418	Med419
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Model	Red	Red+am	Temp	Cont	Sal	Fluor	lg R	Values	Reference	Expense
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Parent's self-efficacy, $\chi^2(1) = 2.22, p = .14$, Cramer's $\phi = .07$.

Media1	Media2	Media3	Temp	Contc	Ed1	Ed2	Ed3	Ed4	Ed5	Ed6	Ed7	Ed8	Ed9	Ed10	Ed11	Ed12	Ed13	Ed14	Ed15	Ed16	Ed17	Ed18	Ed19	Ed20	Ed21	Ed22	Ed23	Ed24	Ed25	Ed26	Ed27	Ed28	Ed29	Ed30	Ed31	Ed32	Ed33	Ed34	Ed35	Ed36	Ed37	Ed38	Ed39	Ed40	Ed41	Ed42	Ed43	Ed44	Ed45	Ed46	Ed47	Ed48	Ed49	Ed50	Ed51	Ed52	Ed53	Ed54	Ed55	Ed56	Ed57	Ed58	Ed59	Ed60	Ed61	Ed62	Ed63	Ed64	Ed65	Ed66	Ed67	Ed68	Ed69	Ed70	Ed71	Ed72	Ed73	Ed74	Ed75	Ed76	Ed77	Ed78	Ed79	Ed80	Ed81	Ed82	Ed83	Ed84	Ed85	Ed86	Ed87	Ed88	Ed89	Ed90	Ed91	Ed92	Ed93	Ed94	Ed95	Ed96	Ed97	Ed98	Ed99	Ed100	Ed101	Ed102	Ed103	Ed104	Ed105	Ed106	Ed107	Ed108	Ed109	Ed110	Ed111	Ed112	Ed113	Ed114	Ed115	Ed116	Ed117	Ed118	Ed119	Ed120	Ed121	Ed122	Ed123	Ed124	Ed125	Ed126	Ed127	Ed128	Ed129	Ed130	Ed131	Ed132	Ed133	Ed134	Ed135	Ed136	Ed137	Ed138	Ed139	Ed140	Ed141	Ed142	Ed143	Ed144	Ed145	Ed146	Ed147	Ed148	Ed149	Ed150	Ed151	Ed152	Ed153	Ed154	Ed155	Ed156	Ed157	Ed158	Ed159	Ed160	Ed161	Ed162	Ed163	Ed164	Ed165	Ed166	Ed167	Ed168	Ed169	Ed170	Ed171	Ed172	Ed173	Ed174	Ed175	Ed176	Ed177	Ed178	Ed179	Ed180	Ed181	Ed182	Ed183	Ed184	Ed185	Ed186	Ed187	Ed188	Ed189	Ed190	Ed191	Ed192	Ed193	Ed194	Ed195	Ed196	Ed197	Ed198	Ed199	Ed200	Ed201	Ed202	Ed203	Ed204	Ed205	Ed206	Ed207	Ed208	Ed209	Ed210	Ed211	Ed212	Ed213	Ed214	Ed215	Ed216	Ed217	Ed218	Ed219	Ed220	Ed221	Ed222	Ed223	Ed224	Ed225	Ed226	Ed227	Ed228	Ed229	Ed230	Ed231	Ed232	Ed233	Ed234	Ed235	Ed236	Ed237	Ed238	Ed239	Ed240	Ed241	Ed242	Ed243	Ed244	Ed245	Ed246	Ed247	Ed248	Ed249	Ed250	Ed251	Ed252	Ed253	Ed254	Ed255	Ed256	Ed257	Ed258	Ed259	Ed260	Ed261	Ed262	Ed263	Ed264	Ed265	Ed266	Ed267	Ed268	Ed269	Ed270	Ed271	Ed272	Ed273	Ed274	Ed275	Ed276	Ed277	Ed278	Ed279	Ed280	Ed281	Ed282	Ed283	Ed284	Ed285	Ed286	Ed287	Ed288	Ed289	Ed290	Ed291	Ed292	Ed293	Ed294	Ed295	Ed296	Ed297	Ed298	Ed299	Ed300	Ed301	Ed302	Ed303	Ed304	Ed305	Ed306	Ed307	Ed308	Ed309	Ed310	Ed311	Ed312	Ed313	Ed314	Ed315	Ed316	Ed317	Ed318	Ed319	Ed320	Ed321	Ed322	Ed323	Ed324	Ed325	Ed326	Ed327	Ed328	Ed329	Ed330	Ed331	Ed332	Ed333	Ed334	Ed335	Ed336	Ed337	Ed338	Ed339	Ed340	Ed341	Ed342	Ed343	Ed344	Ed345	Ed346	Ed347	Ed348	Ed349	Ed350	Ed351	Ed352	Ed353	Ed354	Ed355	Ed356	Ed357	Ed358	Ed359	Ed360	Ed361	Ed362	Ed363	Ed364	Ed365	Ed366	Ed367	Ed368	Ed369	Ed370	Ed371	Ed372	Ed373	Ed374	Ed375	Ed376	Ed377	Ed378	Ed379	Ed380	Ed381	Ed382	Ed383	Ed384	Ed385	Ed386	Ed387	Ed388	Ed389	Ed390	Ed391	Ed392	Ed393	Ed394	Ed395	Ed396	Ed397	Ed398	Ed399	Ed400	Ed401	Ed402	Ed403	Ed404	Ed405	Ed406	Ed407	Ed408	Ed409	Ed410	Ed411	Ed412	Ed413	Ed414	Ed415	Ed
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Eq. (14) can be reduced to Eq. (15) if $\beta = 0$ and $\gamma = 1$. In this case, the model is identical to the one proposed by Ebrahimi et al. (2005).

DH=6.32 kJ mol⁻¹ and DS=53.14 J mol⁻¹ K⁻¹.

C5H4O3 L (7859)

Methylhydroxycyclobuta-1,2-dione;

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

Eu+++ dis NaClO4 25°C 0.1M U T H K1=4.5 1976YCb (36314) 378

At 2 C: K1=6.1; 51 C: K1=2.7. DH=-11kJ mol⁻¹

C5H5N L Pyridine CAS 110-86-1 (31)

Pyridine, Azine;

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

Eu+++ cal non-aq 30°C 100% U T HM 1981GMa (36620) 379

K(Eu2A6+L)=3.59

Medium: benzene. HA=2,2,6,6-tetramethylheptane-3,5-dione; DH=-33.2, DS=-41

Eu+++ cal non-aq 30°C 100% U HM 1981GMa (36621) 380

K(EuA3+L)=4.0

K(EuA3L+L)=2.7

Medium: benzene. HA=6,6,7,7,8,8,8-heptafluoro-2,2-dimethyloctane-3,5-dione

Eu+++ nmr non-aq 27°C 100% U M 1972HSa (36622) 381

K(EuA3+L) > 2.0

Medium: CDCl3. A3=dipivalomethane

C5H5NO2 HL CAS 16867-04-2 (2316)

2,3-Dihydroxypyridine, 3-Hydroxypyridin-2(1H)-one; C5H3N(OH)2

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

Eu+++ vlt NaClO4 20°C 0.10M C K1=8.26 1985SSh (36784) 382

Method: polarography. Medium pH 5.0.

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

Eu+++ gl diox/w 25°C 50% M I K1=6.00 B2=11.17 1994SSa (37064) 383

K3=4.37

Medium: 50% dioxan, I=0 corr. At 35 C: K1=5.76, K2=5.08, K3=4.11

C5H6N2O L CAS 16867-03-1 (2903)

2-Amino-3-hydroxypyridine; C5H3N(OH)(NH2)

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

Eu+++ vlt NaClO4 20°C 0.10M C K1=7.96 1985SSh (37191) 384
Method: polarography. Medium pH 5.0.

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

Eu+++ gl KCl 25°C 0.20M U K1=3.33 1989MFa (37421) 385

K(Eu+HL)=1.98

C5H7NO3 HL (4313)

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

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

Eu+++ gl diox/w 20°C 50% U K1=4.69 B2=8.22 1971MAf (37525) 386

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

C5H8N2O3 H2L (4317)

Methylacetylglyoxime; CH3.C(:N.OH).C(:N.OH).CO.CH3

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

Eu+++ gl diox/w 20°C 50% U K1=5.74 B2=10.54 1971MAf (37702) 387

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

Eu+++ gl KCl 25°C 0.10M U K1=5.76 B2=10.41 1995PAa (37951) 388

K3=3.44

Eu+++ gl NaClO4 20°C 0.10M U M 1973TZa (37952) 389

K(Eu(EDTA)+L)=3.54

Eu+++ gl R4N.X 25°C 0.10M U M 1972FGa (37953) 390

K(Eu(EDTA)+L)=2.73

Medium: NH4Cl

Eu+++ gl alc/w ? 50% U I K1=7.03 1971K0a (37954) 391

Medium: 5-80% MeOH, 0.005 M EuCl3, 0.005 HL. K1(5%)=5.95, K1(80%)=8.29

Eu+++ gl NaClO4 25°C 2.0M U K1=5.41 B2=9.71 1964YCa (37955) 392

Eu+++ gl oth/un 30°C 0.10M U K1=5.87 B2=10.35 1960GFa (37956) 393

K3=3.29

Eu+++ gl oth/un 30°C 0.0 U K1=6.0 B2=10.50 1955IFa (37957) 394

K3=3.5

MEDIUM: 0 corr

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

Eu+++ gl KCl 25°C 0.20M U K1=4.65 1989ZPa (38241) 395

In 70.4% v/v EtOH/H2O: K1 = 6.38

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

Eu+++ gl NaClO4 25°C 0.10M U K1=3.37 B2=5.02 1970RFa (38260) 396

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

Eu+++ sp NaClO4 25°C 0.10M C K1=2.66 B2= 4.53 2000WBa (38318) 397

Method: emission spectroscopy.

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

Eu+++ gl oth/un 24°C 0.20M U K1=3.69 1966DDa (38420) 398

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

Eu+++ gl NaClO4 25°C 0.10M U B2=5.57 1981ZLa (38610) 399

Eu+++ vlt NaClO4 25°C 0.20M U K1=0.3 B2=1.78 1972LAa (38611) 400

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

Eu+++ gl NaCl 37°C 0.15M U K1=3.74 1997GMa (38728) 401

Eu+++ gl NaClO4 25°C 0.10M U B2=5.03 1981ZLa (38729) 402

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KCl	25°C	0.10M	U		K1=6.66 B3=14.77 B(Eu+20H+L)=16.37	1980MGC	(39249) 403

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

Eu+++ gl KCl 25°C 0.10M U K1=2.55 1973FMa (39887) 404

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

Eu+++ gl KCl 25°C 0.10M U K1=2.60 1973FMa (39936) 405

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

Eu+++ g1 KCl 25°C 0.10M U K1=2.50 1973FMb (40101) 406

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

Eu+++	g1	KNO3	25°C	0.10M U	K1=2.90 K3=1.60	B2=5.20	1969PCa (40253)	407
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C5H10O3 HL CAS 617-31-2 (474)
2-Hydroxypentanoic acid; CH₃.CH₂.CH₂.CH(OH).COOH

Eu+++ g1 NaCl04 25°C 1.0M U K1=2.43 1968GCa (40278) 408

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

B3=9.16

Eu+++	gl	KNO3	25°C	0.10M	U	K1=3.99 K3=2.86 K4=2.18	B2=7.45	1968PIa (42527)	418
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Eu+++	gl	NaCl	25°C	0.50M	U	K1=2.86 K3=1.55	B2=5.20	1966MPb (42528)	419
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Eu+++	gl	NaClO4	25°C	2.0M	U	K1=3.80	B2=6.73	1965YCa (42529)	420
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Eu+++	gl	KNO3	25°C	0.10M	U	K1=4.07 B3=10.6	B2=7.48	1964THb (42530)	421
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 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
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Eu+++	gl	NaClO4	25°C	0.20M	U			K1=2.10	1973FDa (42670)	422
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 C6H5NO3 HHL CAS 824-40-8 (878)
 Pyridine-2-carboxylic acid N-oxide (Picolinic acid N-oxide); C5H4N(O)COO

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++	gl	NaClO4	25°C	2.0M	U			K1=2.94 B2=5.23	1965YCa (42832)	423
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 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
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Eu+++	gl	KNO3	25°C	0.10M	C			K1=8.9 B(Eu2L3)=18.4	1988ZKa (42923)	424
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 C6H5NO4 H2L CAS 3163-07-3 (2711)
 2,4-Dihydroxy-1-nitrobenzene; O2N.C6H3(OH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++	sp	KCl	25°C	0.10M	M I			K1=6.21	1989PEa (42952)	425
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 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
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Eu+++	sp	KCl	25°C	0.10M	U			K1=5.30	1987PLa (43108)	426
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C6H5O4Cl HL Chlorokojic aci (3086)
3-Chloro-5-hydroxy-2-hydroxymethyl-4-pyrone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	oth/un	30°C	0.10M	U		K1=5.98 B2=11.19	1972DSd (43131)	427

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
Eu+++	sp	KCl	25°C	0.10M	U		K1=5.38	1987PLa (43150)	428

C6H6N2O4 HL Methylorotic CAS 706-36-2 (2611)
3N-Methyl-2,4-dihydroxypyrimidine-6-carboxylic acid, methylorotic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	oth/un	20°C	0.15M	U		K1=6.4	1987DBa (43472)	429

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
Eu+++	gl	NaClO4	25°C	0.20M	U		K1=9.56	1998PJb (43750)	430
Eu+++	gl	KNO3	25°C	0.10M	C		K1=10.1 B2=16.8 K(EuL+H)=7.3	1988ZKa (43751)	431

Eu+++	EMF	NaCl	25°C	0.10M	U		K1=11.17	1969PKe (43752)	432
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C6H6O3 H3L Pyrogallol CAS 87-66-1 (696)
1,2,3-Trihydroxybenzene; C6H3(OH)3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaClO4	25°C	0.20M	U		K1=10.48	1998PJb (43957)	433

C6H6O3 HL Maltol CAS 118-71-8 (2442)
3-Hydroxy-2-methyl-4H-pyran-4-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaClO4	30°C	0.10M	U		K1=6.72 B2=12.03 K3=3.80	1970DSc (44082)	434

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
Eu+++	sp	KCl	25°C	0.10M	C	I	K1=6.026	1987PEa (44208)	435
In 0.086 M KCl, K1=6.067.									
Eu+++	gl	oth/un	30°C	0.10M	U		K1=6.15 K3=4.03	1972DSd (44209)	436
Eu+++	gl	NaClO4	25°C	2.0M	U		K1=5.35 B2=10.45	1964YCa (44210)	437

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
Eu+++	gl	KNO3	25°C	0.10M	C		K1=13.2 K(EuL+H)=5.7	1988ZKa (44423)	438
Eu+++	gl	NaClO4	25°C	0.50M	C		K1=12.54 B2=20.92 B(EuHL2)=28.80	1976LAb (44424)	439

C6H7N		L	Picoline				CAS 109-06-8 (320)		
2-Methylpyridine; C5H4N.CH3									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	vlt	NaNO3	25°C	0.10M	C		K1=3.0 B2= 4.60 B3=6.66	1987KSf (44606)	440
Method: polarography.									
Eu+++	cal	non-aq	30°C	100%	U	HM	K(Eu2A6+L)=2.35	1981GMa (44607)	441
Medium: benzene. HA=2,2,6,6-tetramethylheptane-3,5-dione; DH=-21.6, DS=-18									
Eu+++	cal	non-aq	30°C	100%	U	HM	K(EuA3+L)=2.5 K(EuA3L+L)=1.6	1981GMa (44608)	442
Medium: benzene. HA=6,6,7,7,8,8,8-heptafluoro-2,2-dimethyloctane-3,5-dione									

C6H7N		L	beta-Picoline				CAS 108-99-6 (324)		
3-Methylpyridine; C5H4N.CH3									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	vlt	NaNO3	25°C	0.10M	C		K1=2.60 B2= 4.38 B3=5.30 B4=7.32	1987KSf (44695)	443
Method: polarography.									

Eu+++ cal non-aq 30°C 100% U HM 1981GMa (44696) 444

K(Eu2A6+L)=3.17

Medium: benzene. HA=2,2,6,6-tetramethylheptane-3,5-dione; DH=-35.6, DS=-57

Eu+++ cal non-aq 30°C 100% U HM 1981GMa (44697) 445

K(EuA3+L)=4.3

K(EuA3L+L)=3.0

Medium: benzene. HA=6,6,7,7,8,8,8-heptafluoro-2,2-dimethyloctane-3,5-dione

C6H7N L gamma-Picoline CAS 108-89-4 (325)

4-Methylpyridine; C5H4N.CH3

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

Eu+++ vlt NaNO3 25°C 0.10M C B2=6.23 1987KSf (44818) 446

Method: polarography.

Eu+++ cal non-aq 30°C 100% U HM 1981GMa (44819) 447

K(Eu2A6+L)=3.34

Medium: benzene. HA=2,2,6,6-tetramethylheptane-3,5-dione; DH=-29.8, DS=-35

Eu+++ cal non-aq 30°C 100% U HM 1981GMa (44820) 448

K(EuA3+L)=4.3

K(EuA3L+L)=3.0

Medium: benzene. HA=6,6,7,7,8,8,8-heptafluoro-2,2-dimethyloctane-3,5-dione

C6H7N L Aniline CAS 62-53-3 (583)

Aminobenzene, aniline; C6H5.NH2

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

Eu+++ sp non-aq 25°C 100% U HM 1982KNa (44870) 449

K(EuA3+L)=2.29

Medium: CCl4. HA=dipivaloylmethane

C6H7N3O L Isonicotinic hy CAS 54-85-3 (1267)

Pyridine-4-carboxylic acid hydrazide; C5H4N.CO.NH.NH2

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

Eu+++ gl NaClO4 15°C 0.10M U K1=8.70 1980ZMa (45126) 450

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

Eu+++ gl diox/w 25°C 50% M I K1=6.03 B2=11.38 1994SSa (45185) 451

K3=4.50

Medium: 50% dioxan, I=0 corr. At 35 C: K1=5.65, K2=5.29, K3=4.27

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

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

Eu+++ gl KCl 25°C 0.20M U K1=4.19 1989ZPa (45467) 452
In 70.4% v/v EtOH/H2O: K1 = 5.94

C6H8O6 H3L Tricarballic CAS 99-14-9 (1620)
1,2,3-Propanetricarboxylic acid; HOOC.CH2.CH(COOH).CH2.COOH

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

Eu+++ ix oth/un 13°C 0.75M U T 1969LEa (45564) 453
Temperature range 12.5-37.5C. K1=-0.928 + 0.00734T + 0.0000105T^2

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

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

Eu+++ sp oth/un ? ? U 1966SAb (45635) 454
K(Eu+HL)=0.8

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

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

Eu+++ gl KNO3 25°C 0.10M U M 1975TDa (46079) 455
B(Eu(IDA)L)=10.9

Eu+++ dis NaClO4 25°C 0.15M U 1973HHc (46080) 456
K(Eu+L+HL)=11.11

Eu+++ gl alc/w 25°C 25% U I K1=8.68 1972BKd (46081) 457
Medium: EtOH/H2O, 0.05 M (NaCl,NaClO4). 0%, K1=7.91, 50%, K1=9.66

Eu+++ dis oth/un 25°C 0.10M U K1=7.48 1971GBa (46082) 458
K(Eu+2H3L=EuHL2+5H)=-9.5

Eu+++ oth oth/un 25°C 0.10M U K1=7.75 B2=10.95 1971STe (46083) 459
K(EuL+HL)=2.50

Constants obtained by survey of literature data

Eu+++ dis oth/un ? ? U 1970PGb (46084) 460
K(Eu+H-1L+L)=10.7
K(Eu+2OH+H-1L)=20.92

Eu+++ ix oth/un 13°C 0.75M U T 1969LEa (46085) 461
 $K1 = 0.0203 + 0.00851T + 0.000000225T^2$ (12.5-37.5 C)

Eu+++ sol NaCl04 25°C 0.10M U K1=8.4 1966SSg (46086) 462
 Kso=-12.01

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

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

Eu+++ EMF NaCl04 25°C 1.00M U K1=5.85 B2=9.98 1991WPb (46329) 463

C6H9NO6 H3L Carboxyglutamic CAS 56271-99-9 (2323)
 4-Carboxyglutamic acid, 3-Amino-1,1,3-propanetricarboxylic acid;

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

Eu+++ oth none 25°C 0.0 M K1=4.48 B2=9.71 1980SSd (46358) 464
 Method: luminescence

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

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

Eu+++ ISE NaCl04 25°C 0.10M C I K1=11.44 1997LBb (46785) 465
 Method: Cu ISE and competitive complexation by Cu. Data for 0.1-5.0 M.
 At I=0.0 M, K1=13.23.

 Eu+++ cal NaCl04 25°C 0.50M C H K1=11.15 1987CRa (46786) 466
 DH(K1)=-6.4 kJ mol⁻¹; DS(K1)=192 J K⁻¹ mol⁻¹

 Eu+++ ISE KNO3 25°C 0.10M C K1=11.52 1980NSf (46787) 467
 Competitive method using Cd ion-selective electrode.

 Eu+++ gl KNO3 20°C 1.0M C K2=8.15 1978GHb (46788) 468

 Eu+++ gl NaCl04 25°C 0.50M U K1=11.15 1977GGb (46789) 469

 Eu+++ EMF KCl 25°C 1.0M U M 1977GMa (46790) 470
 $K(EuA+L)=6.02$
 $K(EuA+H2L)=1.63$
 $K(EuA+H3L)=2.19$
 $K(EuA+H4L)=3.48$

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

 Eu+++ gl NaCl04 25°C 0.50M U K1=10.51 B2=19.51 1973CTa (46791) 471

Eu+++ sp oth/un ? 1.00M U M 1972TKb (46792) 472
 B(EuAL)=21.66
 K(EuA+L)=5.13

H4A=EDTA

Eu+++ cal KNO3 20°C 0.10M U HM 1971GKb (46793) 473
 K(EuA+L)=5.03
 H4A=EDTA. DH(EuA+L)=-30.04 kJ mol⁻¹, DS=-6.3 J K⁻¹ mol⁻¹
 DH(EuLA)=-40.8 kJ mol⁻¹, DS=299 J K⁻¹ mol⁻¹

Eu+++ gl oth/un 20°C 0.20M U 1970VMa (46794) 474
 B(EuL(OH))=6.21

Eu+++ dis oth/un 20°C 0.10M U K1=9.10 1968MTa (46795) 475
 Method: paper electrophoresis

Eu+++ dis R4N.X 20°C 0.10M U B2=20.42 1966STa (46796) 476
 Medium: NH4Cl

Eu+++ gl KNO3 25°C 0.10M U T H T K1=11.52 B2=20.70 1962MFb (46797) 477
 15 C: K1=11.52, K2=9.36; 20 C: 11.49, 9.27; 30 C: 11.54, 9.18; 35 C: 11.53, 9.08;
 40 C: 11.55, 9.02. DH(K1)=3.9 kJ mol⁻¹, DS=233 J K⁻¹ m⁻¹; DH(K2)=-21.3, DS=105

Eu+++ vlt KNO3 20°C 0.10M U 1957NOa (46798) 478
 K(Eu2L3)=36.84

C6H10O2S HL (4370)
 Ethyl thioacetoacetate; CH3.CS.CH2.CO.OCH2.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	mixed	30°C	75%	U		K1=7.30 B2=13.30 K3=5.60	1970DRa (47962)	479

Medium: 75% acetone, 0.1 M

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaClO4	25°C	0.10M	U		K1=2.803 B2=5.00 K3=1.57	1966PRb (47988)	480

C6H10O3 HL CAS 141-97-9 (3068)
 Ethyl acetoacetate; CH3.CO.CH2.CO2.C2H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	mixed	30°C	75%	U		K1=6.62 B2=12.32	1969DRa (48012)	481

Medium: 75% acetone, 0.1 M NaClO4

C6H1004 H2L Adipic acid CAS 124-04-9 (401)
1,6-Hexanedioic acid; H00C.(CH2)4.C00H

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

Eu+++ sp NaCl04 25°C 0.10M C K1=2.59 B2= 4.84 2000WBa (48071) 482
Method: emission spectroscopy.

C6H1006 H2L CAS 23243-68-7 (242)
1,2-Bis(carboxymethoxy)ethane; H00C.CH2.0.CH2.CH2.0.CH2.C00H

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

Eu+++ sp NaCl04 25°C 0.10M U K1=4.94 B2=7.44 1984AFa (48338) 483
From laser excitation spectroscopy measurements.

C6H1007 HL Glucuronic acid CAS 6556-12-3 (599)
D-Glucuronic acid;

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

Eu+++ gl NaCl04 25°C 1.00M C K1=1.60 1977Mca (48419) 484

C6H1008 H2L Saccharic acid CAS 87-73-0 (1191)
D-2,3,4,5-Tetrahydroxy-1,6-hexanedioic acid, Glucaric acid; H00C.(CHOH)4.C00H

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

Eu+++ gl NaCl04 25°C 0.10M U M K1=4.60 1997PPb (48472) 485
K(Eu(edta)+L)=4.05

C6H11N05 H2L HIMDA CAS 93-62-9 (192)
N-(2-Hydroxyethyl)iminodiethanoic acid; H0.CH2.CH2.N(CH2.C00H)2

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

Eu+++ gl KNO3 20°C 1.00M U K1=8.32 B2=16.04 1974CMD (48720) 486
K(EuL2(OH)+H)=10.64

Eu+++ dis oth/un 25°C 0.10M U K1=9.61 1971EVb (48721) 487

Eu+++ oth NaNO3 20°C 0.10M U M K1=8.95 B2=16.80 1966JMc (48722) 488
Method: paper electrophoresis. Mixed complexes with HEDTA

Eu+++ gl KCl 25°C 0.10M U K1=8.99 B2=16.26 1965DTa (48723) 489

Eu+++ ISE KNO3 25°C 0.10M U K1=9.10 B2=17.01 1963TLa (48724) 490

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

Glycyl-glycyl-glycine; H₂N.CH₂.CO.NH.CH₂.CO.NH.CH₂.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	KCl	25°C	0.10M	U			K1=2.55	1973FMa (48975)	491

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	R4N.X	25°C	0.10M	C			K1=8.38	1988CCb (49236)	492
Eu+++	gl	KNO3	25°C	0.10M	U			K1=8.38 B2=14.73	1962THb (49237)	493

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	EMF	NaClO4	25°C	1.0M	U			K1=2.68 B2=4.65	1965TVa (49472)	494
								K3=1.41		
								K4=0.99		

Method: quinhydrone electrode

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	KNO3	25°C	0.10M	U			K1=3.49 B2=5.95	1979PPa (49492)	495
								K3=1.74		

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	vlt	NaClO4	30°C	1.0M	C			K1=2.85 B2= 3.95	1978PBb (49711)	496
Method: polarography. Medium pH 6.5.										

Eu+++	vlt	NaCl	25°C	0.30M	U				1971MMi (49712)	497
								K(Eu(OH) ₂ +2L)=6.80		

Eu+++	EMF	alc/w	25°C	80%	U	I		K1=5.47	1966KRb (49713)	498
Medium: 80% MeOH. K1=4.77(50%)										

Eu+++	gl	KCl	25°C	0.20M	U			K1=2.69 B2=4.97	1963KOc (49714)	499

C6H13NO2		HL						CAS 61-90-5	(47)	

2-Amino-4-methylpentanoic acid; $\text{H}_2\text{N}.\text{CH}(\text{CH}_2.\text{CH}(\text{CH}_3)_2).\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KN03	25°C	0.20M	U	M	K1=6.15 K(Eu(phen)+L)=5.97	1990LSb (50072)	500

C6H13NO2 HL Norleucine CAS 616-06-8 (602)
2-Aminohexanoic acid (2-Aminocaproic acid) $\text{CH}_3.(\text{CH}_2)_3.\text{CH}(\text{NH}_2).\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KCl	20°C	0.20M	U		K1=4.15 B2=7.28	1990PLa (50177)	501

C6H13NO2 HL CAS 60-32-2 (1846)
6-Aminohexanoic acid; $\text{H}_2\text{N}.\text{CH}_2.\text{CH}_2.\text{CH}_2.\text{CH}_2.\text{CH}_2.\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KCl	20°C	0.20M	U		K1=5.30 B2=9.68	1990PLa (50215)	502

C6H13NO4 HL Bicine CAS 150-25-4 (2124)
N,N-Bis(2-hydroxyethyl)glycine; $(\text{HO}.\text{CH}_2.\text{CH}_2)_2\text{N}.\text{CH}_2.\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KN03	20°C	0.10M	U		K1=5.73 B2=10.47	1982RFa (50355)	503

Eu+++	gl	KCl	30°C	0.10M	U		K1=5.60 B2=10.25	1973MSe (50356)	504
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Eu+++	gl	alc/w	20°C	50%	U	I	K1=6.79	1970KR a (50357)	505
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Medium: 0-80% MeOH, 0.03 M KCl. K1(0%)=5.70, K1(20%)=6.22, K1(80%)=7.9

Eu+++	oth	NaNO3	20°C	0.10M	U		K1=8.0 B2=14.30	1966JMc (50358)	506
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Method: paper electrophoresis

C6H13NO4S HL MES CAS 4432-31-9 (7807)
4-Morpholineethanesulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KN03	25°C	0.10M	C		K1=3.38 *K(EuL)=-5.52 K(2Eu(OH)L=Eu2(OH)2L2)=8.41	2001AAb (50431)	507

C6H13NO6 HL CAS 84518-56-9 (4387)
2-Amino-2-deoxy-D-gluconic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Eu+++ vlt NaClO4 25°C 0.10M U I K1=5.24 B2=10.52 1969MMe (50531) 508
 $K(\text{EuL}+\text{H}_2\text{O}=\text{EuLOH}+\text{H})=-8.03$
 pH=8.06. pH=8.62: $K(\text{EuL}+\text{H}_2\text{O}=\text{EuLOH}+\text{H})=-8.38$; pH=8.90: $K=-8.46$

C6H13N3O3 HL Citrulline (579)
 2-Amino-5-ureidovaleric acid; $\text{H}_2\text{N.CO.NH.CH}_2.\text{CH}_2.\text{CH}_2.\text{CH}(\text{NH}_2).\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++	gl	NaCl	37°C	0.15M	U	M		K1=3.01 B(EuHL)=9.97 B(EuH2AL)=24.21	1997GMa (50576)	509
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Ligand is DL-citrulline. HA is L-hydroxyproline.

C6H15N06P2 H4L (6891)
 Piperidine-N-Methylenedi(phosphonic acid); $\text{C}_5\text{H}_{10}\text{N.CH}(\text{PO}_3\text{H}_2)_2$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++	cal	NaClO4	25°C	2.00M	C	H			2000JBa (51322)	510
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DH(Eu+H3L)=3.6 kJ mol⁻¹, DS=87 J K⁻¹ mol⁻¹; DH(Eu+H4L)=4.5, DS=78;
 DH(Eu+2H3L)=-5.1, DS=116; DH(Eu+2H4L)=1.5, DS=124; DH(Eu+2H4L+H3L)=-6.5.

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
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Eu+++	gl	KCl	25°C	0.10M	C			B(EuH-6L2)=-18.5 B(EuH-7L2)=-29.5	1998HGa (51449)	511
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C6H15O3P HL CAS 3935-30-6 (8314)
 Methylphosphonic acid monoisopentyl ester;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++	dis	oth/un	20°C	1.0M	C				1994NSc (51503)	512
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$K(\text{Eu}+3\text{HL}(\text{org})=\text{EuL}_3(\text{org})+3\text{H})=1.2$. Method: extraction of 152Eu from
 1.0 M HNO3 into benzene. Data for a range of alkyl- and cyclohexyl- esters

C6H15O4P L Ethyl Phosphate CAS 78-40-0 (2430)
 Triethyl phosphate; $(\text{C}_2\text{H}_5\text{O})_3\text{PO}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++	sp	oth/un	25°C	?	U	M		K(EuA3+L=EuA3L)=3.467 K(EuB3+L=EuB3L)=3.246	1980BRb (51518)	513
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A= 6,6,7,7,8,8,8-Heptafluoro-2,2'-dimethyloctane-3,5-dione anion, B= (3-Hep-

Method: polarography

9. $\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$

Method: fluorescence spectroscopy Medium pH: 5.8

$\frac{1}{\sqrt{2}} \begin{pmatrix} 1 & i \\ -1 & i \end{pmatrix}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KNO3	25°C	0.10M	U		K1=7.10 K3=4.81	1969CMb (53671)	526

C7H6O2		HL		Benzoic Acid			CAS 65-85-0	(462)	
Benzenecarboxylic acid; C6H5.COOH									
Eu+++	sp	NaClO4	25°C	0.10M	C		K1=1.84 B2= 2.92	1999WVa (53830)	527
Method: laser induced fluorimetry									
Eu+++	cal	NaClO4	25°C	0.10M	U	H	K1=2.16 B2=3.79	1982CBc (53831)	528
DH1= 7.9 kJ mol ⁻¹ , DS1= 68 J K ⁻¹ mol ⁻¹									
Eu+++	gl	alc/w	25°C	99%	U		K1=6.30 K3=2.73	1974BPb (53832)	529

C7H6O3		H2L		Salicylic acid			CAS 69-72-7	(14)	
2-Hydroxybenzoic acid, Salicylic acid; HO.C6H4.COOH									
Eu+++	gl	NaClO4	25°C	0.1M	C	H		1996HYa (54190)	530
By calorimetry: DH(K1)=1.29 kJ mol ⁻¹ , DH(B2)=5.71 J K ⁻¹ mol ⁻¹									
Eu+++	gl	NaClO4	25°C	0.10M	C	T	K(Eu+HL)=2.02 K(EuHL+HL)=1.82	1989HMa (54191)	531
Eu+++	gl	alc/w	25°C	100%	U		K1=5.81 K3=3.23	1973BPd (54192)	532
Medium: 99.9% MeOH, 0.1 M NaCl									
Eu+++	dis	NaClO4	22°C	0.10M	U		K(Eu+HL)=2.59 K(EuHL+HL)=1.62 K(Eu(HL)2+HL)=0.65	1970ISa (54193)	533

C7H6O3		H2L					CAS 99-06-9	(1370)	
3-Hydroxybenzoic acid; HO.C6H4.COOH									
Eu+++	gl	NaClO4	25°C	0.10M	C		K(Eu+HL)=2.13	1988LLa (54378)	534

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
Eu+++	gl	NaClO4	25°C	0.10M	M	H	K1=1.89	1999YKa (54413)	535
By calorimetry: DH(K1)=9.06 kJ mol ⁻¹ , DS(K1)=66.6 J K ⁻¹ mol ⁻¹ .									
Eu+++	gl	NaClO4	25°C	0.10M	C		K(Eu+HL)=2.36	1988LLa (54414)	536
Eu+++	gl	alc/w	25°C	99%	U		K1=6.56 B2=11.73 K3=3.22	1974BPb (54415)	537

C7H6O4 H3L Protocatechuic CAS 99-50-3 (875)
3,4-Dihydroxybenzoic acid; C6H3(OH)2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaClO4	25°C	0.20M	U		K1=10.16	1998PJb (54669)	538

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
Eu+++	sp	oth/un	25°C	dil	C		K1=1.79 *K(EuL)=-5.78	2004TAb (54969)	539

Method: time resolved laser induced fluorescence spectrometry.
Self medium, 0-0.015 M Eu, ph 4.0-5.8.

Eu+++	gl	NaClO4	25°C	1.0M	C		K1=6.27 B2=11.76	1983Nca (54970)	540
Eu+++	gl	NaClO4	25°C	1.0M	U		K1=6.27 B2=11.76	1979Nca (54971)	541
Eu+++	gl	NaClO4	20°C	1.0M	U		K1=6.79 B2=12.46	1972CBb (54972)	542
Eu+++	sp	NaClO4	20°C	0.10M	U		K1=7.87 B2=13.90 K(Eu+HL)=2.26	1968KTb (54973)	543

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
Eu+++	gl	NaClO4	25°C	0.50M	C	T	K1=8.35 B2=13.76	1976LAc (55095)	544

C7H7NO2		HL					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
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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
Eu+++	sp	KCl	25°C	0.10M	M	I	K1=6.06	1986PLb (56145)	553

		C7H8O8P2	H4L				(6892)		
1,2-((Phenylenedioxy)methylene)diphosphonic acid); C6H4O2C(P03H2)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	R4N.X	25°C	0.50M	U		K1=11.28 K(Eu+HL)=5.98	1985GMb (56166)	554

Medium: 0.5 M Me4NCl

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KN03	25°C	0.10M	U		K1=4.17 B2=6.70	1971PJb (56731)	555

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KN03	25°C	0.10M	U		K1=6.13 B2=11.45	1963THb (56805)	556

		C7H11NO6	H3L				(2926)		
2-Aminobutanoic-N-propane-1,3-dioic acid; H00C.CH(C2H5)NH.CH(COOH)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KN03	25°C	0.1M	U		K1=8.71	1982KKc (56843)	557

		C7H12N2O3	HL		Pro-Gly		CAS 2578-97-6	(262)	
Prolyl-glycine; C4H8N.CO.NH.CH2.COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KCl	25°C	0.10M	U		K1=3.10	1973FMa (57147)	558

		C7H12O3	HL				CAS 609-69-8	(3731)	
2-Hydroxycyclohexanecarboxylic acid; H0.C6H10.COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaCl04	25°C	1.0M	U		K1=2.21 B2=4.07	1967STd (57261)	559

C7H12O3 HL (4422)
3-Methyl ethylacetoacetate; CH₃.CO.CH(CH₃).CO.OCH₂.CH₃

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++	gl	mixed	30°C	75%	U			K1=8.22	1971DRb (57273)	560
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Medium: 75% acetone, 0.1 M

C7H12O4 H2L CAS 510-20-3 (482)
Diethylpropanedioic acid (Diethylmalonic acid); H₃COO.C(C₂H₅)₂.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++	gl	KNO ₃	25°C	0.10M	U			K1=4.46 B2=7.05	1968PFa (57362)	561
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C7H12O6 HL Quinic acid CAS 77-95-2 (2578)
1,3,4,5-Tetrahydroxycyclohexane-1-carboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++	gl	NaCl	20°C	0.10M	U			K1=2.87	1977SSc (57397)	562
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Eu+++	EMF	NaClO ₄	25°C	1.0M	U			K1=2.67 B2=4.69 K3=1.46 K4=0.75	1967OTa (57398)	563
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Method: quinhydrone electrode

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++	gl	KNO ₃	20°C	0.10M	U			K1=8.51 B2=16.12	1980RPa (57611)	564
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C7H14N2O2 L TMMA CAS 7313-22-6 (7732)
N,N,N',N'-Tetramethylmalonamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++	cal	mixed	25°C	10 %	U	IH		K1=1.34	2000RZa (57701)	565
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Medium: 10% w/w DMSO/AN. DH(K₁)=22.4 kJ mol⁻¹, DS(K₁)=101 J K⁻¹ mol⁻¹.

C7H14N2O3S HL Gly-Met CAS 554-94-9 (726)
Glycyl-methionine; H₂N.CH₂.CO.NH.CH(CH₂.CH₂.S.CH₃).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++	gl	KCl	25°C	0.10M	U			K1=2.60	1973FMa (57796)	566
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C7H14O3 HL CAS 63204-98-9 (3738)

2-Hydroxy-2,4-dimethylpentanoic acid; (CH3)2.CH.CH2.C(CH3)(OH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	EMF	NaClO4	25°C	1.0M	U			K1=2.71 K3=1.37 K4=1.25	1965TVa (57861)	567

Method: quinhydrone electrode

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
Eu+++	gl	NaClO4	25°C	0.10M	C			K1=2.62 B2=4.27	1976SPa (57873)	568

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	KNO3	20°C	0.10M	U			K1=5.36 B2=9.81	1982RFa (57935)	569

C7H15NO5S HL MOPSO CAS 68399-77-9 (1967)
3-(N-Morpholino)-2-hydroxypropane sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	KNO3	25°C	0.10M	C			K1=3.39 *K(EuL)=-5.33 K(2Eu(OH)L=Eu2(OH)2L2)=8.61	2001AAb (57993)	570

C8H5NO6 H2L CAS 603-11-2 (1171)
3-Nitro-phthalic acid; O2N.C6H3(COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	ix	KNO3	20°C	1.0M	U			K1=2.4	1973NKb (58433)	571

C8H5NO6 H2L CAS 610-22-5 (1172)
4-Nitro-phthalic acid; O2N.C6H3(COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	ix	NaNO3	20°C	1.0M	U			K1=2.3	1973NKb (58445)	572

C8H5NO6 H3L Murexide (453)
Purpuric acid (Murexide is ammonium salt);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++ sp NaNO3 25°C 0.10M U K1=4.01 19850Ha (58499) 573

Eu+++ sp NaClO4 30°C 0.10M C K1eff=5.442 1978BKd (58500) 574

Medium pH 5.4 (acetate).

Eu+++ sp KNO3 12°C 0.10M U K(Eu+H2L)=4.17 1965GEa (58501) 575

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

Eu+++ cal non-aq 25°C 100% C H 2004MIa (58615) 576

Method: calorimetric titration. Medium: chloroform. DH(EuL3+A)=6.9 kJ
mol-1, DS=81 J K-1 mol-1; DH(EuL3+2A)=7.2, DS=131. HA is benzoic acid.

Eu+++ gl alc/w 22°C 80% U K1=6.44 B2=11.94 1995MTa (58616) 577
K3=4.36

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

Eu+++ gl mixed 25°C 50% U K1=5.81 B2=11.15 1980SBc (58617) 578
K3=5.06

Medium: 50% MeCN

Eu+++ dis non-aq 25°C 100% U I M 1973AKc (58618) 579
K(EuL3+A)=5.87
K(EuL3+2A)=10.78

Medium: n-hexane. Data for many other solvents also available
Solvent=n-heptane: K(EuL3+A)=6.27; K(EuL3+2A)=11.14. A=TBP

Eu+++ dis oth/un 25°C 0.10M U K1=6.65 B2=9.67 1970IKa (58619) 580
B3=12.04 (pH 3-7)

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

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

Eu+++ sp NaClO4 25°C 0.10M C K1=3.45 B2= 5.17 1999WVa (58967) 581
Method: laser induced fluorimetry

Eu+++ ix NaNO3 20°C 1.0M U K1=3.8 1973NKb (58968) 582

Eu+++ gl NaClO4 30°C 0.10M U K1=4.12 B2=7.27 1966KPb (58969) 583

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
Eu+++	sp	NaClO4	25°C	0.10M	C		K1=2.75 B2= 4.09	1999WVa (59051)	584
Method: laser induced fluorimetry.									
Eu+++	cal	NaClO4	25°C	0.10M	U H		K1=2.77	1982CBc (59052)	585
DH= 11.89 kJ mol ⁻¹ , DS= 93 J K ⁻¹ mol ⁻¹									

C8H6O4		H2L						Terephthalic Ac CAS 199-21-0 (518)	
Benzene-1,4-dicarboxylic acid; C6H4(COOH)2									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	sp	NaClO4	25°C	0.10M	C		K1=2.32	1999WVa (59072)	586
Method: laser induced fluorimetry.									

C8H7NO2		HL						CAS 532-54-7 (4363)	
Isonitrosoacetophenone, Phenylglyoxal 2-oxime;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	diox/w	20°C	50%	U		K1=6.19 B2=11.76	1971MAf (59100)	587
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
Eu+++	gl	diox/w	20°C	50%	U		K1=7.11 B2=13.30	1971MAf (59335)	588
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
Eu+++	gl	NaClO4	25°C	0.1M	C H		K1=2.06	1996HYa (59544)	589
By calorimetry: DH(K1)=11.05 kJ mol ⁻¹									
Eu+++	gl	NaClO4	25°C	0.10M	C H		K1=2.06	1990HYa (59545)	590
By calorimetry: DH(K1)=11.1 J K ⁻¹ mol ⁻¹									

C8H8O2Se		HL						Selenoylacetone CAS 1680-37-1 (4508)	
1-(2'-Selenoyl)butane-1,3-dione;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	dis	KN03	25°C	0.10M	U		K1=6.24 B2=12.29	1968BBc (59664)	591

B3=17.88

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaClO4	25°C	0.10M	M	H	K1=2.05	1988CLb (59729)	592
DH=6.83 kJ mol ⁻¹ , DS=62 J K ⁻¹ mol ⁻¹									
Eu+++	gl	alc/w	25°C	42%	U		K1=2.9	1983PMa (59730)	593
Eu+++	sp	KCl	25°C	0.10M	U		K1=1.20 B2=1.77	1981MTc (59731)	594

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	cal	alc/w	25°C	60%	U	H	K(EuL+Phen)=2.51	1996YLa (59824)	595
Medium: 60% v/v MeOH/H2O. Phen: 1,10-phenanthroline. DH=-10.6 kJ mol ⁻¹ , DS=12.5 J K ⁻¹ mol ⁻¹ .									
Eu+++	gl	NaClO4	25°C	0.10M	C		K1=2.95 B2=5.07	1989HMa (59825)	596
Eu+++	gl	NaClO4	25°C	2.0M	U	T	K1=2.25	1972DCb (59826)	597
Eu+++	dis	NaClO4	25°C	0.10M	U	I	K1=2.70 B2=4.90	1967MAc (59827)	598
K1=3.37(I=0), 2.86(I=0.05); K2=2.3(I=0.05)									

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaClO4	25°C	0.10M	M	H	K1=2.21	1988CLb (59910)	599
DH=9.08 kJ mol ⁻¹ , DS=73 J K ⁻¹ mol ⁻¹									

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaClO4	25°C	0.10M	M	H	K1=2.14	1988CLb (59951)	600
DH=9.83 kJ mol ⁻¹ , DS=74 J K ⁻¹ mol ⁻¹									

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	diox/w	35°C	50%	U		K1=4.62 B2=8.44	1971MAa (60086)	601

Medium: 50% dioxan, 0.1 M NaClO4

C8H8O9 H4L (6951)
Tetrahydrofuran-2,3,4,5-tetracarboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Eu+++	cal	NaClO4	25°C	0.10M	C	H		2000MNa (60131)	602
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DH(Eu+HL)=-9.1 kJ mol⁻¹, DS=116 J K⁻¹ mol⁻¹. DH(Eu+H2L)=-2.52, DS=98.
DH(Eu+2H2L)=-16.2, DS=127.

Eu+++	gl	NaClO4	25°C	0.10M	C		K1=10.22 B2=15.89	1995JNa (60132)	603
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B(EuH2L)=16.74
B(EuHL)=14.15
B(EuH-1L)=2.1
B(EuH-2L)=-8.34

B(EuH4L2)=31.80, B(EuH3L2)=28.56, B(EuH2L2)=25.44, B(EuHL2)=20.46

C8H9NO2 HL CAS 5330-97-2 (6248)
Phenylacetohydroxamic acid; C6H5.CH2.CO.NH.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Eu+++	vlt	KN03	30°C	0.5M	C		K1=7.30 B2=14.43	1982BNa (60342)	604
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Method: polarography.

C8H9NO4 H2L (4520)
Dehydroethanoic acid oxime;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Eu+++	gl	diox/w	35°C	50%	U		K(Eu+HL)=4.52 K(Eu+2HL)=8.19	1971MAa (60492)	605
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Medium: 50% dioxan, 0.01 M NaClO4

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Eu+++	gl	NaClO4	25°C	0.10M	U		K1=13.75 B2=24.85	1980ZMa (60567)	606
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C8H9N3O7 H2L Uramildiacetic CAS 13055-06-5 (185)

5-Amino-2,4,6-trioxo-1,3-perhydrodiazimino-N,N-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Eu+++ EMF R4N.X 20°C 0.10M U K1=10.84 B2=21.56 1972GLb (60631) 607
Medium: N(CH3)4Br

C8H1004 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
Eu+++	gl	alc/w	22°C	20%	U		K1=4.40 B2=7.92 K3=3.10	1988ZTa (60847)	608

C8H1005 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
Eu+++	gl	KCl	30°C	0.10M	C		K1=6.02 B2=10.29	1996SZa (60867)	609

For the -5-en-2-exo isomer, K1=6.23, B2=11.02.

C8H11N L CAS 69376-33-6 (542)
2,4,6-Trimethylpyridine; C5H2N.(CH3)3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	cal	non-aq	30°C	100%	U	HM		1981GMa (60944)	610

K(EuA3+L)=1.0
K(EuA3L+L)=0.5

Medium: benzene. HA=6,6,7,7,8,8,8-heptafluoro-2,2-dimethyloctane-3,5-dione

C8H11N08 H4L CAS 7408-20-0 (2608)
Amino-di(butanedioic acid);HN(CH(COOH)CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KCl	25°C	0.10M	U		K1=11.14 B2=18.18 B(EuHL)=15.38	1979BEb (61205)	611

C8H11N09P2 H5L CAS 147608-63-7 (8924)
[(2-Hydroxy-5-nitro-1,3-phenylene)bis(methylene)]bisphosphonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaClO4	25°C	0.10M	U		K1=11.9 B(EuHL)=19.7 B(EuH2L)=24.7 B(EuH3L)=27.4 B(EuH-1L)=1.9	2002BBh (61232)	612

B(EuH-2L)=-9.5. By spectrophotometry, K1=11.89, B(EuHL)=19.88, B(EuH2L)=
24.19, B(EuH3L)=28.6, B(EuH-1L)=2.2, B(EuH-2L)=-8.8.

C8H11O7ClP2 H5L CAS 147608-64-8 (8925)
[(5-Chloro-2-hydroxy-1,3-phenylene)bis(methylene)]bisphosphonic acid;

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

Eu+++ gl NaClO4 25°C 0.10M U K1=12.2 2002BBh (61316) 613
B(EuHL)=12.2
B(EuH2L)=24.4
B(EuH-1L)=3.6
B(EuH-2L)=-6.8

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

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

Eu+++ gl oth/un 25°C 0.10M U K1=3.165 1987TSb (61435) 614

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

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

Eu+++ gl KNO3 20°C 0.10M U K1=12.69 B2=17.07 1975DPa (61503) 615

Eu+++ vlt KNO3 25°C 0.10M U K1=11.04 1972GBd (61504) 616

C8H12O2 HL CAS 874-23-7 (3203)
2-Acetylcyclohexanone;

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

Eu+++ gl mixed 25°C 75% U K1=8.95 B2=16.96 1971DRa (61669) 617
K3=7.98

Medium: 75% acetone, 0.1 M NaClO4

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

Eu+++ gl NaClO4 25°C 0.10M M H K1=4.41 1986CDb (61708) 618
DH=15.6 kJ mol⁻¹, DS=137 J K⁻¹ mol⁻¹

C8H13N2O5P H3L CAS 951-83-7 (2556)
Pyridoxamine-5-phosphate;

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

Eu+++ gl KCl 25°C 0.50M U 1978AAa (61840) 619
K(Eu+H4L)=0.56

C8H14O3 HL CAS 607-97-6 (4489)

3-Ethylethylacetoacetate; CH₃.CO.CH(C₂H₅).CO.OC₂H₅

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

Eu+++ gl mixed 30°C 75% U K1=9.04 1971DRb (62077) 620

Medium: 75% acetone, 0.1 M

C8H16N2O2 L CAS 7334-51-2 (7733)

N,N,N',N'-Tetramethylsuccinamide;

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

Eu+++ cal mixed 25°C 10 % U IH K1=0.77 2000RZa (62278) 621

Medium: 10% w/w DMSO/AN. DH(K1)=25.8 kJ mol⁻¹, DS(K1)=101 J K⁻¹ mol⁻¹.

C8H16N2O3 HL Gly-Leu CAS 869-19-2 (255)

Glycyl-leucine; H₂N.CH₂.CO.NH.CH(CH₂.CH(CH₃)₂).COOH

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

Eu+++ gl KCl 25°C 0.10M U K1=2.45 1973FMa (62386) 622

C8H16N2O3 HL Leu-Gly CAS 686-50-0 (1248)

Leucyl-glycine; H₂N.CH(CH₂.CH(CH₃)₂).CO.NH.CH₂.COOH

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

Eu+++ gl KCl 25°C 0.10M U K1=2.45 1973FMa (62431) 623

C8H16O3 HL CAS 58888-84-9 (3807)

2-Hydroxy-2-propylpentanoic acid; CH₃.CH₂.CH₂.C(OH)(CH₂.CH₂.CH₃).COOH

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

Eu+++ EMF NaClO4 25°C 1.0M U K1=2.81 B2=4.99 1965TVa (62633) 624

Method: quinhydrone electrode

C8H18N2O4S HL HEPES CAS 7365-45-9 (2786)

4-(2-Hydroxyethyl)-1-piperazine-ethanesulfonic acid;

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

Eu+++ gl KNO3 25°C 0.10M C K1=3.43 2001AAb (62875) 625

*K(EuL)=-6.06

K(2Eu(OH)L=Eu₂(OH)₂L₂)=10.01

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
Eu+++	gl	KNO3	20°C	0.10M	U		K1=17.80 K(Eu+HL)=13.11 K(Eu+H2L)=9.20	1979ZKb (62899)	626

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
Eu+++	gl	NaCl	30°C	0.10M	C		K1=5.13 B2= 8.75	2002Nwa (63059)	627

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
Eu+++	dis	oth/un	26°C	0.10M	C	I		1992SNc (63181)	628

K(Eu+5HL(org))=EuL3(HL)2(org)+3H)=16.5. Method: extraction of 155Eu from HNO3 solution into CFC-112. For extraction into benzene, K=3.11.

C8H22N2O6P2 H4L EDDIPH CAS 13516-59-1 (1355)
 Diaminoethane-N,N'-di(isopropylphosphonic)acid; (CH2.NH.C(CH3)2.PO3H2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KNO3	20°C	0.10M	U		K1=12.25 K(Eu+HL)=8.08 K(EuHL+HL)=6.11	1979ZKb (63354)	629

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
Eu+++	gl	diox/w	35°C	75%	U		K1=7.15 B2=13.20 K3=5.35	1971MAb (63561)	630

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

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Eu+++ gl NaClO4 25°C 0.10M U K1=5.43 B2=10.13 1973MAa (63694) 631
K3=4.30

C9H6N04IS 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

Eu+++ gl oth/un 20°C 0.10M U K1=6.10 1977SKd (63789) 632

C9H6N3OClS HL CAS 27004-41-7 (216)

2-(2'-Thiazolylazo)-4-chlorophenol; C3H2NS.N:N.C6H3(Cl).OH

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

Eu+++ gl KNO3 25°C 0.10M U K1=7.82 1974KSa (63923) 633

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

Eu+++ sp NaClO4 25°C 0.10M C K1=5.25 1999WVa (63967) 634

Method: laser induced fluorimetry.

Eu+++ gl NaClO4 25°C 0.10M U H K1=5.08 1994CRa (63968) 635

K(Eu+HL)=2.85

DH(K1)=16.8 kJ mol⁻¹; DS=154 J K⁻¹ mol⁻¹

C9H6O6 H3L Trimellitic aci CAS 528-44-9 (1622)

1,2,4-Benzenetricarboxylic acid; C6H3.(COOH)3

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

Eu+++ sp NaClO4 25°C 0.10M C K1=4.19 1999WVa (63991) 636

Method: laser induced fluorimetry.

Eu+++ sol non-aq 25°C 100% U H K1=4.38 1994CRa (63992) 637

Medium: toluene

C9H6O6 H3L CAS 554-95-0 (1623)

1,3,5-Benzenetricarboxylic acid; C6H3.(COOH)3

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

Eu+++ sp NaClO4 25°C 0.10M C K1=3.56 1999WVa (64000) 638

Method: laser induced fluorimetry.

C9H7N L CAS 91-22-5 (1538)

Quinoline;


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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      gl  NaClO4 25°C 0.5M M   H   K1=3.60          1991KBb (64060) 639
By calorimetry: DH(K1)=3.56 kJ mol-1, DS(K1)=80.8 J K-1 mol-1.
*****
C9H7NO          HL   Oxine          CAS 148-24-3 (504)
8-Hydroxyquinoline (8-quinolinol);
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      sol none   RT   0.0 U                      1981FCa (64254) 640
                                   Kso(EuL3)=-31.39

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Method: spectrophotometry.

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Eu+++      gl  oth/un 20°C 0.10M U          K1=7.20          1977SKd (64255) 641
*****
C9H7NO4S        H2L   Sulfoxine        CAS 84-88-8 (448)
8-Hydroxyquinoline-5-sulfonic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      cal KNO3   20°C 0.10M U   HM                      1971GKb (64534) 642
                                   K(EuA+L)=4.41
DH(EuA+L)=-24.12 kJ mol-1, DS=2.09 J K-1 mol-1
DH(EuAL): DH=-34.82, DS=297.6. H4A=EDTA
*****
C9H7N3O2S        H2L   TAR          CAS 2246-46-0 (707)
4-(2'-Thiazolylazo)-resorcinol; C3H2NS.N:N.C6H3(OH)2
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      sp  NaNO3   25°C 0.10M C          K1=8.10          1985OHb (64702) 643
                                   K(Eu+HL)=4.71
                                   K(EuL+H)=6.05
*****
C9H8N2O4          HL                      (6786)
4-Oxo-5-hydroxylamino-7-methyl-4H-pyrano(2,3-b)pyridine-8-oxide;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      gl  mixed  25°C 50% M          K1=3.84  B2=6.88  1991CCc (64818) 644
Medium:1:1 DMF-water;0.1 M NaClO4
*****
C9H8O4          H2L                      CAS 15872-28-3 (8407)
Bicyclo[2.2.1]hepta-2,5-diene-2,3-dicarboxylic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Eu+++      gl  KCl     30°C 0.10M U          K1=4.40          1996SZa (64974) 645

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C9H1002 HL Benzylacetic CAS 501-52-0 (1362)
3-Phenylpropanoic acid; C6H5.CH2.CH2.COOH

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

Eu+++ gl NaCl04 25°C 0.1M C H K1=2.18 B2= 3.77 1996HYa (65367) 646
By calorimetry: DH(K1)=10.36 kJ mol⁻¹, DH(B2)=13.83 J K⁻¹ mol⁻¹

Eu+++ gl NaCl04 25°C 0.10M C H K1=2.18 B2=3.77 1990HYa (65368) 647
By calorimetry: DH(K1)=10.4 J K⁻¹ mol⁻¹, DH(K2)=3.5

C9H1003 HL Atrolactic acid CAS 940-31-8 (3859)
2-Hydroxy-2-phenylpropanoic acid; CH3.C(OH)(C6H5).COOH

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

Eu+++ gl NaCl04 25°C 1.0M U K1=2.55 B2=4.72 1966TVa (65437) 648

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

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

Eu+++ gl NaCl04 25°C 0.10M C K1=2.17 B2=4.12 1989HMa (65459) 649

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

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

Eu+++ gl NaCl04 25°C 0.10M C K1=2.21 B2=4.02 1989HMa (65473) 650

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

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

Eu+++ gl KCl 30°C 0.10M C K1=4.20 B2=7.15 1996SZa (65570) 651
For the -2,5-dien-2-exo isomer, K1=4.40.

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

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

Eu+++ gl NaCl04 24°C 0.10M U K1=4.43 1986ZBa (65585) 652
K(Eu+HL)=1.67

C9H1005 H2L CAS 54384-22-4 (8406)

1-Methyl-(exo,exo)-7-oxabicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	KCl	30°C	0.10M	U			K1=5.14 B2= 8.09	1996SZa (65602)	653

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
Eu+++	gl	KCl	30°C	0.10M	C			K1=5.14 B2=8.09	1996SZa (65617)	654

C9H10O8 H4L CAS 3724-52-5 (1264)

cis-1,2,3,4-Cyclopentanetetracarboxylic acid; C5H6.(COOH)4

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	NaCl04	30°C	0.20M	U T			K1=10.28 K1=10.40 when T=40. K1=10.50 when T=50.	1979NSb (65642)	655

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
Eu+++	gl	NaCl	25°C	0.15M	U H			K1=3.55	1992ZNa (65933)	656

By calorimetry: DH(K1)=1.77 kJ mol-1, DS(K1)=73.93 J K-1 mol-1.

C9H11NO6S H3L CAS 73487-23-7 (5467)
N,N-Dimethyl-2,3-dihydroxy-5-sulfonatobenzamide; HS03.C6H2(OH)2.CONMe2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	KNO3	25°C	0.10M	C			K1=12.0 B(Eu2L3)=25.0	1988ZKa (66460)	657

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
Eu+++	ISE	KNO3	25°C	0.10M	U			K1=12.15	1983KBd (66734)	658

Hg-electrode.

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KNO3	25°C	0.10M	U		K1=10.63 B2=18.54	1968TKe (66884)	659

C9H14N3O8P		H2L		CMP-5			CAS 63-37-6 (1243)		
Cytidine-5'-monophosphoric acid, Cytidilic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KNO3	25°C	0.10M	C	M	K1=4.91 *K(EuL)=-5.60 K(2Eu(OH)L=Eu2(OH)2L2)=9.13 B(EuLA)=8.73 B(EuLB)=8.34	2001AAb (67252)	660
B(EuLC)=9.08, B(EuLD)=8.54. HA=MOPSO, HB=MES, HC=ACES and HD=HEPES.									

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	nmr	KCl	25°C	2.00M	U		K(Eu+H2L)=0.88	1983MAa (67317)	661

C9H14O7P2		H5L					CAS 147608-61-5 (7128)		
Hydroxy-4-methylbenzene-2,6-di(methylphosphonic acid);									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaClO4	25°C	0.10M	U		K1=11.97 B(EuHL)=20.84 B(EuH2L)=26.98 B(EuH3L)=29.9 B(EuH-1L)=1.18	2002BBh (67367)	662
B(EuH-2L)=-11.5.									

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	cal	NaClO4	25°C	0.50M	M	IH	K1=12.59	1986RCa (67637)	663
DH=-13.2 kJ mol ⁻¹ , DS=197 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
Eu+++	gl	KNO3	25°C	0.10M	U		K1=4.57 B2=7.42	1968PFa (67771)	664

 C9H28N3O15P5 10L DTPPH CAS 15827-60-8 (2921)
 Diethylenetriamine-N,N,N',N'',N''-penta(methylphosphonic acid);
 H2O3PCH2.N(CH2CH2.N(CH2PO3H2)2)2 H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaClO4	25°C	0.10M	M		K(Eu+H2L)=8.68	1987ZGa (68407)	665

Eu+++	gl	KNO3	20°C	0.10M	U		K1=17.78 K(Eu+HL)=14.43 K(Eu+H2L)=11.62 K(Eu+H3L)=10.14 K(Eu+H4L)=9.00	1979ZKb (68408)	666
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 C10H5O2F7S L (6996)
 1-(2-Thienyl)-3-heptafluoropropylpropane-1,3-dione; C3F7.C(0)CH2C(0)C4H3S

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	alc/w	22°C	80%	U		K1=6.16 B2=11.83 K3=4.93	1995MTa (68425)	667

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
Eu+++	gl	diox/w	25°C	50%	C T H		K1=8.02 B2=15.48 K3=6.79	1992SAa (68475)	668

At 35 C: K1=7.91, K2=6.58, K3=5.79; DH(K1)=-19.4 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
Eu+++	sp	NaClO4	25°C	0.10M	C		K1=5.81	1999WVa (68513)	669

Method: laser induced fluorimetry.

Eu+++	gl	NaClO4	25°C	0.10M	U	H	K1=4.86 K(Eu+HL)=3.86	1994CRa (68514)	670
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DH(K1)=17.0 kJ mol⁻¹, DS=150 J K⁻¹ mol⁻¹; DH(Eu+HL)=8.3, DS=102

 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
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Eu+++      sp  KCl    25°C 0.10M M I      K1=4.53      1976PEa (68576) 671
*****
C10H7N02      HL                      CAS 132-53-6 (2524)
2-Nitroso-1-naphthol;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      gl  KNO3   25°C 0.10M U      K1=5.84   B2=11.25  1982LPc (68644) 672
*****
C10H7N02      HL    Quinaldic acid  CAS 93-10-7 (2209)
Quinoline-2-carboxylic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      gl  NaClO4 30°C 0.10M U      K1=2.59   B2=5.06   1969DNc (68705) 673
*****
C10H7N02      HL                      CAS 86-59-9 (873)
Quinoline-8-carboxylic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      gl  NaClO4 30°C 0.10M U      K1=2.64      1969DNc (68758) 674
*****
C10H7N05S      H2L                      CAS 14090-74-5 (2676)
1-Nitroso-2-hydroxynaphthalene-7-sulfonic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      gl  KCl    25°C 0.10M M      K1=4.56   B2=8.23   1979LSb (68810) 675
-----
Eu+++      EMF oth/un 25°C 0.0 U      K1=5.86   B2=9.98   1971SPa (68811) 676
*****
C10H7N05S      H2L                      (4766)
1-Nitroso-2-hydroxynaphthalene-6-sulfonic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      sp  KCl    25°C 0.10M C      K1=4.64      1973PMb (68842) 677
-----
Eu+++      EMF oth/un 25°C 0.0 U      K1=5.60   B2=9.47   1971SPa (68843) 678
*****
C10H7N05S      H2L                      CAS 31005-79-9 (1814)
2-Nitroso-1-hydroxynaphthalene-8-sulfonic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      sp  KCl    25°C 0.10M M      K1=5.61      1978PPb (68943) 679
*****
C10H7N08S2      H3L    Nitroso-R acid  CAS 525-05-3 (1811)
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1-Nitroso-2-hydroxynaphthalene-3,6-disulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++		EMF oth/un	25°C	0.0	U		K1=6.76 B2=9.84	1971SPa (69007)	680

C10H7N08S2		H3L					CAS 52664-45-6	(1627)	
2-Nitroso-1-hydroxynaphthalene-4,6-disulfonic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaCl	25°C	0.10M	U		K1=3.818 B2=6.349	1974SAa (69050)	681

C10H7N08S2		H3L					CAS 50332-99-3	(1628)	
2-Nitroso-1-hydroxynaphthalene-4,7-disulfonic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaCl	25°C	0.10M	U		K1=3.955 B2=6.241	1974SAa (69060)	682

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	diox/w	25°C	75%	U		K1=4.88 B2=9.60	1986MIa (69095)	683

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
Eu+++	gl	alc/w	22°C	80%	U		K1=6.61 B2=12.81	1995MTa (69142)	684
							K3=5.41		
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
Eu+++	sp	non-aq	25°C	100%	C T		K1=2.75	2005SYa (69551)	685
In ethylacetate; At 50 C K1=2.60									

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	diox/w	25°C	75%	U		K1=5.60 B2=10.66	1986MIa (69729)	686

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

Eu+++ gl NaCl04 20°C 0.10M U M 1973PAc (69768) 687
K(EuA+L)=7.37, H4A=EDTA

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

Eu+++ gl NaCl04 25°C 0.50M C K1=9.90 B2=17.25 1976LAd (69842) 688
B(EuHL)=15.5
B(EuHL2)=24.51

C10H8O8S2 H4L Chromotropic ac CAS 148-25-4 (1875)
1,8-Dihydroxynaphthalene-3,6-disulfonic acid;

Eu+++ gl KCl 25°C 0.10M M I 1974MLa (69942) 689
K(Eu+HL)=2.37

C10H9N3OS HL CAS 1823-44-5 (4780)
2-(2'-Thiazolylazo)-4-methylphenol; CH₃.C6H₃(OH).N:N.C3H₃NS

Eu+++ sp alc/w 25°C 100% U K1eff=4.30 19890Kb (70346) 690

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

Eu+++ sp diox/w 25°C 10% U K1=9.57 1973KSd (70359) 691
Medium: 10% dioxan, 0.1 M KN03

C10H9N3O2S HL CAS 3012-52-0 (217)
2-(2'-Thiazolylazo)-4-methoxyphenol; CH3O.C6H3(OH).N:N.C3H2N2

Eu+++ sp KNO3 25°C 0.10M U K1=9.09 1974KSa (70398) 692

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	dis	KN03	25°C	0.10M	U		K1=6.89 B2=13.37 B3=19.62	1968RSe (70721)	693

Eu+++	gl	alc/w	25°C	80%	U		K1=8.17 B2=14.47 K3=4.36	1967DZa (70722)	694
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Medium: 80% MeOH, 0.1 M NaCl

Eu+++	gl	alc/w	24°C	80%	U		K1=8.17 B2=14.47 K3 = 4.36	1967DZb (70723)	695
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Medium: 80% v/v MeOH/H2O, 0.1 M NaCl

Eu+++	gl	alc/w	22°C	100%	U		K1=11.1 B2=19.80 K3=4.6 K4=2.9	1967ZDa (70724)	696
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Medium: 100% MeOH, 0.1 M NaCl

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaCl04	25°C	0.10M	M		K1=4.60 B2=7.45	1977HCb (70849)	697

By distribution methods, K1=4.52

Eu+++	nmr	none	25°C	0.0	U		K1=2.68	1977KCC (70850)	698
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C10H11O2F7 HL CAS 17587-22-3 (1252)
 1,1,1,2,2,3,3-Heptafluoro-7,7-dimethyl-4,6-octanedione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	dis	R4N.X	25°C	0.10M	U		B2=11.9 B3=18.4 B(EuL3(OH))=24.2	1970SBa (71108)	699

Medium: Et4NCl04

C10H11O3F7 HL (2625)
 2,2-Dimethyl-6,6,7,7-tetrafluoro-7-trifluoromethoxyheptane-3,5-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	EMF	alc/w	25°C	80%	U		K1=6.37 B2=11.90 B3=16.67	1980GDa (71118)	700

C10H12N2O4 H2L CAS 16598-05-3 (967)

2-Pyridylmethyliminodiethanoic acid; C₅H₄N.CH₂.N(CH₂.COOH)₂

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	KNO ₃	25°C	0.10M	U			K1=8.92 B2=16.94	1964THa (71257)	701

		C10H12O ₂	HL					CAS 1946-74-3	(202)	
3-Isopropyltropolone;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	alc/w	24°C	80%	U			K1=8.9 B2=16.35	1968DZb (71580)	702
								K3=6.1		
								K4=4.7		

Medium: 80% MeOH, 0.1 M NaCl

C10H14N5O ₇ P	H ₂ L	AMP-5	CAS 18422-05-4	(842)
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Adenosine-5'-monophosphoric acid, 5-Adenylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	KNO ₃	25°C	0.10M	C	M		K1=4.65	2001AAb (72451)	703
								*K(EuL)=-6.93		
								K(2Eu(OH)L=Eu ₂ (OH) ₂ L ₂)=11.80		
								B(EuLA)=9.27		
								B(EuLB)=8.58		
B(EuLC)=8.63, B(EuLD)=7.59. HA=MOPSO, HB=MES, HC=ACES and HD=HEPES.										

Eu+++	gl	R4N.X	25°C	0.10M	C	T		K1=4.63	1991SMa (72452)	704
								K(Eu+HL)=2.72		

IUPAC evaluation

Eu+++	gl	R4N.X	25°C	0.20M	U	T H		K1=5.62	1978GBa (72453)	705
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DH(K1)=0.89 kJ mol⁻¹ at 25 C; -5.2 (5 C); -0.4 (15 C); 1.8 (35 C) (?)

C10H14N5O ₈ P	H ₃ L	GMP-5	CAS 85-32-5	(2947)
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Guanosine-5'-monophosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	KNO ₃	25°C	0.10M	C	M		K1=5.26	2001AAb (72588)	706
								*K(EuL)=-5.63		
								K(2Eu(OH)L=Eu ₂ (OH) ₂ L ₂)=9.09		
								B(EuLA)=9.78		
								B(EuLB)=9.09		

B(EuLC)=10.14, B(EuLD)=9.00. HA=MOPSO, HB=MES, HC=ACES and HD=HEPES.

C10H15N5O ₁₀ P ₂	H ₃ L	ADP	CAS 20398-34-9	(2181)
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Adenosine-5'-diphosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	kin	oth/un	30°C	0.05M	C		K1eff=5.92	1989FVa (72983)	707
Competitive reaction with MgL. Medium: 0.05 M PIPES, pH 7.0.									
Eu+++	gl	R4N.X	25°C	0.20M	U T H		K1=6.86	1978GBa (72984)	708
DH(K1)=40.0 kJ mol ⁻¹ at 25 C; 16.2 (5 C); 16.5 (15 C); 48.5 (35 C) (?)									

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									
Eu+++	gl	KCl	25°C	0.10M	U		K1=13.19 K(Eu+HL)=6.75	1980MMe (73127)	709
Eu+++	gl	KNO3	20°C	0.10M	U		K1=13.83	1975DPa (73128)	710
Eu+++	vlt	KNO3	25°C	0.10M	U		K1=13.54	1971BGb (73129)	711

C10H16N2O8		H4L	EDTA				CAS 60-00-4	(120)	
1,2-Diaminoethane-N,N,N',N'-tetraethanoic acid, Sequestic acid;									
Eu+++	sp	KCl	25°C	0.10M	U		K1=17.52	1997WHb (73725)	712
Method: Laser-excitation luminescence									
Eu+++	sp	KCl	25°C	0.10M	C		K1=15.5	1996WHa (73726)	713
Method: laser excited luminescence									
Eu+++	gl	oth/un	25°C	0.15M	U I		K1=13.13 B(EuHL)=18.03 B(Eu(OH)L)=15.17	1989SDb (73727)	714
Medium: 2.5%(mass) Triton X 100 (Ferak) in H2O In 0.15 KCl: K1=16.63, B(EuHL)=19.86, B(Eu(OH)L)=23.54									
Eu+++	cal	NaClO4	25°C	0.10M	C H			1987YJa (73728)	715
DH(K1)=-9.98 kJ mol ⁻¹ , DS(K1)=285 J K ⁻¹ mol ⁻¹ .									
Eu+++	cal	NaCl	25°C	2.0M	U H		K1=16.23	1985CLb (73729)	716
DH(K1)=-22.9 kJ mol ⁻¹									
Eu+++	gl	KCl	25°C	1.0M	U		K(EuL+H)=1.43	1984BKc (73730)	717
Eu+++	gl	NaNO3	25°C	0.50M	U I		K1=17.03	1984KKb (73731)	718
Eu+++	gl	NaClO4	20°C	0.02M	U M			1982MPd (73732)	719

$$K(\text{EuL}+\text{PO}_4)=3.50$$

Eu+++	vlt	KNO ₃	20°C	0.10M	U	K ₁ =17.51	1978NLb (73733)	720
Eu+++	gl	NaClO ₄	25°C	0.50M	U	K ₁ =16.23	1977GGb (73734)	721
Eu+++	gl	KCl	25°C	1.00M	U	K ₂ =3.60 K(EuL+HL)=2.48 K(2EuL+L)=6.64	1976BKa (73735)	722
Eu+++	gl	KCl	25°C	1.0M	U	K(EuL+H)=1.89	1976GMb (73736)	723
Eu+++	sp	KCl	25°C	0.10M	U	K ₂ =3.60 K(2EuL+L)=6.64 K(EuL+HL)=2.48	1975BKa (73737)	724
Eu+++	EMF	KCl	25°C	0.10M	U	T K(EuL+H)=1.67	1974BKb (73738)	725
Eu+++	gl	KCl	25°C	1.0M	C	K ₂ =3.60 K(EuL+HL)=2.48 K(2EuL+L=Eu ₂ L ₃)=6.64	1974BKe (73739)	726
Eu+++	gl	KNO ₃	25°C	0.10M	U T M	K(EuL+HA)=3.44 K(EuL+A)=5.24 K(EuL+A)=4.7	1973TRb (73740)	727
Also at 2, 35, 45 C. H ₅ A=tripolyphosphoric acid. K(EuL+B)=4.7 H ₄ B=ATP. K(2 C)=4.9, K(35 C)=4.8, K(45 C)=4.6								
Eu+++	kin	oth/un	25°C	0.50M	U	K ₁ =17.9	1971DCa (73741)	728
Eu+++	cal	KNO ₃	20°C	0.10M	U	K(EuL(H ₂ O) _x =EuL(H ₂ O) _{x-1} +H ₂ O)=-0.15	1971GKb (73742)	729
Eu+++	sp	KCl	40°C	1.0M	U T	K ₁ =15.30 K(Eu+HL)=7.17	1971KTK (73743)	730
K ₁ (50 C)=15.24, K ₁ (60 C)=15.19, K ₁ (70 C)=15.15 K(Eu+HL)(50 C)=7.29, K(60 C)=7.40, K(70 C)=7.49								
Eu+++	gl	NaClO ₄	25°C	0.10M	U M	K(EuL+A)=6.90, H ₄ A=tiron	1969AIb (73744)	731
Eu+++	dis	oth/un	25°C	?	U	K ₁ =17.01	1969PJa (73745)	732
Method: paper electrophoresis. Medium: pH=1.86								
Eu+++	vlt	oth/un	?	1.0M	U	K ₁ =17.5 B ₂ =19.6 B ₂ =22.2 (isomers) K(Eu+L+HL)=18.9	1969TKd (73746)	733

$$K(\text{Eu}+\text{L}+\text{HL})=19.7 \text{ (isomers)}$$

Eu+++ dis R4N.X 20°C 0.10M U T K1=17.4 1966STa (73747) 734
Medium: 0.1(NH4Cl)

Eu+++ sp oth/un 19°C 0.04M U K1=16.43 1963GAc (73748) 735
K(Eu+HL)=8.18
K(Eu+H3L)=3.20

Eu+++ ix KCl 25°C 0.10M U H K1=16.66 1959BDb (73749) 736
DH(K1)=-0.7 kJ mol⁻¹, DS=317 J K⁻¹ mol⁻¹

Eu+++	vlt none	20°C	0.0 U	K1=7.7 K(Eu+HL)=2.6	1955EHa (73750) 737
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Eu+++ vlt oth/un 20°C 0.01M U K1=17.11 1955WSa (73751) 738

Eu+++ vlt KN03 20°C 0.10M U T K1=17.35 1954SGa (73752) 739
Method: polarography, glass

Eu+++ gl KCl 20°C 0.10M U I T K1=16.69 1953WSa (73753) 740
By polarography, 0.1 M KNO₃, K1=16.5

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
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Eu+++ gl NaClO₄ 20°C 0.20M U T H K₁=7.28 B₂=11.18 1993VL_a (74722) 741
K(Eu(nta)+L)=4.25
K(Eu(edta)+L)=4.16

Data for 30, 40 C. DH(K1)=22.0 kJ mol⁻¹, DS(K1)=215 J K⁻¹ mol⁻¹. DH(K2)=24.9, DS(K2)=160; DH(Eu(NTA)+L)=20.1, DS=150; DH(Eu(EDTA)+L)=18.2, DS=142.

Eu+++ sp NaClO4 25°C 0.10M C K1=6.23 19910Ka (74723) 742
Method: competitive spectrophotometry using 5-Br-PAPS at pH 7.13 (HEPES).

Eu+++	g1 R4N.X 25°C 0.10M C	T K1=6.66 K(Eu+HL)=3.65	1991SMa (74724) 743
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IUPAC evaluation

Eu+++ gl KCl 25°C 0.10M U K1=6.63 B2=10.52 1988SSd (74725) 744
K(Eu+HL)=4.36

Eu+++ kin oth/un 25°C 0.05M C K1=6.80 1983MCC (74726) 745
Method: inhibition of the hexokinase reaction, pH 8.0 (0.05 M TAPS).

Eu+++ gl R4N.X 25°C 0.20M U T H K1=7.25 1978GBa (74727) 746
DH(K1)=42.1 kJ mol⁻¹ at 25 C; 3.0 (5 C); 19.4 (15 C); 55.3 (35 C) (?)

Eu+++ gl KNO3 35°C 0.10M U M 1972TRc (74728) 747
K(Eu(EDTA)+L)=4.8

C10H16O2 HL CAS 100563-25-5 (4706)

2-Butanoylcyclohexanone; CH3.CH2.CH2.CO.C6H9O

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

Eu+++ gl oth/un 30°C 0.10M U K1=9.92 B2=18.84 1972DSe (74920) 748
K3=8.09

C10H17N3O6S H3L Glutathione CAS 70-18-8 (333)

Glutamyl-cysteinyglycine;

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

Eu+++ nmr oth/un 24°C 0.3M C 1994RJa (75118) 749
K=1.10
K'=2.0

Method: 13C nmr. K: coordination at glutamyl terminal carboxylate;

K': coordination at glycyl terminal carboxylate. pH 3.9.

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

Eu+++ sp KCl 25°C 0.10M U K1=15.62 1997WHb (75372) 750
Method: Laser-excitation luminescence

Eu+++ gl NaClO4 25°C 0.50M U K1=14.90 1977GGB (75373) 751

Eu+++ EMF KCl 25°C 1.0M U K2=3.85 1977GMA (75374) 752
K(EuL+HL)=2.15
K(EuL+H4L)=2.04

Method: Pt/H2 electrode.

Eu+++ EMF KCl 25°C 1.0M U M 1977GMA (75375) 753
K(Eu(edta)+L)=3.53
K(Eu(edta)+HL)=2.02
K(Eu(edta)+H2L)=1.57

Method: Pt/H2 electrode.

Eu+++ gl NaClO4 20°C 0.10M U 1974PJa (75376) 754
K(EuL+A)=3.55
K(EuL+B)=3.66

HA=pentane-2,4-dione, B=1-phenylbutane-1,3-dione

Eu+++ gl NaClO4 25°C 1.0M U K2=3.12 1973NMa (75377) 755
K(EuL+HL)=2.20

$$K(EuL+H3L)=1.52$$
$$K(EuL+HL) = -0.87$$
$$K(EuL+HL)=3.26$$
$$K(EuL+A)=4.77$$
$$K(EuL+B)=4.6$$
$$\Delta H(K1) = -20.1 \text{ kJ mol}^{-1} (25^\circ \text{C}), \Delta S = 226 \text{ J K}^{-1} \text{ mol}^{-1}$$

Decane-2,4-dione; $\text{CH}_3\text{COCH}_2\text{CO}(\text{CH}_2)_5\text{CH}_3$

B3=19.38

Leucyl-glycyl-glycine; $\text{H}_2\text{N}.\text{CH}(\text{CH}_2.\text{CH}(\text{CH}_3)_2).\text{CO}.\text{NH}.\text{CH}_2.\text{CO}.\text{NH}.\text{CH}_2.\text{COOH}$

N,N'-Diethylethylenedinitrilo-N,N'-diethanoic acid;

1,4,7,10,13-Pentaoxacyclopentadecane; cyclo(-(O.CH₂.CH₂)₅-)

Eu+++ cal non-aq 25°C 100% U H K1=2.26 1993LLa (76000) 765

Medium: MeCN. DH(K1)=-33.3 kJ mol⁻¹.

Eu+++ dis non-aq 25°C 100% U B2=8.22 1990NIa (76001) 766
B2=extraction eq.constant: M+3P+2(S)=ML2P3(S); solvent(S)=CH2Cl2, P=picrate

C10H21NO2 HL CAS 2259-85-0 (4757)
Decanohydroxamic acid; CH3(CH2)8.CO.NHOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	dis	oth/un	?	0.10M	U	M		19700Vb (76167)	767
							K(Eu+A+2L+2HL)=20.08 K(Eu+3L+2HL)=25.4		

HA=ethanoic acid

C10H22O5 L Tetraglyme CAS 143-24-8 (121)
2,5,8,11,14-Pentaoxapentadecane; (CH3.O.CH2.CH2.O.CH2.CH2.)20

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	non-aq	25°C	100%	C		K1=4.96	1989BP a (76447)	768
								Medium: anhydrous propylene carbonate, 0.1 M Et4NClO4	

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KCl	25°C	0.10M	C		K1=18.3 *K(EuL)=-7.9 K(EuL+H)=7.1 B(EuHL2)=38.1	1998BR a (76803)	769

C10H27N3O6P2 H4L CAS 14619-06-8 (4797)
Iminobis(ethyleneimino(dimethyl)methylenephosphonic acid);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KCl	25°C	0.10M	U		K1=12.92 K(Eu+H2L)=6.19	1972GL b (76820)	770

C11H8O3 L CAS 1133-72-8 (2614)
2-Aceto-1,3-indandione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	diox/w	30°C	75%	U	T	K1=3.92 B2=7.76	1984AP a (77030)	771
Eu+++	gl	mixed	22°C	60%	U		K1=3.91 B2=7.44 K3=3.15	1979JMa (77031)	772

Medium: 60% acetone/H2O

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

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

Eu+++ gl diox/w 35°C 50% U K1=3.92 B2=6.89 1971MAa (77174) 773
Medium: 50% dioxan, 0.01 M NaClO4

C11H8O4Cr L CAS 12153-11-6 (2360)
Acetophenone-tricarbonylchromium(0);

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

Eu+++ sp non-aq 25°C 100% U M 1982SEa (77214) 774
K(EuA3+L)=3.0

Medium: isooctane. A=6,6,7,7,8,8,8-Heptafluoro-2,2-dimethyl-3,5-octanedione

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

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

Eu+++ gl NaClO4 25°C 0.10M C K1=8.69 B2=14.93 1979LAb (77224) 775
K(Eu+HL)=2.56

C11H8O6S H3L CAS 15509-36-1 (2658)
3-Hydroxy-7-sulfo-2-naphthoic acid;

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

Eu+++ gl NaClO4 25°C 0.10M C K1=7.79 1976MLb (77250) 776
K(Eu+HL)=2.65

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

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

Eu+++ cal NaClO4 25°C 0.10M C H K1=8.71 B2=14.6 1986LLc (77278) 777
K(Eu+HL)=2.22

DH(Eu+HL)=4.0 kJ mol⁻¹, DS=56 J K⁻¹ mol⁻¹

C11H9NO4 H2L CAS 4321-82-7 (4829)
3-Acetyl-4-hydroxycoumarin oxime;

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

Eu+++ gl diox/w 35°C 50% U 1971MAa (77417) 778

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
Eu+++	sp	NaNO3	25°C	0.10M	C		K1=10.25 K(Eu+HL)=4.28 *K(EuHL)=-6.33	19840Ha (77538)	779

Medium pH 4.8-6.3.

Eu+++ sp KCl 20°C 0.10M U 1971EKa (77539) 780
K(Eu+HL)=3.50

C11H10N4O3 HL CAS 92265-24-2 (6211)
5-(2'-Methylphenylazo)barbituric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	diox/w	25°C	75%	U		K1=5.24	B2=9.82	1986MIa (77728)	781

C11H10N4O4 HL CAS 92265-26-4 (6210)
5-(2'-Methoxyphenylazo)barbituric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	diox/w	25°C	75%	U		K1=5.52	B2=10.61	1986MIa	(77742) 782

C11H12N2O2 HL Tryptophan CAS 73-22-3 (3)
2-Amino-3-(3-indolyl)propanoic acid; $\text{H}_2\text{N}.\text{CH}(\text{CH}_2.\text{C}_8\text{H}_6\text{N})\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	KCl	25°C	0.10M	U T H			K1=4.82	1976BFc (78199)	783

For 55C $K_1 = 4.18$

Eu+++ vlt NaCl04 25°C 0.10M U K1=6.78 1973LAa (78200) 784

Eu+++ vlt oth/un 25°C ? U K1=6.80 1972LAa (78201) 785

C11H12N2O5S HL CAS 56475-09-3 (8410)
3-(4'-Sulfophenylhydrazo)-pentane-2,4-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++ gl oth/un 30°C 0.10M U B2=21.95 1985EEb (78318) 786
Medium: not stated. For 3'-sulfo-phenylhydrazo-, B2=22.12; for 2'-sulfo-

phenylhydrazo-, B2=23.77; for 4'-methyl-2'-sulfophenylhydrazo-, B2=23.01.

C11H12O3 HL CAS 94-02-0 (3351)

Ethyl benzoylacetate; C6H5.CO.CH2.CO2.C2H5

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

Eu+++ gl mixed 25°C 75% U K1=8.50 B2=15.68 1971DRa (78399) 787
Medium: 75% acetone, 0.1 M NaClO4

C11H13NO5 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

Eu+++ gl KNO3 25°C 0.10M C K1=13.42 B2=23.92 1989YSa (78622) 788
K(Eu+HL)=5.95
K(Eu+2HL)=12.40

Eu+++ gl KNO3 20°C 0.10M U K1=13.75 B2=24.09 1983MSc (78623) 789

C11H13NO6 H4L CAS 1911-59-2 (4852)

2,3-Dihydroxybenzyliminodiethanoic acid; (HO)2.C6H3.CH2.N(CH2.COOH)2

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

Eu+++ gl KCl 25°C 0.10M U 1972GLb (78661) 790
K(Eu+HL)=13.63

C11H13NO6 H4L CAS 59036-09-8 (2111)

2,5-Dihydroxybenzyliminodiethanoic acid; (HO)2.C6H3.CH2.N(CH2.COOH)2

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

Eu+++ gl KCl 25°C 0.10M U 1972GLb (78676) 791
K(Eu+HL)=12.15
K(Eu+H2L)=6.66
K(Eu+H3L)=3.21

C11H14N2O3 HL Gly-Phe CAS 3321-03-7 (829)

Glycyl-phenylalanine; H2N.CH2.CO.NH.CH(CH2.C6H5).COOH

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

Eu+++ gl KCl 25°C 0.10M U K1=2.65 1973FMa (78812) 792

C11H14N2O4 H2L Gly-Tyr CAS 658-79-5 (533)

Glycyl-tyrosine; H2N.CH2.CO.NH.CH(CH2.C6H4.OH).COOH

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

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
Eu+++	gl	KNO3	25°C	0.10M	M			K1=13.96	1986PLc (79550)	804

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
Eu+++	gl	KNO3	25°C	0.10M	U			K1=11.27	1976GKd (79594)	805

C11H18O2		HL						CAS 40072-58-3	(4820)	
2-(3'-Methylbutanoyl)cyclohexanone (2-isovaleryl cyclohexanone);										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	mixed	30°C	75%	U			K1=9.74 B2=18.85 K3=8.76	1972DSd (79652)	806

Medium: 75% acetone

C11H18O2		HL						CAS 5601-52-5	(4821)	
2-Butanoyl-6-methylcyclohexanone (2-butyryl-6-methylcyclohexanone);										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	mixed	30°C	75%	U			K1=10.58 B2=20.82	1972DSd (79663)	807

Medium: 75% acetone

C11H18O9		H3L						CAS 64020-00-4	(8225)	
1,1,1-Tris(carboxymethoxymethyl)ethane;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	R4N.X	25°C	0.10M	C			K1=6.8	2001VSa (79673)	808

Medium: 0.10 M Me4NCl. Also data for N-ethyl-, N-NH2-, N,N-dibenzyl- and N-CH2OCH2COOH- derivatives.

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	KNO3	25°C	0.10M	U			K1=4.53 B2=7.28	1968PFa (79767)	809

C11H26N2O6		L						Bistris-propane CAS 64431-96-5	(7920)	
1,3-Bis[tris(hydroxymethyl)methylamino]propane;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      gl  alc/w  25°C  50%  C T H      K1=6.15  B2=10.46  1997GSa (80672) 816
                                         K3=3.21
Medium: 50% v/v EtOH/H2O, 0.20 M KCl. At 50 C, K1=5.69, K2=3.97,
K3=2.97. DH(K1)=-34 kJ mol-1.
*****
C12H10N2O          HL          CAS 3860-58-0 (9082)
2-[(2-Pyridylmethylene)amino]phenol;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      gl  alc/w  25°C  50%  C          K1=7.05  B2=13.04  1997GSa (80682) 817
Medium: 50% v/v EtOH/H2O, 0.20 M KCl.
*****
C12H10N2S          L          CAS 19257-96-6 (9084)
2-(2-Pyridyl)benzothiazoline;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      gl  alc/w  25°C  50%  C          K1=6.89  B2=12.53  1997GSa (80740) 818
Medium: 50% v/v EtOH/H2O, 0.20 M KCl.
*****
C12H11N3OS         HL          (6787)
2-Hydroxy-1-naphthaldehyde thiosemicarbazone;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      gl  diox/w 20°C  75%  U I      K1=7.45  B2=14.21  1992SSc (80888) 819
Medium: 75% v/v dioxan/H2O; 0.1 M NaClO4
*****
C12H11N3O2         HL          CAS 50536-09-5 (6323)
2-Hydroxy-1-naphthaldehyde-semicarbazone; HO.C10H6.CH:N.NH.CO.NH2
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      gl  diox/w 20°C  75%  U I      K1=9.048 B2=16.285 1992SSc (80916) 820
Medium: 75% v/v dioxan/H2O; 0.1 M NaClO4
*****
C12H11O3F9         HL          (2626)
2,2-Dimethyl-6-(2-perfluorotetrahydrofuryl)-6,6-difluorohexane-3,5-dione;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      EMF alc/w  25°C  80%  U          K1=6.60  B2=12.26  1980GDa (80947) 821
                                         B3 16.89
*****
C12H12N03Cl        HL          (1055)
2-Chloro-4-dimethylamino-benzylidenepyruvic acid; (CH3)2N.C6H3Cl.CH:CH.CO.COOH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      sp  NaClO4 25°C 0.50M U          K1=2.153      1987MSa (80965) 822
*****
C12H12N2O3          HL      Nalidixic acid  CAS 389-08-2 (1401)
1-Ethyl-1,4-dihydro-7-methyl-4-oxo-1,8-naphthyridine-3-carboxylic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      gl  alc/w  22°C 0.1M U          K1=6.76      B2=12.65      2000TBb (81071) 823
                               K3=4.75
Medium: 0.1 M NaClO4 in 70% v/v EtOH/H2O
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C12H13NO3          HL      (1054)
4-Dimethylamino-benzylidenepyruvic acid; (CH3)2N.C6H4.CH:CH.CO.COOH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      sp  NaClO4 25°C 0.50M U          K1=2.286      1987MSa (81195) 824
*****
C12H16O7S          HL      CAS 204931-01-1 (7817)
2,3-Benzo-1,4,7,10-tetraoxacyclododeca-2-ene-4'-sulfonic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      dis R4N.X 25°C 0.12M C          K1=2.17      1998SUa (81696) 825
Medium: 0.12 M Et4NBr.
Method:solvent extraction into cyclohexane/di(2-ethylhexyl)phosphoric acid
*****
C12H17N4O4PS        H2L      CAS 495-23-8 (895)
Thiamine orthophosphoric acid, Aneurine monophosphoric acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      gl  NaCl   23°C 0.15M U          K1=3.70      1989DBb (81773) 826
*****
C12H18N2O5S        H2L      CAS 80459-15-0 (1595)
2-Nitroso-5-(N-propyl-3-sulfopropylamino)phenol;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      gl  KNO3   25°C 0.10M C          K1=5.85      1988YSa (81809) 827
*****
C12H18N2O8        H2L      CAS 93031-52-8 (5829)
1,4-Dioxa-7,10-diazacyclododecane-5,12-dione-7,10-diethanoic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      gl  R4N.X  25°C 0.10M C          K1=6.06      1988CCb (81835) 828

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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

Eu+++ EMF KNO3 25°C 0.10M U K1=13.83 1985SGa (81862) 829

Eu+++ EMF KNO3 25°C 0.10M U K1=15.67 B2=20.97 1980SGb (81863) 830

C12H18N4O7P2S H3L Cocarboxylase T CAS 136-09-4 (894)
Thiamine pyrophosphoric acid, Aneurine pyrophosphoric acid;

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

Eu+++ gl NaCl 23°C 0.15M U K1=8.54 1989DBb (81942) 831

C12H19O3P HL CAS 66170-45-4 (8310)
Phenylphosphonic acid monoheptyl ester;

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

Eu+++ dis NaCl RT 2.0M C 1977NAc (81991) 832

K(Eu+6HL(org)=EuL3(HL)3(org)+3H)=17.6

Method: extraction from 2.0 M NaCl solution into benzene.

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

Eu+++ vlt KNO3 20°C 0.10M U K1=18.38 1968NLa (82024) 833

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

Eu+++ gl KNO3 20°C 0.10M U K1=8.48 B2=12.19 1975DPa (82068) 834

Eu+++ gl KNO3 25°C 0.10M U K1=7.92 1973GBd (82069) 835

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

Eu+++ vlt KNO3 20°C 0.10M U K1=16.78 1976NKa (82131) 836

C12H20N2O8 H4L CAS 40623-42-5 (3388)

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

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

Eu+++ gl NaClO4 25°C 0.10M U IH K1=13.04 1988RNa (82163) 837

B(Eu+HL)=6.34

DH(K1)=1.86 kJ mol⁻¹, DH(Eu+HL)=31.9, DS(K1)=256 J K⁻¹ mol⁻¹

Eu+++ vlt R4N.X 30°C 0.01M C K1=15.48 1981GMh (82164) 838

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

Eu+++ gl NaClO4 25°C 0.50M M H K1=9.83 1985CBa (82217) 839

K(EuL+H)=6.78

K(EuHL+H)=5.45

DH(K1)=24.8 kJ mol⁻¹, DS=271 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

Eu+++ sp NaClO4 20°C 0.10M U K1=18.54 1971ISa (82296) 840

Eu+++ vlt oth/un 20°C 0.10M U K1=18.61 1966DMa (82297) 841

Eu+++ vlt KNO3 20°C 0.10M U K1=18.61 1966NSb (82298) 842

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

Eu+++ sp NaClO4 20°C 0.10M U K1=17.05 1971ISa (82392) 843

Eu+++ vlt oth/un 20°C 0.10M U K1=16.57 1966DMa (82393) 844

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

Eu+++ gl KNO3 25°C 0.10M C K1=14.82 1985TPa (82452) 845

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*****
C12H20N2O9          H4L      EEDTA          CAS 923-73-9 (2112)
Oxa-bis(ethyleneimino)diethanoic acid; ((HOOCH2)2NCH2CH2)2O
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      EMF KNO3    20°C 0.10M U          K1=18.31      1962MMc (82529) 846
*****
C12H20O8N2          H4L          (6908)
2-Methyl-1,2-diaminopropane-N,N,N',N'-tetraethanoic acid;
(HOOCH2)2NCH2C(CH3)2N(CH2COOH)2
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      vlt KNO3    20°C 0.10M C          K1=17.14      1978NLa (82673) 847
*****
C12H21NO6           H3L          (7209)
1-Carboxy-1-aminoheptane-N,N-diethanoic acid; HOOCH(C6H13)N(CH2COOH)2
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      gl  alc/w  20°C 40% U          K1=11.06      1985LBc (82696) 848
Medium: 40% v/v MeOH/H2O, 0.1 M KNO3
*****
C12H21N3O6           H3L      NOTA          (5589)
1,4,7-Triazacyclononane-N,N',N''-triethanoic acid;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      sp  KCl     25°C 0.10M U          K1=13.9        1997WHb (82732) 849
Method: Laser-excitation luminescence
*****
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
-----
Eu+++      gl  R4N.X  25°C 0.10M C          K1=12.99      1998CCb (83082) 850
*****
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
-----
Eu+++      dis R4N.X  25°C 0.12M C          K1=0.50        1998SUa (83354) 851
Medium: 0.12 M Et4NBr.
Method:solvent extraction into cyclohexane/di(2-ethylhexyl)phosphoric acid
-----
Eu+++      dis non-aq 25°C 100% U          B(EuPL)=6.52      1993INa (83355) 852

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$$B(\text{EuPL2})=8.63$$

K is the equilibrium constant for extraction of the metal picrate (P) into CH_2Cl_2 . For extraction from D_2O , $B=6.90$ and 9.10 .

Eu+++ cal non-aq 25°C 100% U IH K1=2.70 1993LLa (83356) 853
Medium: MeCN. $\text{DH}(\text{K1})=-12.8 \text{ kJ mol}^{-1}$. In MeOH $\text{K1}=1.84$, $\text{DH}=12.8$

Eu+++ dis non-aq 25°C 100% U B2=8.63 1990NIa (83357) 854
 $\text{B2}=\text{extraction eq.constant: } \text{M}+3\text{P}+2(\text{S})=\text{ML}_2\text{P}_3(\text{S}); \text{solvent}(\text{S})=\text{CH}_2\text{Cl}_2, \text{P}=\text{picrate}$

Eu+++ gl non-aq 25°C 100% C K1=8.07 1989BPa (83358) 855
Medium: anhydrous propylene carbonate, 0.1 M Et_4NClO_4

Eu+++ sp alc/w 25°C 100% U K1eff=2.85 1989OKb (83359) 856
At pH 3.4 by competition with 18-crown-6. Medium: MeOH, 0.03 M Et_4NClO_4

Eu+++ cal alc/w 25°C 100% U H K1=1.84 1977ILb (83360) 857
Medium: Methanol. $\text{DH}=12.8 \text{ kJ mol}^{-1}$.

 $\text{C}_{12}\text{H}_{26}\text{N}_{20}\text{A}$ L Cryptand 2,2 CAS 23978-55-4 (925)
4,7,13,16-Tetraoxa-1,10-diazacyclooctadecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Eu+++	ISE	non-aq	25°C	100%	U	H	$\text{K1}=9.7$	1990MGa (83835)	858
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In acetonitrile, 0.1 M Et_4NClO_4 . $\text{DH}=-109 \text{ kJ mol}^{-1}$.

Eu+++	gl	non-aq	25°C	100%	U		$\text{K1}<2$	1989MGa (83836)	859
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Medium: DMF, 0.10 M Et_4NClO_4

Eu+++	ISE	non-aq	25°C	100%	C		$\text{K1}=16.5$	1986ALa (83837)	860
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Medium: propylene carbonate, 0.1 M Et_4NClO_4

Eu+++	gl	alc/w	25°C	100%	C	I	$\text{K1}=8.59$	1983ANb (83838)	861
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The equilibration took 7-12 days. Medium: MeOH, 0.05 M Et_4NClO_4
In propylene carbonate, 0.1 M Et_4NClO_4 , $\text{K1}=14.6$

 $\text{C}_{12}\text{H}_{26}\text{O}_6$ L Pentaglyme CAS 1191-87-3 (2498)
2,5,8,11,14,17-Hexaoxaoctadecane; $(\text{CH}_3.0.\text{CH}_2.\text{CH}_2.0.\text{CH}_2.\text{CH}_2.0.\text{CH}_2.)_2$

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

Eu+++	gl	non-aq	25°C	100%	C		$\text{K1}=5.36$	1989BPa (83999)	862
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Medium: anhydrous propylene carbonate, 0.1 M Et_4NClO_4

 $\text{C}_{12}\text{H}_{27}\text{N}_{30}\text{I}$ 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
-------	-----	--------	------	------	-----	-------	-------------	-----------	--------

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

C13H8O3 H2L CAS 18931-22-1 (2913)

peri-Dihydroxynaphthindenone;

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

Eu+++ sp alc/w 25°C 50% U K1=10.04 1982HMa (84502) 870

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

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

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

Eu+++ dis oth/un 20°C 0.05M U K1=9.56 B2=18.76 1966NAa (84615) 871
B3=27.60
B4=36.08

C13H10O2Se HL CAS 10471-68-8 (4982)

Benzoyl-2-selenoylethane; C6H5.CO.CH2.CO.C4H3Se

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

Eu+++ dis KNO3 25°C 0.10M U K1=5.5 B2=11.04 1968BBE (84987) 872
B3=16.08

C13H11NO2 HL CAS 304-88-1 (181)

N-Phenylbenzohydroxamic acid; C6H5.CO.N(C6H5).OH

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

Eu+++ gl mixed 25°C 75% U K1=8.45 B2=14.87 1969DSb (85145) 873
Medium: 75% dioxan, 0.1 M NaClO4

C13H11N2O3F3 HL (5563)

3-(2-Acetylphenylhydrazon)-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

Eu+++ gl diox/w 30°C 75% U K1=8.88 B2=16.22 1988ESb (85244) 874

C13H12N2O HL CAS 59129-92-9 (9080)

N-2-(5-Methylpyridyl)salicylalimine;

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

Eu+++ gl alc/w 25°C 50% C T H K1=7.57 B2=12.77 1997GSa (85340) 875
K3=4.72

Medium: 50% v/v EtOH/H2O, 0.20 M KCl. At 50 C, K1=7.00, K2=4.80,

K3=4.35. DH(K1)=-42 kJ mol⁻¹.

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

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

Eu+++ gl oth/un 25°C 0.10M U K1=12.694 1987KSc (85358) 876

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

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

Eu+++ EMF alc/w 20°C 50% U K1=3.65 1971MAc (85410) 877

Medium: 50% EtOH, 0.1 M NaClO4

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

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

Eu+++ EMF alc/w 20°C 50% U K1=2.0 1971MAc (85456) 878

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

Eu+++ gl diox/w 30°C 75% U K1=10.83 B2=20.46 1988ESb (85607) 879

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

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

Eu+++ gl KNO3 25°C 0.10M C K1=10.22 1982PPd (86193) 880

K(Eu+HL)=6.70

C13H22N2O8 H4L CAS 1198-14-7 (5004)
1,2-Diaminopentane-N,N,N',N'-tetraethanoic acid; (HOOCH2)2NCH2CH(C3H7)N(CH2COOH)2

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

Eu+++ vlt KNO3 20°C 0.10M U K1=18.38 1974NLa (86226) 881

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
Eu+++	gl	KNO ₃	20°C	0.10M	U		K ₁ =12.03	1981NSc (86253)	882

C ₁₃ H ₂₂ N ₂ O ₈				H ₄ L			(5003)		
3-Methyl-1,2-diaminobutane-N,N,N',N'-tetraethanoic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	vlt	KNO ₃	20°C	0.10M	U		K ₁ =18.30	1968NLb (86281)	883

C ₁₃ H ₂₂ N ₂ O ₉				H ₄ L	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
Eu+++	gl	KNO ₃	25°C	0.10M	C		K ₁ =15.28 K(Eu+HL)=9.50	1985PLa (86302)	884

C ₁₃ H ₂₆ N ₂ O ₂				L			(7913)		
N,N'-Dibutyl-N,N'-dimethylmalonamide;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	cal	non-aq	25°C	90%	C	H	K ₁ =1.04	2001RZa (86451)	885
Medium: 90% w/w CH ₃ CN/DMSO. DH(K ₁)=29.6 kJ mol ⁻¹ , DS(K ₁)=119 J K ⁻¹ mol ⁻¹ .									

C ₁₃ H ₂₆ O ₅				L			(6410)		
15,15-Dimethyl-1,4,7,10,13-pentaoxacyclohexadecane;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	cal	non-aq	25°C	100%	C	H	K ₁ =3.46	1998LBc (86471)	886
Medium: acetonitrile. DH(K ₁)=-5.23 kJ mol ⁻¹ , DS(K ₁)=48.7 J K ⁻¹ mol ⁻¹ .									

C ₁₄ H ₇ O ₃ F ₉				HL			CAS 85734-46-9	(2627)	
1-Phenyl-4-(2-perfluorotetrahydrofuryl)-4,4-difluorobutane-1,3-dione;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	EMF	alc/w	25°C	80%	U		K ₁ =6.04 B ₂ =11.22 B ₃ =15.55	1980GDa (86588)	887

C ₁₄ H ₈ N ₂ O ₄				H ₂ L			(8065)		
1,10-Phenanthroline-2,9-dicarboxylic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Eu+++ sp KCl 25°C 0.10M U K1=22.85 B2=33.11 1999DLA (86592) 888

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

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

Eu+++ gl oth/un 25°C 0.10M U K1=12.06 1981E1a (86641) 889

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

Eu+++ gl NaClO4 25°C 0.20M U M K1=10.32 1987V5a (86727) 890
K(Eu(cdtA)+L)=6.08, K(Eu(dtpa)+L)=5.38.

C14H9O2F3 HL (8066)
4,4,4-Trifluoro-1-(2'-naphthyl)-1,3-butanedione;

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

Eu+++ sp alc/w 25°C 0.1M C K1=5.80 B2=11.31 1999DLA (86875) 891
Medium: 0.1 M KCl in 70% w/w EtOH/H2O

C14H10O3 HL CAS 85-52-9 (1739)
2-Benzoylbenzoic acid; C6H5.CO.C6H4.COOH

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

Eu+++ gl alc/w 25°C 50% M I K1=2.17 B2=4.07 1974TTa (86924) 892
K1=21.6 by fluorescence. In 33% EtOH: K1=2.53(2.52 by fluorescence), K2=2.08

C14H12N2O3 H2L CAS 4870-46-6 (3432)
2-Hydroxy-5-methyl-2'-carboxy-azobenzene; HO.C6H3(CH3).N:N.C6H4.COOH

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

Eu+++ gl diox/w 25°C 50% U I K1=3.69 B2=7.40 1985ANa (87214) 893

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

Eu+++ gl mixed 30°C 0.10M U T H K1=11.92 B2=22.08 1988TRb (87718) 894
Medium: 0.1 M KNO3 in 75% v/v isopropanol/water

C14H15O4P HL CAS 843-24-3 (2134)
Di(4-methylphenyl)phosphoric acid; (CH3C6H5)2P(O)OH

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      kin oth/un 25°C 0.02M U      K1=3.26      1974GMc (87791) 895
*****
C14H16N2O2S      HL      CAS 189231-67-2 (8475)
2-Thiophenylhydrazodimedone;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      gl diox/w 25°C 75% C T H      K1=13.47 B2=25.30 1997EIa (87867) 896
Medium: 75% v/v dioxane/H2O, 0.10 M KNO3. Data for 10-40 C. DH(K1)=-7.71
kJ mol-1, DS(K1)=-11.28 J K-1 mol-1; DH(K2)=-6.61, DS(K2)=-9.39.
*****
C14H16N2O3      H2L      (8284)
5,5'-Dimethylcyclohexane-2-(2'-hydroxyphenyl)hydrazono-1,3-dione;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      gl mixed 30°C 0.10M U T H      K1=12.17 B2=22.69 1988TRb (87885) 897
Medium: 0.1 M KNO3 in 75% v/v isopropanol/water
*****
C14H16N2O8      H4L      CAS 40774-59-2 (1901)
1,2-Diaminobenzene-N,N,N',N'-tetraethanoic acid; C6H4(N(CH2.COOH)2)2
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      gl NaClO4 25°C 1.00M C H      K1=13.65      1992YNa (87949) 898
By calorimetry: DH(K1)=14.3 kJ mol-1, DS=309 J K-1 mol-1
*****
C14H16O5      L      CAS 2880-96-8 (6798)
2,3-Anhydro-4,6-O-benzylidene-alpha-D-mannopyranoside;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      nmr non-aq ? 100% U M      1991HKf (88028) 899
K(EuA3+L)=0.86
Medium: CDCl3. A=6,6,7,7,8,8,8-heptafluoro-2,2-dimethyloctane-3,5-dione
beta-mannopyranoside and alpha-allopyranoside also studied
*****
C14H19NO7      HL      (6775)
16-Nitro-3,6,9,12-tetraoxabicyclo[12.3.1]octadeca-1(18),14,16-trien-18-ol;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      gl R4N.X 25°C 0.10M C      K1=3.28      1990CBe (88147) 900
*****
C14H20O5      L      Benzo15-crown-5 CAS 14098-44-3 (608)
2,3-Benzo-1,4,7,10,13-pentaoxacyclopentadeca-2-ene;
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	dis	non-aq	25°C	100%	U		B2=8.06	1990NIa (88267)	901
B2=extraction eq.constant: M+3P+2(S)=ML2P3(S); solvent(S)=CH2Cl2, P=picrate									

C14H20O8S		HL					CAS 127461-53-4	(7818)	
2,3-Benzo-1,4,7,10,13-pentaoxacyclopentadeca-2-ene-4'-sulfonic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	dis	R4N.X	25°C	0.12M	C		K1=1.66	1998SUa (88392)	902
Medium: 0.12 M Et4NBr.									
Method:solvent extraction into cyclohexane/di(2-ethylhexyl)phosphoric acid									

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
Eu+++	gl	KCl	25°C	1.0M	U		K1=7.60 K(EuHL+H)=5.15 K(EuL+H)=7.61	1987CMe (88441)	903

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
Eu+++	kin	KCl	25°C	0.10M	U		K(EuL+H)=4.2	2000SBa (88635)	904

Eu+++	gl	KCl	25°C	0.15M	U	I	K1=13.53 B(EuHL)=19.32 B(Eu(OH)L)=15.16	1989Sdb (88636)	905
Medium: 2.5%(mass) Triton X 100 (Ferak) in H2O									
In 0.15 KCl: K1=18.41, B(EuHL)=22.01, B(Eu(OH)L)=25.04									

Eu+++	cal	NaClO4	25°C	0.50M	C	H	K1=18.10	1987CRa (88637)	906
DH(K1)=-3.6 kJ mol ⁻¹ ; DS(K1)=335 J K ⁻¹ mol ⁻¹									
Eu+++	gl	KCl	25°C	1.00M	U		K1=18.84	1984Mfa (88638)	907
Eu+++	gl	NaClO4	25°C	0.50M	U		K1=18.10	1977GGb (88639)	908
Eu+++	vlt	oth/un	?	1.0M	U		B(Eu(OH)L)=25.02 K(Eu+L+HL)=19.98	1973TKc (88640)	909

Eu+++	sp	KCl	30°C	1.0M	U	T	K1=17.62 B2=34.36	1971KTK (88641)	910
50 C: K1=17.60, K2=16.97; 60 C: K1=17.59, K2=17.07;									

70 C: K1=17.57, K2=17.18; 80 C: K1=17.55, K2=17.28, isomeric complexes.

Eu+++ ix R4N.X 25°C 0.10M U K1=18.87 1966BAc (88642) 911
Medium: NH4ClO4

Eu+++ dis R4N.X 20°C 0.10M U K1=18.51 1966STa (88643) 912
Medium: NH4Cl

Eu+++ vlt KNO3 20°C 0.10M U K1=18.62 1954SGa (88644) 913

C14H22N2O9 H2L CAS 93031-53-9 (5830)
1,4,7-Trioxa-10,13-diazacyclopentadecane-8,15-dione-10,13-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	R4N.X	25°C	0.10M	C		K1=8.80	1988CCb (88879)	914

C14H23N3O10 H5L DTPA CAS 67-43-6 (238)									
Diethylenetriamine-pentaethanoic acid; HOOC.CH2.N(CH2.CH2.N(CH2.COOH)2)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaClO4	25°C	0.10M	C		K1=22.39	2001CCa (89219)	915
K1 from competition with EDTA using luminescence.									

Eu+++ sp KCl 25°C 0.10M U K1=22.77 1997WHb (89220) 916
Method: Laser-excitation luminescence

Eu+++ sp KCl 25°C 0.10M C K1=22.40 1996WHa (89221) 917
Method: laser excited luminescence

Eu+++ cal KNO3 25°C 0.10M C T 1988MIa (89222) 918
DH(K1)=-31.3 kJ mol⁻¹, DS=323.2 J mol⁻¹ K⁻¹. Also data for 283 and 313 K

Eu+++ cal NaClO4 25°C 0.10M C H 1987YJa (89223) 919
DH(K1)=-29.6 kJ mol⁻¹, DS(K1)=330 J K⁻¹ mol⁻¹.

Eu+++ cal NaClO4 25°C 0.50M U H 1977CGc (89224) 920
DH(K1)=-47.8 kJ mol⁻¹

Eu+++ gl NaClO4 25°C 0.50M U K1=20.87 1977GGb (89225) 921

Eu+++ gl KNO3 30°C 0.10M U K1=22.91 1976GAa (89226) 922

Eu+++ cal KNO3 27°C 0.10M U H 1968CLd (89227) 923
DH(K1)=-33.0 kJ mol⁻¹, DS=318 J K⁻¹ mol⁻¹

Eu+++ ix R4N.X 25°C 0.10M U K1=22.40 1965BAc (89228) 924
Medium: NH4ClO4

Eu+++ sp oth/un 19°C 0.10M U K1=23.17 1963GAd (89229) 925
B(Eu2L)=26.23

Eu+++ EMF KNO3 25°C 0.10M U H K1=22.39 1962MTc (89230) 926
DH(K1)=-33.9 kJ mol⁻¹, DS=315 J K⁻¹ mol⁻¹

Eu+++ gl oth/un 25°C 0.10M U K1=22.91 1959HCa (89231) 927

C14H23O3P HL CAS 13244-67-2 (8312)
Phenylphosphonic acid mono-octyl ester;

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

Eu+++ dis NaCl RT 2.0M C 1977NAC (89477) 928
K(Eu+5HL(org))=EuL3(HL)2(org)+3H)=11.0
Method: extraction from 2.0 M NaCl solution into benzene.

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

Eu+++ vlt KNO3 20°C 0.10M U K1=16.31 1969NDc (89508) 929

C14H24N2O8 H4L (7165)
1,2-Diaminohexane-N,N,N',N'-tetraethanoic acid; (HOOCCH2)NCH2CH(C4H9)N(CH2COOH)2

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

Eu+++ vlt KNO3 20°C 0.10M U K1=18.32 1974NL a (89529) 930

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

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

Eu+++ gl KCl 25°C 1.00M U M 1976BK a (89572) 931
K(EuEDTA+L)=3.9
K(EuEDTA+HL)=3.8
K(2EuEDTA+L)=7.6

Eu+++ gl KCl 25°C 0.10M U 1974KPd (89573) 932
K(Eu+HL)=6.71

C14H24N2O8 H4L CAS 1633-00-7 (5076)
4-Methyl-1,2-diaminopentane-N,N,N',N'-tetraethanoic acid;
(HOOCCH2)2NCH2CH(N(CH2COOH)2CH2CH(CH3)2

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

Eu+++ vlt KNO3 20°C 0.10M U K1=18.45 1968NLb (89632) 933

C14H24N2O8 H2L CAS 17619-53-3 (5833)

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

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

Eu+++ gl R4N.X 25°C 0.10M C K1=10.36 1988CCb (89650) 934

C14H24N2O8 H4L EDTP (2936)

Diaminoethane-N,N,N',N'-tetrapropanoic acid; (HOOCH2CH2)2N.CH2CH2.N(CH2CH2.COOH)2

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

Eu+++ gl NaClO4 25°C 0.10M U 1995HAa (89680) 935

K(Eu+HL)=4.84
 K(Eu+H2L)=4.17
 K(Eu+H3L)=3.00
 B(EuHL)=14.27

B(EuH2L)=19.70, B(EuH3L)=22.70

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

Eu+++ gl KNO3 25°C 0.10M U K1=11.82 1984TPa (89728) 936
 K(Eu+HL)=7.30

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

Eu+++ gl KCl 25°C 1.0M U M K2=1.53 1985KBb (89859) 937
 K(EuL+ida)=1.5

 Eu+++ EMF KNO3 20°C 0.10M U K1=17.10 1962MMc (89860) 938

C14H24O9 H3L CAS 64020-01-5 (8224)

1,1,1-Tris[(2-carboxyethoxy)methyl]ethane;

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

Eu+++ gl R4N.X 25°C 0.10M C K1=3.95 2001V5a (90050) 939
 K(EuL+H)=4.35

Medium: 0.10 M Me4NCl. Also data for N-ethyl-, N-CH2OH-, N-CH2O(CH2)2COOH-
 derivatives.

C14H25N3O7 H3L (5397)
1-Oxa-4,7,10-triazacyclododecane-4,7,10-triethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	sp	KCl	25°C	0.10M	U		K1=19.09	1997WHa (90081)	940

Method: luminescence spectroscopy

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
Eu+++	gl	KNO3	25°C	0.10M	C		K1=17.82	1985TPa (90099)	941

C14H25N3O9 H4L (8077)
N''-(2-Hydroxyethyl)-diethylenetriamine-N,N, N',N''-tetraethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KCl	25°C	0.1M	U		K(Eu+HL)=9.92	1976NGc (90127)	942

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	cal	R4N.X	25°C	0.10M	U	H		1995MMb (90184)	943

Medium: NMe4NO3. DH(K1)=-5.52 kJ mol⁻¹, DS=245 J K⁻¹ mol⁻¹.

Eu+++	dis	R4N.X	25°C	0.10M	U		K1=12.23	1990MMc (90185)	944
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Medium: 0.1M Me4NCl

Eu+++	dis	oth/un	25°C	0.10M	U		K(Eu+H4L=EuL+4H)=12.23	1990MMe (90186)	945
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Eu+++	gl	R4N.X	25°C	0.10M	M		K1=11.85	1986COb (90187)	946
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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
Eu+++	sp	KCl	25°C	0.10M	U		K1=20.05	1997WHb (90246)	947

Method: Laser-excitation luminescence

Eu+++	sp	KCl	25°C	0.10M	C		K1=20.69	1996WHa (90247)	948
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Method: laser excited luminescence

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
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Eu+++		ISE non-aq	25°C	100%	U	H		K1=9.1	1990MGa (90362)	949
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In acetonitrile, 0.1 M Et4NClO4. DH=-25 kJ mol-1.

Eu+++		ISE non-aq	25°C	100%	C			K1=4.69	1989MGa (90363)	950
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Medium: DMF, 0.10 M Et4NClO4

Eu+++		ISE non-aq	25°C	100%	C			K1=15.2	1986ALa (90364)	951
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Medium: propylene carbonate, 0.1 M Et4NClO4

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
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Eu+++	gl	R4N.X	25°C	0.10M	C			K1=7.38	1988CCc (90479)	952
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C14H28O7 L 21-Crown-7 CAS 33089-36-0 (2264)
1,4,7,10,13,16,19-Heptaoxacycloheptadecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++	gl	non-aq	25°C	100%	C			K1=7.14	1989BPa (90520)	953
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Medium: anhydrous propylene carbonate, 0.1 M Et4NClO4

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++	gl	non-aq	25°C	100%	C			K1=6.50	1989BPa (90692)	954
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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
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Eu+++	gl	R4N.X	25°C	0.10M	U			K1=13.08 K(Eu+HL)=10.96 K(Eu+H2L)=5.97	1996BJa (90763)	955
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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
Eu+++	gl	KCl	25°C	0.10M	C		K1=9.75	1998BRa (90842)	956

		C14H36N4O12P4	H8L				CAS 107446-90-2 (2015)		
1,4,7,11-Tetraazacyclotetradecane-N,N',N'',N'''-tetramethylphosphonic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KNO3	25°C	1.00M	U		K1=18.9 K(La+HL)=17.1 K(La+H2L)=15.3 K(La+H3L)=12.9	1987PBa (90871)	957

		C14H37O12O12P4	H8L				(6910)		
N'-Hexyl-diethylenetriamine-N,N,N'',N'''-tetra(methylenephosphonic acid);									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaClO4	25°C	0.10M	M		K(Eu+HL)=7.03	1987ZGa (90933)	958

		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
Eu+++	sp	alc/w	21°C	50%	U		K1=9.32	1988CMd (91212)	959
Eu+++	sp	alc/w	21°C	50%	U I		K1=9.52	1981MCb (91213)	960
Medium: 50% MeOH, 0.1 M NaClO4. In 75% MeOH K1=11.08									
Eu+++	dis	oth/un	20°C	0.05M	U		K1=12.39 B2=23.80 B3=34.23 B4=43.68	1967NAa (91214)	961

		C15H12OS	HL				(1261)		
mono-Thiodibenzoylmethane; C6H5.CO.CH2.CS.C6H5									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaClO4	30°C	0.05M	U		K1=8.84 B2=17.66 K3=8.14	1979VMa (91491)	962

		C15H12O2	HL	Diphenylacac			CAS 120-46-7 (362)		
1,3-Diphenylpropane-1,3-dione, Dibenzoylmethane; C6H5.CO.CH2.CO.C6H5									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	mixed	15°C	50%	U T H		K1=8.49	1982BSb (91545)	963

Medium: 50%CH3CN in H2O

Eu+++ dis KNO3 25°C 0.10M U K1=7.55 B2=14.25 1968BBE (91546) 964
B3=19.7

C15H12O3 H2L CAS 121245-86-1 (7741)

1-(2-Hydroxyphenyl)-3-(3-hydroxyphenyl)-2-propen-1-one;

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

Eu+++ sp non-aq 29°C 100% U I K1=5.81 1998MPa (91593) 965

Medium: methanol, I=0.01 M (electrolyte not stated). Also data for 2',4 and 2',4'- dihydroxy analogues. For 2,4-dihydroxy K1=5.16

C15H14NOCl HL CAS 268214-29-5 (8398)

4-Chloro-3,5-dimethyl-2-[(phenylimino)methyl]phenol;

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

Eu+++ gl diox/w 30°C 75% M K1=7.18 2000ANa (91690) 966

Medium: 75% v/v dioxan/H2O, 0.10 M NaClO4. Data for an extensive series of 4'-substituted phenylimino derivatives.

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

Eu+++ gl alc/w 20°C 75% U T H K1=10.71 B2=19.06 1993RAa (92021) 967

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

Eu+++ gl mixed 30°C 0.10M U T H K1=12.36 B2=23.40 1988TRb (92022) 968

Medium: 0.1 M KNO3 in 75% v/v isopropanol/water

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

N-Benzylidiaminoethane-N,N',N'-triethanoic acid;

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

Eu+++ gl KNO3 25°C 0.10M C K1=12.35 1978MPb (92150) 969

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

Eu+++ sp non-aq 25°C 100% M K1=8.3 B2=15.30 1997RPb (92282) 970

B3=22.3

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
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Eu+++      EMF KCl      ?  0.10M U      K1=16.46      1966VL a (92370) 971
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C15H25N3O10 H5L (6100)
Diethylenetriamine-N,N,N',N''-tetraethanoic acid-N''-propanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++ gl KN03 25°C 0.10M C K1=19.75 1989SPa (92392) 972
K(Eu+HL)=13.36

C15H26N4O9 H4L (7685)
Diethylenetriamine-N,N,N',N'',N''-pentaethanoic acid N'-methanamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++ g1 KCl 25°C 0.10M C K1=19.90 2000SBb (92430) 973

C15H26N4O9 H4L CAS 137076-43-8 (5085)
Diethylenetriamine-N,N,N',N'',N''-pentaethanoic acid N-methylamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++ g1 KCl 25°C 0.10M C K1=18.7 2000SBb (92445) 974

C15H30N2O2 L CAS 16463-67-5 (7914)
N,N,N',N'-Tetra(2-propyl)malonamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++ cal non-aq 25°C 90% C H K1=0.0 2001RZa (92504) 975
Medium: 90% w/w CH3CN/DMSO. DH(K1)=35.8 kJ mol⁻¹, DS(K1)=120 J K⁻¹ mol⁻¹.
Data for N,N,N',N'-tetrahexyl- and 2-Me-N,N,N',N'-tetrahexylmalonamides.

C15H33N06 L CAS 70384-51-9 (838)
Tris(3,6-dioxaheptyl)amine; (CH3.CH2.O.CH2.CH2.O.CH2.)3N

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++ ISE non-aq 25°C 100% C T K1=7.6 B2=14.0 1986ALa (92565) 976
Medium: propylene carbonate, 0.1 M Et4NClO4

C16H9N2OBr3 HL CAS 84317-74-8 (5169)
1-(2,4,6-Tribromophenylazo)-2-hydroxynaphthalene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++      kin oth/un 25°C 0.02M U      K1=4.92      1972GSe (92651) 977
*****
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
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Eu+++      sp oth/un 25°C      ? U      1967SAa (92862) 978
                        K1eff=4.7
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C16H12N2O      HL      CAS 5603-14-5 (9083)
2-[(Quinolylmethylene)amino]phenol;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Eu+++      gl alc/w 25°C 50% C      K1=6.58      B2=12.01      1997GSa (92925) 979
Medium: 50% v/v EtOH/H2O, 0.20 M KCl.
*****

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C16H12N2O4S      H2L      CAS 13964-82-4 (3475)
1-(4-Sulfophenylazo)-2-hydroxynaphthalene;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----

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Eu+++      sp oth/un 25°C dil U      B2=7.32      1969SPd (92997) 980
*****

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C16H12N2S      L      CAS 31230-95-2 (9085)
2(2-Benzothiazoliny)quinoline;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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```

Eu+++      gl alc/w 25°C 50% C      K1=6.35      B2=11.52      1997GSa (93104) 981
Medium: 50% v/v EtOH/H2O, 0.20 M KCl.
*****

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```

C16H12N3O4ClS      H2L      CAS 133131-00-7 (8468)
7-Amino-8-[(4-chlorophenyl)azo]-4-hydroxy-2-naphthalenesulfonic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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Eu+++      gl NaCl 25°C 0.10M U      K1=8.78      B2=16.92      1997IHa (93113) 982
                        B3=23.94

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Also data for the 4'-bromo-, 4'-fluoro-, 4'-nitro-, 4'-methoxy-, 4'-di-
methylamino-, 4'-hydroxy-, 4'-carboxy-, 4'-AsO(OH)2-, 2'-hydroxy- analogue
*****

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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
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Eu+++      gl diox/w 30°C 75% M      K1=7.27      1987ESa (93128) 983

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

Eu+++ gl NaCl04 30°C 0.10M U 1976Nda (93190) 984
K(Eu+H₂L=EuH₂L)=5.58
K(EuHL+H)=7.35
K(EuL+H)=9.90
K(EuL+OH)=2.60

C16H18N4 L CAS 172665-46-2 (7699)
N,N'-Dimethyl-1,10-phenanthroline-2,9-dimethanamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaClO4	25°C	0.10M	U		K1=7.47 B(EuHL)=14.53	2001WZa (93841)	990

Also data for the N,N'-diethyl, isopropyl, butyl and isobutyl derivatives.

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	vlt	KN03	20°C	0.10M	U		K1=17.25	1969NDb (94037)	991

 C16H22O6 L (6733)
 4'-Acetyl-2,3-benzo-1,4,7,10,13-pentaoxacyclopentadeca-2-ene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	dis	non-aq	25°C	100%	U		B(Eu+3P+2L)=7.71	1993INa (94248)	992

By solvent extraction into dichloromethane. B is the extraction constant
 Eu(aq)+picrate(aq)+L(org)=EuL2P3(org).

 C16H23NO8 HL (6776)
 19-Nitro-3,6,9,12,15-pentaoxabicyclo[15.13.1]heneicosa-1(21),17,19-trien-21-ol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	R4N.X	25°C	0.10M	C		K1=3.17	1990CBe (94258)	993

 C16H24O9S HL SB18C6 CAS 185099-14-3 (7819)
 2,3-Benzo-1,4,10,13,16-hexaoxacyclooctadeca-2-ene-4'-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	dis	R4N.X	25°C	0.12M	C		K1=1.59	1998SUa (94477)	994

Medium: 0.12 M Et4NBr.
 Method:solvent extraction into cyclohexane/di(2-ethylhexyl)phosphoric acid

 C16H26N2O10 H2L CAS 93031-54-0 (5831)
 1,4,7,10-Tetraoxa-13,16-diazacyclooctadecane-11,18-dione-13,16-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	R4N.X	25°C	0.10M	C		K1=10.03	1988CCb (94568)	995

 C16H27N3O9 H4L (5673)
 N'-(Allyloxyethyl)diethylenetriamine-N,N,N'',N''-tetraethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Eu+++ gl KCl 20°C 0.10M U K1=19.05 1982Tia (94652) 996

C16H27N5O8 H3L (6621)
1,4,7-Tris(carboxymethyl)-1,4,7,10,13-pentaazacyclopentadecan-9,14-dione;

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

Eu+++ sp KCl 25°C 0.08M U K1=11.7 1994FCa (94667) 997

C16H27N5O8 H3L (6915)
4,10,13-Tris(carboxymethyl)-1,4,7,10,13-pentaazacyclopentadeca-8,15-dione;

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

Eu+++ sp KCl 25°C 0.08M U K1=15.3 1994FCa (94683) 998

C16H27O3P HL CAS 52299-33-9 (8311)
Phenylphosphonic acid monodecyl ester;

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

Eu+++ dis NaCl RT 2.0M C 1977NAc (94695) 999
K(Eu+3HL(org)=EuL3(org)+3H)=2.5
Method: extraction from 2.0 M NaCl solution into benzene.

C16H28N2O8 H4L (5167)
1,2-Diaminoethane-N,N'-diethanoic-N,N'-di-2-(3-methyl)butanoic acid;

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

Eu+++ gl KNO3 20°C 0.10M U K1=13.23 1969NDc (94710)1000

C16H28N2O8 H4L (5168)
1,2-Diaminoethane-N,N'-diethanoic-N,N'-di-2-pentanoic acid;

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

Eu+++ vlt KNO3 20°C 0.10M U K1=16.39 1969NDc (94736)1001

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

Eu+++ vlt KNO3 20°C 0.10M U K1=18.31 1979MBd (94762)1002

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

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      sp  KCl    25°C 0.10M U          K1=26.21      1997WHb (94889)1003
Method: Laser-excitation luminescence
-----
Eu+++      gl  NaCl    25°C 1.00M C          K(Eu+H2L)=4.32 1994TBa (94890)1004
-----
Eu+++      sp  NaCl    37°C 1.0M C          K1=23.7       1994TBb (94891)1005
-----
Eu+++      EMF NaCl    20°C 1.00M C          K1=28.2       1986LDb (94892)1006
*****
C16H30N2O8      H2L          CAS 72912-01-7 (1568)
1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-N,N'-diethanoic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      cal R4N.X 25°C 0.10M U   H          1995MMb (95036)1007
Medium: NMe4NO3. DH(K1)=-12.9 kJ mol-1, DS=187 J K-1 mol-1.
-----
Eu+++      dis R4N.X 25°C 0.10M U          K1=12.33      1990MMc (95037)1008
Medium: 0.1 M Me4NCl
-----
Eu+++      dis oth/un 25°C 0.10M U          K(Eu+H4L=EuL+4H)=12.33 1990MMe (95038)1009
Method: solvent extraction
-----
Eu+++      gl  R4N.X 25°C 0.10M U          K1=12.02      1983CRb (95039)1010
*****
C16H32N2O5      L    Cryptand 2,2,1 CAS 31364-42-8 (837)
1,10-Diaza-4,7,13,16,21-pentaoxabicyclo[8,8,5]tricosane (2,2,1);
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Eu+++      ISE non-aq 25°C 100% U          K1=11.3       1990MGa (95202)1011
In acetonitrile, 0.1 M Et4NClO4.
-----
Eu+++      ISE non-aq 25°C 100% C          K1=3.2        1989MGa (95203)1012
Medium: DMF, 0.10 M Et4NClO4
-----
Eu+++      gl  R4N.X 25°C 0.25M C          K1=6.8        1981BBE (95204)1013
Medium: Me4NCl
-----
Eu+++      vlt NaClO4 25°C 0.50M U          K1=3.4 B2=9.4 1977GKb (95205)1014
Method: Cyclic voltammetry.
*****
C16H35O4P      HL          CAS 298-07-7 (1625)
Di-(2-ethylhexyl)-phosphoric acid; (C2H5C6H12O)2P(O)OH
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++	dis	oth/un	20°C	0.10M	C				1992SNb (95507)	1015
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Extraction of 155Eu from 0.10 M LiNO₃/HNO₃ medium into 90% CFC-112/benzene
K(Eu+4HL(org)=EuL₃(HL)(org)+3H)=3.10

Eu+++	dis	NaClO ₄	25°C	0.10M	U				1976AHa (95508)	1016
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K=0.053

K: Eu+3H₂L₂(org)=EuL₃(HL)₃(org)+3H

C16H ₄₁ N ₃ O ₁₂ P ₄	H8L	(6911)
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N'-Octyl-diethylenetriamine-N,N,N'',N''-tetra(methylenephosphonic acid);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Eu+++	gl	NaClO ₄	25°C	0.10M	M				1987ZGa (95668)	1017
-------	----	--------------------	------	-------	---	--	--	--	-----------------	------

K(Eu+HL)=6.89

C17H ₁₃ N ₄ O ₃	HL	(5927)
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1-Phenyl-3-methyl-4-(2'-carboxyphenylhydrazo)-5-pyrazolone;

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

Eu+++	gl	diox/w	30°C	75%	M			K1=15.97 B2=28.90	1987ESa (95765)	1018
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C17H ₁₄ N ₂ O ₂	L	CAS 4551-69-3 (698)
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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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Eu+++	gl	NaNO ₃	20°C	0.10M	U	M			1981GCa (95880)	1019
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B(Eu+3L+3TBP)=25.50
B(Eu+3L+4TBPoxide)=32.0

C17H ₁₅ N ₄ O ₂	L	CAS 97671-53-9 (5926)
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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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Eu+++	gl	diox/w	30°C	75%	M			K1=8.8 B2=17.12	1987ESa (96006)	1020
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C17H ₂₀ N ₃ O ₃ F	HL	(7845)
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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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Eu+++	gl	alc/w	22°C	0.1M	U			K1=6.00 B2=10.75	2000TBb (96284)	1021
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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
Eu+++	sp	NaNO3	25°C	0.10M	C			K1=8.63 K(Eu+HL)=2.76	19880Ha (96418)	1022

C17H27N04 L CAS 71089-11-7 (7945)
13-Phenylmethyl-1,4,7,10-tetraoxa-13-azacyclopentadecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	cal	non-aq	25°C	100%	C	H		K(EuNO3+L)=3.31	1993LLb (96532)	1023

Medium: acetonitrile. DH(EuNO3+L)=-58.53 kJ mol⁻¹.

C17H29N3O10 H4L CAS 89378-46-1 (5528)
(Bis(3-(bis(carboxymethyl)amino)propyl)methylammonio)ethanoate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	KNO3	25°C	0.10M	U			K1=8.90 K(Eu+HL)=5.64	1984TPa (96570)	1024

C18H15O4P L CAS 115-86-6 (2429)
Triphenyl phosphate; (C6H5O)3.P:O

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	sp	oth/un	25°C	?	U	M		K(EuA3+L=EuA3L)=2.940 K(EuB3+L=EuB3L)=2.720	1980BRb (97115)	1025

A= 6,6,7,7,8,8,8-Heptafluoro-2,2'-dimethyloctane-3,5-dione anion,
B= (3-Heptafluoropropyl)hydroxymethylene-d-camphor

C18H16N2O3 HL (5560)
2-(2-Acetylphenylhydrazono)-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
Eu+++	gl	diox/w	30°C	75%	U			K1=10.91 B2=19.74	1988ESb (97169)	1026

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
Eu+++	nmr	KCl	25°C	1.0M	C	H		K1=2.49	2004BRa (97258)	1027

Method: 1H nmr measurements in D2O. DH(K1)=-13 kJ mol⁻¹,
DS(K1)=3 J mol⁻¹K⁻¹

C18H20N2O6 H4L EHPG CAS 10328-28-6 (429)
N,N'-Ethylene-bis-(2-(2'-hydroxyphenyl))glycine; (H00CCH(C6H4OH)NHCH2.)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	EMF	KNO3	25°C	0.10M	C T H		K1=18.77 K(EuL+H)=7.28	1985HWb (97424)	1028

Method: Hg (and glass) electrode, using Hg(II) as competitive indicator ion. Data for 10-35 C. DH(K1)=-60.2 kJ mol⁻¹, DS(K1)=157 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
Eu+++	gl	KNO3	25°C	0.10M	C		K1=15.71	1985TPa (97652)	1029

C18H29N04 L CAS 207603-17-6 (9000)
7-(Phenylmethyl)-1,4,10,13-tetraoxa-7-azacyclohexadecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	cal	non-aq	25°C	100%	C H		K1=2.36	1998LBc (97876)	1030

Medium: acetonitrile. DH(K1)=-60.71 kJ mol⁻¹, DS(K1)=-158.5 J K⁻¹ mol⁻¹.

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
Eu+++	gl	R4N.X	25°C	0.10M	C		K1=9.89	1988CCb (97908)	1031

C18H30N4O12 H6L TTHA CAS 869-52-3 (694)
Triethylenetetraaminehexaethanoic acid;((H00C.CH2)2N.CH2.CH2.N(CH2.C00H).CH2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	EMF	KNO3	25°C	0.10M	C T H		K1=23.03 K(EuL+H)=4.15 K(EuHL+H)=2.43	1987HCa (98025)	1032

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

Data for 15-35 C. At 25 C, DH(K1)=-130 kJ mol⁻¹, DS(K1)=6.0 J K⁻¹ mol⁻¹.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	vlt	R4N.X	30°C	0.01M	C		K1=19.57	1981GMh (98026)	1033

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	vlt	NaClO4	25°C	0.40M	C		K1=23.85	1978MNb (98027)	1034

Medium: 0.40 M NaClO₄, pH 4.80. Method: polarography, using Cd as indicator ion.

Eu+++ gl KNO₃ 30°C 0.10M U K1=19.57 1976GAa (98028)1035

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

Eu+++ sp KCl 25°C 0.10M U K1=14.02 1997WHb (98198)1036
Method: Laser-excitation luminescence

Eu+++ gl NaNO₃ 25°C 0.20M C K1=14.66 1991KKa (98199)1037

Eu+++ EMF NaCl 80°C 1.00M C K1=15.46 1986LDb (98200)1038
K(EuL+H)=3.77

C18H₃₂N₆O₈ H3L DTPA-dien CAS 159090-04-7 (7858)
1,4,7,10,13,16-Hexaazacyclooctadecane-9,17-dioxo-1,4,7-triethanoic acid;

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

Eu+++ sp none 25°C 0.0 C K1=14.11 1996WFa (98266)1039
Method: excitation spectroscopy.

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

Eu+++ gl R4N.X 25°C 0.10M C K1=7.38 1988CCc (98336)1040

C18H₃₄N₄O₉ H3L DO3A-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

Eu+++ gl NaCl 25°C 0.10M C I K1=19.1 1996TKa (98377)1041
In 0.1 M Me₄NCl K=21.2

C18H₃₆N₂O₆ L Cryptand 2,2,2 CAS 23978-09-8 (514)
1,10-Diaza-4,7,13,16,21,24-hexaoxabicyclo[8.8.8]hexacosane;

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

Eu+++ cal non-aq 25°C 100% C H K1=14.12 2003DCa (98568)1042
Method: competitive titration calorimetry of AgL+. Medium: acetonitrile.
DH(K1)=-136.8 kJ mol⁻¹, DS(K1)=-189 J K⁻¹ mol⁻¹.

Eu+++ ISE non-aq 25°C 100% U H K1=11.4 1990MGa (98569)1043
In acetonitrile, 0.1 M Et4NClO4. DH=-100 kJ mol-1.

Eu+++ ISE non-aq 25°C 100% C K1=2.9 1989MGa (98570)1044
Medium: DMF, 0.10 M Et4NClO4

Eu+++ ISE non-aq 25°C 100% C K1=17.2 1986ALa (98571)1045
Medium: propylene carbonate, 0.1 M Et4NClO4

Eu+++ gl alc/w 25°C 100% C I K1=10.57 1983ANb (98572)1046
The equilibration took 7-12 days. Medium: MeOH, 0.05 M Et4NClO4
In propylene carbonate, 0.1 M Et4NClO4, K1=19.0

Eu+++ gl R4N.X 25°C 0.25M C K1=5.90 1981BBE (98573)1047
Medium: Me4NCl

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

Eu+++ gl KCl 25°C 0.1M C I 2002DGc (98879)1048
B(Eu3H-6L3)=-21.2

In 75% v/v MeOH/H2O, 0.10 M KCl, B(Eu3H-6L3)=-10.3.

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

Eu+++ gl R4N.X 25°C 0.10M U K1=7.65 1996BJa (98891)1049
Medium: 0.1 M Me4NCl

C20H14N2O11S3 H5L Chromotrope 8B CAS 5850-64-6 (2674)
3-(4'-Sulfonaphthylazo)chromotropic acid;

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

Eu+++ sp NaClO4 25°C 0.10M C K1=6.05 1979PLb (99710)1050

C20H14N2O11S3 H2L Hydroxynaphthol CAS 63451-35-4 (2835)
Hydroxynaphthol blue, 1-(2-Hydroxy-4-sulfo-1-naphthylazo)-2-naphthol-3,

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

Eu+++ sp none 25°C 0.0 U 1978BRb (99729)1051
K1eff=4.10

Keff at pH 10

C20H18N4O2 HL (5917)
Pyruvic monohydrazone-3-hydrazino-4-benzyl-6-phenylpyridazine;

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

Eu+++ gl diox/w 30°C 75% U 1985RSb (99831)1052
K(Eu+HL)=5.49
K(Eu+2HL)=10.91

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

Eu+++ gl KNO3 20°C 0.10M U K1=19.28 1985SNb (99992)1053
K(EuL+H)=5.50
K(EuHL+H)=4.98

C20H24O6 L DiBz-18-Crown-6 CAS 14187-32-7 (604)
2,3:11,12-Dibenzo-1,4,7,10,13,16-hexaoxacyclooctadeca-2,11-diene

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

Eu+++ cal non-aq 25°C 100% C H K1=3.14 1998LHa (100118)1054
Medium: acetonitrile. DH(K1)=2.51 kJ mol⁻¹.

Eu+++ gl oth/un 25°C 0.0 U H K1=2.10 1991HJa (100119)1055

C20H24O12S2 H2L CAS 172985-47-6 (7820)
2,3:11,12-Dibenzo-1,4,7,10,13,16-hexaoxacyclooctadeca-2,11-diene-4',4''-disulfonic acid;

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

Eu+++ dis R4N.X 25°C 0.12M C K1=1.63 1998SUa (100280)1056
Medium: 0.12 M Et4NBr.

Method:solvent extraction into cyclohexane/di(2-ethylhexyl)phosphoric acid

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

Eu+++ gl NaNO3 25°C 0.20M C K1=15.59 1991KKa (100533)1057

Eu+++ gl NaClO4 25°C 0.20M C K1=15.59 1990KMD (100534)1058

C20H35N5O10 H3L (6623)
1,4,7-Tris(carboxymethyl)-13,16-dioxo-1,4,7,10,19-pentaazacycloheicosa-9,20-dione

;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	sp	KCl	25°C	0.08M	U		K1=17.2	1994FCa (100555)	1059

C20H40N8O4		L					CAS 219143-29-0	(1185)	
1,4,7,10-Tetrakis(methylcarbamoylmethyl)-1,4,7,10-tetraazacyclododecane;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	R4N.X	25°C	0.10M	U		K1=13.17 K(GdL+OH)=6.83	1998ABd (100845)	1060

Medium: 0.01 M Me4NNO3.

C20H43O4P		HL					CAS 7785-87-1	(2132)	
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Didecylphosphoric acid; (C10H21O)2P(O)OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	kin	oth/un	25°C	0.02M	U		K1=4.07	1974GMc (100905)	1061

C21H17N5		L					(7365)		
2,6-Bis(1-methylbenzimidazol-2-yl)pyridine									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	sp	non-aq	20°C	100%	U		K1=9.0 B2=15.70 K3=6.9	1997PBa (101086)	1062

Medium: CH3CN

C22H14O9		H5L					CAS 4431-00-9	(3513)	
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Aurinetricarboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	sp	oth/un	25°C	?	U		K(Eu+HL)=4.6(?)	1967SAa (101496)	1063

C22H17AsN4O14S3		H6L	Arsenazo	M			CAS 3563-69-7	(623)	
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2-(2-Arsenophenylazo)-7-(3-sulfophenylazo)-1,8-dihydroxynaphthalene-3,6-disulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	sp	oth/un	?	?	U		K1=14.50	1971SSi (101543)	1064

C22H18N4O14As2S2		H8L	Arsenazo	III			CAS 1668-00-4	(1148)	
2,7-Bis(2'-arsenophenylazo)chromotropic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	sp	oth/un	rt	0.10M	C			2004LLa (101619)	1065

K1eff=4.75
B2eff=9.89
B(2,2)eff=14.02

Method: spectral deconvolution. Medium: 0.1 M chloroacetate buffer, pH 3.5

Eu+++	sp	oth/un	20°C	?	U			1972SSi (101620)	1066
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K(Eu+H4L)=15.85

C22H24N2O8 H2L Tetracycline CAS 60-54-8 (2201)
Tetracycline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	sp	none	25°C	0.0	U			1984HGa (101812)	1067

K1=15.4
K(Eu+HL)=12.40
K(Eu+H2L)=7.40
K(Eu+H3L)=2.48

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
Eu+++	EMF	KN03	25°C	0.10M	C T H			1990HLA (101895)	1068

K1=10.93
K(EuL+H)=3.21

Method: Competitive reaction with Hg++, using Hg indicator electrode.
Data for 15-35 C. DH(K1)=-33.0 kJ mol⁻¹, DS(K1)=98.5 J K⁻¹ mol⁻¹.

C22H26N4O10 H4L BAPTA (7230)
1,2-Bis(o-aminophenoxy)ethane-N,N,N',N'-tetraethanoic acid;
(H00CCH2)2NCH(OC6H4NH2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	R4N.X	25°C	0.10M	C			1993YTa (101976)	1069

C22H28O13S2 H2L DSDB21C7 CAS 204931-02-2 (7821)
2,3:11,12-Dibenzo-1,4,7,10,13,16,19-heptaoxacycloheicosa-2,11-diene-4',4''-disulfo
nic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	dis	R4N.X	25°C	0.12M	C			1998SUa (102076)	1070

Medium: 0.12 M Et4NBr.

Method:solvent extraction into cyclohexane/di(2-ethylhexyl)phosphoric acid

C22H30N4 L CAS 250790-21-7 (7943)

N,N'-Bis(1,1-dimethylethyl)-1,10-phenanthroline-2,9-dimethanamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaClO4	25°C	0.10M	U		K1=8.18 B(EuHL)=15.10	2001WZa (102112)	1071

Also data for the N,N'-diethyl, isopropyl, butyl and isobutyl derivatives.

C22H35N3O4 L (7928)

4-(t-Butoxycarbonylethyl)-2,6-bis(diethylcarbamoyl)pyridine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	sp	non-aq	25°C	100%	C		K1=8.2 B2=14.50 B3=19.8	2001MSa (102246)	1072

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
Eu+++	vlt	R4N.X	30°C	0.01M	C		K1=20.70	1981GMh (102322)	1073

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

Eu+++	gl	KNO3	30°C	0.10M	U		K1=20.70	1976GAa (102323)	1074
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Eu+++	gl	KNO3	25°C	0.10M	U		K1=20.72 K(Eu+HL)=14.51 B(EuH-1L)=5.23	1968MIc (102324)	1075
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C22H40N4O8 H4L CAS 138763-18-5 (8607)

5,7,12,14-Tetramethyl-1,4,8,11-tetraazacyclotetradecane-N,N',N'',N'''-tetraethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KNO3	40°C	0.50M	U T		K1=18.20 K(EuL+H)=3.95	1995BIa (102355)	1076

Also data for 80 C.

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

Chromazuro1 S;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	sp	oth/un	25°C	?	U		K(?)=4.2	1967SAa (102549)	1077

C23H18N2O3 HL (5561)

2-(2-Acetylphenylhydrazon)-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
Eu+++	gl	diox/w	30°C	75%	U		K1=11.05 B2=19.85	1988ESb (102592)	1078

C23H24N4O2		L		Trichachnine			CAS 1251-85-0	(2606)	
4,4'-Diantipyrilmethane, 4,4'-phenylmethylen-bis-(1,2-dihydro-1,5-dimethyl-2-phenylpyrazol-3-one									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	sp	diox/w	25°C	100%	U		K1=4.63	1995KMa (102671)	1079

C24H16O16S8		H8L					CAS 237770-97-7	(8854)	
25,26,27,28-Tetrahydroxy-2,8,14,20-tetrathiacalix[4]arene-5,11,17,23-tetrasulfonic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	cal	oth/un	25°C	0.01M	C	H	K1=3.26	2004LWa (102866)	1080
Medium: 0.01 M HCl. DH(K1)=7.5 kJ mol ⁻¹ , DS(K1)=87.2 J K ⁻¹ mol ⁻¹ . *****									
C24H32O14S2		H2L					CAS 204931-03-3	(7822)	
2,3:11,12-Dibenzo-1,4,7,10,13,16,19,22-octaoxacyclotetracos-2,14-diene-4',4''-disulfonic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	dis	R4N.X	25°C	0.12M	C		K1=1.94	1998SUa (103192)	1081
Medium: 0.12 M Et4NBr. Method:solvent extraction into cyclohexane/di(2-ethylhexyl)phosphoric acid *****									
C24H38N4O6		L					CAS 380488-78-8	(7921)	
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
Eu+++	sp	non-aq	25°C	100%	C		K1=8.2 B2=14.60 B3=19.7	2001MSa (103315)	1082
Medium: acetonitrile, 0.10 M Et4NClO4 *****									
C24H42N6O12		H6L					(6546)		
1,4,7,10,13,16-Hexaazacyclooctadecane-N,N',N'',N''',N'''',N'''''-hexaethanoic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaNO3	25°C	0.20M	C		K1=22.68	1991KKa (103373)	1083

K(Eu+H2L)=17.17

Eu+++ gl NaClO4 25°C 0.20M C 1990KMD (103374)1084

K(Eu+H2L)=17.17

C24H51N3O3 L CAS 490025-65-5 (8903)

1,3,5-Trideoxy-1,3,5-tris(hexylamino)-cis-inositol;

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

Eu+++ gl alc/w 25°C 75% C 2002DGC (103534)1085

B(Eu3H-6L3)=-11.8

Medium: 75% v/v MeOH/H2O, 0.10 M KCl.

C25H32N2O7 H2L (7374)

1,15-Diaza-3,4:12,13-dibenzo-5,8,11-trioxacycloctadecane-N,N'-diethanoic acid;

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

Eu+++ gl KNO3 25°C 0.5M C K1=5.71 1993YNa (103729)1086

C26H23N5O2 HL (5918)

Hippuric monohydrazone-3-hydrazino-4-benzyl-6-phenylpyridazine;

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

Eu+++ gl diox/w 30°C 75% U K1=11.87 B2=22.66 1985RSb (103879)1087

C26H27N3O10 H4L (7231)

2-((2-Amino-5-methylphenoxy)-methyl)-6-methoxy-8-aminoquinoline-N,N,N',N'-tetraethanoic acid;

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

Eu+++ gl R4N.X 25°C 0.10M C K1=13.6 1993YTa (103962)1088

C27H24N4O L BAHP (1023)

Benzoylacetone-monohydrazone-3-hydrazino-4-benzyl-6-phenylpyridazine;

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

Eu+++ gl diox/w 30°C 75% U K1=8.36 1983RSa (104383)1089

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

Eu+++ sp non-aq 25°C 100% C K1=8.0 B2=14.40 2002MRC (104421)1090

K3=4.6

Medium: acetonitrile, 0.10 M Et4NClO4.

C27H29NO11 L Adriamycin CAS 25316-40-9 (2407)

Doxorubicin;

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

Eu+++ sp oth/un 25°C 0.02M U T H K1=4.85 1985LSa (104455)1091

Medium: 0.02M pH 7.6 buffer

C28H24O16S4 H8L CAS 206559-10-6 (7767)

25,26,27,28-Tetrahydroxycalix[4]arene-5,11,17,23-tetrasulfonic acid;

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

Eu+++ cal oth/un 25°C 0.10M C H 2001BIa (104696)1092

K(Eu+H4L)=3.83

Medium: 0.10 m Na4H4L, pH=2. DH(Eu+H4L)=12.5 kJ mol⁻¹.

C28H36N2O14S2 L CAS 84162-07-2 (7948)

15,15'-Dithiobis[2,3,5,6,8,9,11,12-octahydro-16-nitro-1,4,7,10,13-benzopentaoxacycl
opentadecin]

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

Eu+++ sp non-aq 25°C 100% C T H 1997LQa (104788)1093

K(EuNO3+L)=3.65

Medium: acetonitrile. Data for 20-35 C. DH(EuNO3+L)=14.77 kJ mol⁻¹.

C28H40N4O4 H2L CAS 138110-63-1 (8608)

7,14-Dimethyl-5,12-diphenyl-1,4,8,11-tetraazacyclotetradecane-1,8-diethanoic acid;

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

Eu+++ gl KCl 40°C 0.50M M K1=9.32 1997BZa (104823)1094

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

Eu+++ gl diox/w 30°C 75% U I K1=9.25 1983RRa (105402)1095

In 75% MeOH: K1=7.70; 75% DMF: 6.28

C33H44N3O14P H6L CAS 193901-91-6 (7981)

(4,4-Diphenylcyclohexyl)(methylene-2-dien pentaethanoic acid) phosphoric acid;

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

Eu+++ gl NaClO4 25°C 0.10M C K1=22.21 2001CCa (105936)1096

K1 from competition with EDTA using luminescence.

C33H45N7O3 L CAS 345349-93-1 (9178)

Tris[6-((2-N,N-diethylcarbamoyl)pyridyl)methyl]amine;

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

Eu+++ nmr KCl 25°C 1.0M C H K1=2.34 2004BRa (105968)1097
Method: 1H nmr measurements in D2O. DH(K1)=20 kJ mol⁻¹
DS(K1)=111 J mol⁻¹K⁻¹

C36H32O24S4 H8L CAS 171798-10-0 (9139)
25,26,27,28-Tetrakis(hydroxycarbonylmethoxy)calix[4]arene-5,11,17,23-tetrasulfonic
acid;

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

Eu+++ cal oth/un 25°C 0.01M C H K1=3.51 2004LWa (106226)1098
Medium: 0.01 M HCl. DH(K1)=7.3 kJ mol⁻¹, DS(K1)=91.9 J K⁻¹ mol⁻¹.

C36H54O12 L (6732)
1,8-Dioxooctamethylenebis(4'-2,3-benzo-1,4,7,10,13-pentaoxacyclopentadecane);

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

Eu+++ dis non-aq 25°C 100% U B(Eu+3P+2L)=9.00 1993INa (106421)1099
By solvent extraction into dichloromethane. B is the extraction constant
Eu(aq)+picrate(aq)+L(org)=EuL2P3(org).

C36H60O3 L a-Cyclodextrin CAS 10016-20-3 (6946)
alpha-Cyclodextrin, Cyclohexaamylose;

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

Eu+++ gl NaCl 25°C 0.10M U I K1=2.6 1999FBa (106461)1100
In 0.1 M Me4NCl, K1=2.79.

C36H72N2O3 L CAS 342794-43-8 (8499)
N,N,N',N'-Tetraoctyl-3-oxapentanediamide;

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

Eu+++ dis non-aq 25°C 100% C 2003SNb (106545)1101
Method: extraction from 0.2 M CsNO3 into toluene.
K(Eu+2L(org)+3NO3=EuL2(NO3)2(org))=2.65.

C37H44N2O13S H6L MeThymol Blue (428)
3,3'-Bis(N,N-di(carboxymethyl)aminomethyl)thymolsulfonephthalein;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	NaClO4	30°C	0.10M	U			K(Eu+H3L)=4.25 K(Eu+H2L)=6.58 K(EuH2L+H)=4.81	1980NAb (106593)	1102

Also data for EuHnL(OH) species

C37H54N6O14S L CAS 357165-79-8 (8003)
1-[5-Dimethylaminonaphthalene-1-sulfonyl-aminoethyl]-4,7,10-tris[3'-carboxyl-1'-carboxypropyl]cyc

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	sp	NaCl	22°C	0.10M	C			K(EuL+H)=5.75 K(EuHL+H)=3.62	2001LPc (106636)	1103

C39H75N02P2 L CAS 474511-20-1 (8588)
2,6-Bis[[bis(2-ethylhexyl)phosphinyl)methyl]pyridine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	dis	non-aq	25°C	100%	C T HM				2002NLa (106727)	1104

Method: extraction 152Eu from 0.5 M HNO3 into 0.1 M ligand in n-dodecane.
K(Eu+3NO3+2L(org)=EuL2(NO3)3(org))=5.40. Data 15-45 C. DH and DS values.

C46H58O6 HL (6716)
Calix[4]arene-0(1)-ethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	alc/w	25°C	0.01M	C			K1=18.96 B(EuHL)=31.10 B(Eu2HL2)=54.88 B(Eu2H3L2)=76.24 B(Eu2H4L2)=83.30	1997ACa (107296)	1105

Medium: methanol, 0.01 M NEt4ClO4. Also data for many other calixarenes with mixed functionalities.

C48H60O8 H2L R-Bu-Calixarene CAS 147513-53-9 (6705)
4-tert-Butylcalix[4]arenedicarboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	gl	alc/w	25°C	0.01M	C			K1=15.43 B(EuHL)=19.15	1997ACa (107401)	1106

Medium: methanol, 0.01 M NEt4ClO4. Also data for many other calixarenes with mixed functionalities.

C54H56N4 L CAS 273204-94-7 (9179)
1,4,8,11-Tetrakis(2-naphthalenylmethyl)-1,4,8,11-tetraazacyclotetradecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Eu+++	sp	alc/w	25°C	50%	C		B2=13.2 B3=20.1	2004SCa (107532)	1107
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Method: fluorescence titration. Medium: 50% v/v CH3CN-CH2Cl2.

C62H84O14 L CAS 135581-11-2 (8630)
9,23-Dioxpentacyclo[23.3.1.13,7.111.15.117.21]dotriacontane, ethanoic acid derivative;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Eu+++	sp	non-aq	25°C	100%	C		K1=4.5	1991ACc (107693)	1108
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Medium: acetonitrile, 0.01 M Et4NClO4.

C62H94N2O4S2 L (8109)
5,11,17,23-Tetrakis(1,1-dimethylethyl)-25-27-bis[2-methylthio]ethoxy]...calix(4)arene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Eu+++	cal	non-aq	25°C	100%	U	H	K1=4.82	2001NJa (107702)	1109
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Method: microcalorimetry. Medium: MeCN.. DH(K1)=-142 kJ mol-1

C64H80N2O7 L CAS 271789-0409 (5946)
25,27-Dimethoxy-p-tert-butylcalix[4]arene-26,28-[(2,2'-bipyridine-6-methyl)oxymethyl]crown-4;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Eu+++	sp	alc/w	22°C	95%	C		K1=3.68	2000FSa (107757)	1110
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Medium: 95% MeOH/H2O, 0.001 M Et4NClO4.

For the crown-5 analogue, K1=3.76.

C76H116N4O8 L (8156)
p-tert-Butylcalix(4)arene tetradiisopropylethanoamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Eu+++	cal	non-aq	25°C	100%	U	H	K1=5.21	2001NJa (107879)	1111
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Method: microcalorimetry. Medium: MeCN.. DH(K1)=-72.8 kJ mol-1

C88H96N8O12S4 L CAS 639027-46-6 (9277)
Tetra(benzoylthiocarbamido)cavitand;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Eu+++ ISE NaCl rt 0.01M C K1=10.6 2003MGa (107926)1112
Method: segmented sandwich membrane ISE.

C88H96N8O16 L CAS 639030-70-9 (9278)

Tetra(benzoylcarbamido)cavitand;

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

Eu+++ ISE NaCl rt 0.01M C K1=5.2 2003MGa (107934)1113

Method: segmented sandwich membrane ISE.

C112H120N4O16P4 L CAS 195455-62-0 (9276)

1,21,23,25-Tetrapentyl-7,11,15,28-tetra[(diphenylphosphinyl)acetamidomethylene]
cavitand;

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

Eu+++ ISE NaCl rt 0.01M C K1=27.6 2003MGa (107990)1114

Method: segmented sandwich membrane ISE.

Phosphonic acid diethyl ester derivative: K1=31.0

C126H112N4O8 L CAS 566877-98-3 (9180)

1,4,8,11-Tetrakis[[3,5-bis(2-naphthalenylmethoxy)phenyl]methyl]-1,4,8,11-tetraazacy
clotetradecan

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

Eu+++ sp mixed 25°C 50% C B2=14.1 2004SCa (108024)1115

B3=20.0

Method: fluorescence titration. Medium: 50% v/v CH3CN-CH2Cl2.

Polymer HL Bleomycin (2324)

Bleomycin A2, B2 etc.

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

Eu+++ sp oth/un 25°C ? U 1980LPb (108087)1116

K1eff=4.30 pH 6.8

Method: fluorescence

Polymer Fulvic acid (1523)

Fulvic acid;

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

Eu+++ ix oth/un 25°C 0.01M U I K1=6.46 1989EMa (108177)1117

I=0.05, K1=10.04, I=0.1, K=10.54, I=0.3, K=10.46

Eu+++ dis KCl 25°C 0.10M U 1978BCa (108178)1118

K(Eu+HnL)=6.49 at pH 4.5

K(Eu+2HnL)=10.52 at pH 4.5

Polymer L (3532)
Human transferrin;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	sp	oth/un	25°C	0.10M	C				1999YHa (108207)	1119

KC=8.42

KN=6.03

Method: difference spectra. Medium: 0.10 M HEPES, pH 7.4

KC: coordination at C-termianl; KN: coordination at N-terminal.

Eu+++	sp	oth/un	25°C	0.10M	C				1998YHb (108208)	1120
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K1eff=8.21

K2eff=4.60

Ligand is chicken egg apoovotransferrin. Medium: 0.10 M HEPES, pH 7.4.

Polymer Humic acid (1524)
Humic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Eu+++	ix	NaCl04	20°C	0.10M	C T H				2000BJa (108238)	1121

K1eff=8.20

K2eff=7.34

Aldrich humic acid. K1eff at pH 4.5. Also data for 25-60 C.

DH(K1eff)=36 kJ mol⁻¹, DS=276 J K⁻¹ mol⁻¹.

Eu+++	dis	KCl	25°C	0.10M	U				1978BCa (108239)	1122
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K(Eu+HnL)=7.38 at pH 4.5

K(Eu+2HnL)=10.26 at pH 4.5

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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
 R or IUP=R signifies EVALUATION RATING = Recommended by IUPAC

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