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)

****
SO4-- 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
****
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

---

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

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

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;

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu++	vlt	KNO3	25°C	0.10M	U		K1=4.52	1974GOd (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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu++	vlt	KNO3	25°C	0.10M	U		K1=4.20	1974GOd (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;

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

```
--------------------------------------------------------------------------------
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         1969TKd (73724)  14
                                          K(Eu+HL)=3.90
                                          K(Eu+H2L)=1.60
********************************************************************************
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       1976NGc (75371)  15
                                          K(Eu+HL)=5.96
********************************************************************************
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 (78660)  16
                                          K(Eu+HL)=4.52
********************************************************************************
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 (78675)  17
                                          K(Eu+HL)=5.17
********************************************************************************
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        1974GOd (82067)  18
                                          K(Eu+HL)=1.45
                                          K(Eu+H2L)=0.90
********************************************************************************
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 H20 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			1976NGc (90126)	27
							K(Eu+HL)=6.37		

****

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+++      cal none   25°C  0.0  M   H                    1965SRa   (464)  38
DH(Eu + e-=Eu2+)=81.9 kJ mol-1, DS=135 J K-1 mol-1
DH(Eu2+ + 2e- = Eu(s))=505.3
--------------------------------------------------------------------------------
Eu+++      EMF none   25°C  0.0  M                        1963AMa   (465)  39
                                        K(Eu+e=Eu++)=-9.3, -550 mV
--------------------------------------------------------------------------------
Eu+++      EMF oth/un 25°C  1.0M U T                      1963SKc   (466)  40
                                        K(Eu+e)=-7.24(-428 mV)
Medium: EuCl3. K=-7.11(26 C,-422 mV),-6.73(34 C,-410 mV),-6.30(42 C;-394 mV)
-6.14(46 C,-389 mV),-5.70(54 C,-370 mV)
--------------------------------------------------------------------------------
Eu+++      oth none   25°C  0.0  U                        1952LAb   (467)  41
                                        K(Eu+3e)=-122.0(-2410 mV)
--------------------------------------------------------------------------------
Eu+++      EMF KCl    25°C  1.0M U                        1936MCa   (468)  42
                                        K(Eu+e)=-7.3(-430 mV)
********************************************************************************
AsO4---               H3L    Arsenate         CAS 7778-39-4  (1557)
Arsenate;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      sol none   25°C  0.0  C                        1992FIa  (1139)  43
                                        Kso(EuAsO4)=-22.53
Equilibrium monitored by EDTA and iodine titrations.
********************************************************************************
Br-                    HL    Bromide          CAS 10035-10-6  (19)
Bromide;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      dis NaClO4 25°C 1.00M U T      K1=0.21           1975MHa  (1921)  44
--------------------------------------------------------------------------------
Eu+++      dis NaClO4 25°C  1.0M U        K1=-0.2   B2=-0.7   1963CUb  (1922)  45
Medium: HClO4
********************************************************************************
BrO3-                  HL    Bromate            (6017)
Bromate;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      cal NaClO4 25°C  0.1M U   H                    1977CEa  (2410)  46
DH(K1)=-2.4
--------------------------------------------------------------------------------
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).
```

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	gl	NaClO4	25°C	0.70M	C		K1=5.85	2004LBb	(3205)	48
							K(Eu+HCO3=EuHCO3)=1.42			
Medium: 0.70 m NaClO4. 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	NaClO4	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	NaClO4	25°C	0.70M	C		K1=5.81	B2=10.14	1993LBa	(3207) 50
							K(Eu+HL)=1.84			
Eu+++	dis	NaClO4	25°C	0.10M	C		K1=6.92	B2=10.42	1988RCb	(3208) 51
							K(Eu+HCO3)=4.77			
							K(Eu+2HCO3)=6.74			
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	NaClO4	25°C	0.68M	C	T	K1=5.85	B2=10.03	1987CBb	(3210) 53
							K(Eu+HL)=1.15			
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	NaClO4	25°C	0.68M	C		K1=5.86	B2=10.10	1987CBc	(3211) 54
Method: distribution of 152Eu between 0.68 m NaClO4/NaHCO3 and tributyl phosphate. Conditional constants in terms of total carbonate, [CO3]tot.										
Eu+++	sol	none	25°C	0.0	C				1986FMa	(3212) 55
							Kso(Eu2(CO3)3)=-35.03			
Eu+++	sol	none	25°C	0.0	C				1986HMa	(3213) 56
							Kso(Eu2(CO3)3)=-35.03			
Method: spectrophotometry.										
Eu+++	dis	NaClO4	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)2NO3/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 KHCO3: 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)phophoric 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
                                        K1in=-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
                                        K1in=-0.51
Medium: 50% v/v EtOH/H2O. K1=0.98, K1in=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 NaClO4 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 NaClO4 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 NaClO4 25°C 0.50M U K1=3.39 B2=6.48 1966LNb (6865) 102

****

GeW11O39-------- H8L CAS 37369-86-1 (2466)
alpha-Heteromonogermanium-polytungstate;

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

---

Eu+++ sp NaClO4 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 NaClO4 25°C 1.00M U T K1=0.24 1975MHa (8021) 105

Eu+++ dis NaClO4 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 NaClO4 25°C 0.1M U H 1977CEa (8512) 107
DH(K1)=11.2

Eu+++ dis NaClO4 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 NaClO4 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
********************************************************************************
IO4-                    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
********************************************************************************
MoO4--                 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
********************************************************************************
Mo12O42U--------      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 NaClO4 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  NaClO4 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  NaClO4 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 NaClO4, *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 Me4NCl, *B(1,3)=-22.74.
-------------------------------------------------------------------------------
Eu+++      dis oth/un 30°C 0.01M C                       1989MKb (11303) 133
                                        *K1=-3.30
Medium: ClCH2COOH
-------------------------------------------------------------------------------
Eu+++      con oth/un 25°C  dil  C                       1988MCa (11304) 134
                                        *K1=-6.70
Method: conductivity of 0.5 mM EuCl3 solution as function of pH.
-------------------------------------------------------------------------------
Eu+++      dis NaCl   21°C  0.7M U                      1983CCb (11305) 135
                                        K[Eu(OH)+H]=7.3
-------------------------------------------------------------------------------
Eu+++      gl  NaClO4 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 NaClO4 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/H2O, I=0.05 M NaClO4. *K1=-8.03(v=0), -7.47(v=50),
-7.68(v=0,I=0)
-------------------------------------------------------------------------------
Eu+++      dis NaClO4   ?  0.10M U                      1971GDb (11310) 140
                                        *K1=-4.8
Medium: LiClO4
-------------------------------------------------------------------------------
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  NaClO4 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; -O.O-

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.

****

PO4--- 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(EuPO4)=-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(EuPO4)=-27.74		

In synthetic seawater, Ks(EuPO4)=-24.13.

Eu+++	sol	none	25°C	0.0	C			1991FBa (13169)	149
							Kso(EuPO4)=-25.75		

****

PW11O39------- 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.

****

P2O7---- 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

****

P2W17O61---------- 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.
********************************************************************************
P3O10-----            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
--------------------------------------------------------------------------------
Eu+++      gl  KNO3   25°C 0.10M U T H    B2=8.8         1974KRa (13854) 156
                                         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
--------------------------------------------------------------------------------
Eu+++      gl  NaClO4   ?  0.10M U        B2=16.91       1962RKa (13856) 158
                                         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
--------------------------------------------------------------------------------
Eu+++      dis oth/un 25°C  1.0M C        K1=0.35        1997HTb (14935) 159
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
Determined by luminescence excitation spectroscopy
--------------------------------------------------------------------------------
Eu+++      dis NaClO4 25°C  5.0M U T H  T K1=0.43        1974KCa (14937) 161
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
```

```
--------------------------------------------------------------------------------
Eu+++      dis NaClO4 25°C  5.0M U      T                1965SEc (14942) 166
                                        K2.K3=-0.4
                                        K3=0.5
                                        K4=-0.47
                                        Kd(EuL3=EuL3(org))=2.05
org=5% TBP in hexane
--------------------------------------------------------------------------------
Eu+++      sp  oth/un 25°C  0.0  U        K1=0.7          1964BAb (14943) 167
--------------------------------------------------------------------------------
Eu+++      dis NaClO4 25°C  5.0M U      T K1=0.32   B2=-0.1   1964SEa (14944) 168
                                        B3=-0.36
--------------------------------------------------------------------------------
Eu+++      dis oth/un 25°C  2.0M U                          1962YOb (14945) 169
                                        Kd=1.44
Medium: NH4SCN. Kd: K(Eu3+3L+4TBP(kerosene)=EuL3(TBP)4(kerosene))
********************************************************************************
SO4--                  H2L    Sulfate          CAS 7664-93-9  (15)
Sulfate;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      sol oth/un 25°C 0.66M C        K1=1.97         2004SBb (16160) 170
Method: solubility of BaSO4 in 0.117 m EuCl3 solution.
Calculated for I=0, K1=3.64.
--------------------------------------------------------------------------------
Eu+++      dis NaCl   25°C 1.00M U        K1=1.53         1980BKb (16161) 171
                                        B3=3.31
--------------------------------------------------------------------------------
Eu+++      cal none   25°C  0.0  U   H                   1974POa (16162) 172
DH(K1)=20.5 kJ mol-1
--------------------------------------------------------------------------------
Eu+++      oth NaClO4 25°C  1.0M U        K1=1.72         1973ABe (16163) 173
Method:luminiscence quenching
--------------------------------------------------------------------------------
Eu+++      oth none   25°C  0.0  U        K1=3.66         1973FPb (16164) 174
                                        K1in=0.71
Method: ultrasonic absorption
--------------------------------------------------------------------------------
Eu+++      oth none   25°C  0.0  U        K1=3.78         1973STe (16165) 175
Method: electrical migration or transference number,electrophoresis
--------------------------------------------------------------------------------
Eu+++      sp  none   25°C  0.0  U TIH    K1=3.67         1972HSd (16166) 176
K1=3.85(38.5 C),4.04(51.6 C),4.22(65.1 C).DH(K1)=25.9 kJ mol-1. In 0.045 M
NaClO4: K2=1.26(25 C), 1.4(38.5 C), 1.7(51.6 C), 1.73(65 C). DH(K1)=25.9
--------------------------------------------------------------------------------
Eu+++      sp  oth/un 25°C  var  U  I     K1=3.68         1972HSe (16167) 177
Pressure:p(atm). K1=3.44(p=545), 3.29(p=983), 3.11(p=1497), 2.97(p=2040)
Dv1=25.6 cm3
--------------------------------------------------------------------------------
```

```
Eu+++      dis none   25°C  0.0  U        K1=3.87   B2=5.75   1972MCc (16168) 178
                                         B3=5.09
--------------------------------------------------------------------------------
Eu+++      cal oth/un 25°C  0.0  U   H                  1969FPa (16169) 179
DH(K1)=17.3 kJ mol-1
--------------------------------------------------------------------------------
Eu+++      cal oth/un 25°C  0.0  U   H    K1=3.54   B2=5.32   1969IEa (16170) 180
DH(K1)=15.2 kJ mol-1, DH(K2)=6.32; DS(K1)=118.7 J K-1 mol-1, DS(K2)=55.2
--------------------------------------------------------------------------------
Eu+++      dis NaClO4 25°C 0.50M U        K1=1.88   B2=2.79   1968ALd (16171) 181
By cation exchange: K1=1.87, B2=2.73
--------------------------------------------------------------------------------
Eu+++      ISE NaClO4 25°C  2.0M U   H    K1=1.37   B2=1.96   1967CCd (16172) 182
By calorimetry: DH(K1)=16.2 kJ mol-1, DS=80.7 J K-1 mol-1; DH(K2)=10.0,DS=47
--------------------------------------------------------------------------------
Eu+++      dis NaClO4 55°C  2.0M U T H    K1=1.69   B2=2.30   1967CCd (16173) 183
K1=1.11(0 C), 1.38(25 C), 1.56(40 C); B2=1.91(0 C), 1.98(25 C), 2.11(40 C)
By calor. (25 C): DH(K1)=16.2 kJ mol-1,DS=80.7 J K-1 m-1; DH(K2)=10.0,DS=47
--------------------------------------------------------------------------------
Eu+++      dis NaClO4 25°C  1.0M U        K1=1.54   B2=2.69   1965SEa (16174) 184
--------------------------------------------------------------------------------
Eu+++      sp  oth/un 25°C  0.0  U        K1=3.35        1964BAb (16175) 185
--------------------------------------------------------------------------------
Eu+++      ix  NaClO4 26°C  1.0M U        K1=1.57   B2=2.40   1964BPb (16176) 186
In 1 M HClO4: K1=1.23, B2=1.7
--------------------------------------------------------------------------------
Eu+++      sol oth/un 25°C  0.0  U        K1=3.72        1963LMb (16177) 187
--------------------------------------------------------------------------------
Eu+++      dis oth/un 25°C  0.0  U  I     K1=3.56        1962MMa (16178) 188
K1=2.23(I=1), 2.53(I=0.05)
********************************************************************************
S2O3--                 H2L    Thiosulfate      CAS 73686-28-7  (177)
Thiosulfate;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      dis oth/un   ?   0.0  U        K1=2.82        1961MAc (16842) 189
********************************************************************************
SiW11O39--------      H8L                          (2464)
alpha-Heterosilicon-polytungstate;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      sp  NaClO4 25°C  1.0M C        K1=8.1    B2=14.20  2003VCa (17234) 190
Method: laser-induced fluorescence. For SiW12O4----, K1=1.8.
********************************************************************************
CH4O                     L    Methyl alcohol   CAS 67-56-1  (597)
Methanol; CH3.OH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
```

Eu+++ gl alc/w 25°C 100% C 1997ACa (17878) 191
*K1=-7.11
*B2=-15.27
*B3=-27.23
*B(2,3)=-18.51
Medium: methanol, 0.01 M NEt4ClO4. *B(2,5)=-38.66. *K1: Pr+MeOH=Pr(OMe)+H.
****
CH6O6P2 H4L Medronic acid CAS 1984-15-2 (2384)
Methanediphosphonic acid; CH2(PO3H2)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ cal NaClO4 25°C 2.00M C H 1995NRa (18278) 192
DH(Eu+H3L)=9.6 kJ mol-1, DS=102 J K-1 mol-1; DH(Eu+2H3L)=2.4, DS=118

Eu+++ dis oth/un 25°C 0.20M U 1990NHa (18279) 193
K(Eu+H2L)=4.04
K(Eu+2H2L)=7.11
K(Eu+H+H2L)=5.99
K(Eu+2H+2H2L)=10.41

Eu+++ gl KCl 25°C 0.50M U 1989APd (18280) 194
K(Eu+H2L)=5.65
****
C2HO2Cl3 HL Trichloroacetic CAS 76-03-9 (1205)
Trichloroethanoic acid; Cl3C.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ cal NaClO4 25°C 2.00M U K1=0.32 1980ECa (18331) 195
****
C2H2O2Cl2 HL CAS 79-43-6 (1282)
Dichloroethanoic acid; Cl2CH.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ cal NaClO4 25°C 2.00M U K1=0.76 1980ECa (18393) 196
****
C2H2O3 HL Glyoxylic acid CAS 298-12-4 (1142)
Glyoxylic acid; OHC.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ gl NaClO4 20°C 0.10M U K1=2.50 B2=4.58 1964PSd (18420) 197
K3=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 K(Eu+HL)=2.21	B2= 9.90	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	K(Eu(edta)+L)=3.20		1988KTa (18869)	199
Eu+++	dis	NaClO4	25°C	0.68M	C		K1=4.89 B3=11.2	B2= 8.70	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 B3=11.57 B4=13.09	B2=8.70	1969GGa (18872)	202
Eu+++	ix	oth/un	18°C	0.10M	U		K1=2.90 B3=9.60	B2=6.78	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 B3=11.4	B2=8.72	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 1985OHa (19949) 212

Eu+++ dis NaClO4 25°C 2.00M U T K1=1.90 1970CSd (19950) 213
O 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-6L8)=-16.1
B(Eu4H-7L8)=-25.4
B(Eu4H-8L8)=-35.1

Eu+++ EMF NaClO4 25°C 1.00M U M K1=2.44 B2=4.80 1991WPb (20533) 224
B(EuLA)=5.09
H2A=maleic acid

Eu+++ dis NaClO4 25°C 2.00M U T T K1=2.52 B2=4.58 1972CDb (20534) 225
0.5 C: K1=2.55, K2=2.01; 52 C: K1=2.45, K2=2.00

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

Eu+++ EMF NaClO4 20°C 0.50M U K1=2.57 B2=4.61 1962GRb (20536) 227
B3=5.91
B4=6.4
Method: quinhydrone electrode

Eu+++ dis NaClO4 25°C 0.08M U K1=2.69 1962MMa (20537) 228

Eu+++ gl NaClO4 25°C 2.0M U K1=2.45 B2=4.41 1961CCa (20538) 229
K3=1.36

****

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

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

---

Eu+++ gl KNO3 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 1977GMa (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 1968TCa (21543) 233
K(Eu+HL)=0.7
K=0.61(0 C), 0.78(40 C), 0.90(55 C). At 25 C: DH(K1)=9.6 kJ mol-1, DS=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 KNO3   30°C 0.50M C        K1=5.26   B2=11.20  1982BNa (21806) 234
Method: polarography.
********************************************************************************
C2H6OS                  L    DMSO             CAS 67-68-5  (329)
Dimethylsulfoxide; (CH3)2.SO
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      sp  non-aq 25°C 100%  U                         1992MBb (22097) 235
                                      K8=1.6
                                      K9=0.9
Medium: MeCN. Method: FT-IR and Raman spectroscopy
--------------------------------------------------------------------------------
Eu+++      cal non-aq 30°C 100%  U   HM                   1981GMa (22098) 236
                                      K(Eu2A6+L)=4.53
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                   1981GMa (22099) 237
                                      K(EuA3+L)=3.3
                                      K(EuA3L+L)=3.3
Medium: benzene. HA=6,6,7,7,8,8,8-heptafluoro-2,2-dimethyloctane-3,5-dion2
********************************************************************************
C2H6O2                  L    Ethyleneglycol   CAS 107-21-1  (924)
1,2-Dihydroxyethane (Ethane-1,2-diol); HO.CH2.CH2.OH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      gl  NaClO4 22°C 0.10M U                         1972MCd (22145) 238
                                      K(EuH-1L+H)=7.30
********************************************************************************
C2H6O6P2              H4L                      (5706)
Ethene-1,1-diphosphonic acid; H2C:C(PO3H2)2
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      dis oth/un 25°C 0.20M U                         1990NHa (22169) 239
                                      K(Eu+H2L)=3.70
                                      K(Eu+2H2L)=6.33
                                      K(Eu+H+H2L)=5.71
                                      K(Eu+2H+2H2L)=9.96
--------------------------------------------------------------------------------
Eu+++      gl  KCl    25°C 0.15M U  I                    1989AMa (22170) 240
                                      K(Eu+H2L)=5.16
********************************************************************************
C2H6O6P2              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        1987BPb (22670) 242
                                         K(Eu+HL)=4.18
*************************************************************************
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   1992CBa (23151) 243
                                         B3=4.43
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        1985SSe (23152) 244
                                         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
*************************************************************************
C2H8O6P2             H4L                    CAS 6145-33-1  (3543)
Ethane-1,1-diphosphonic acid; CH3.CH(PO3H2)2
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
Eu+++      dis oth/un 25°C 0.20M U                         1990NHa (23267) 245
                                         K(Eu+H2L)=4.11
                                         K(Eu+2H2L)=7.63
                                         K(Eu+H+H2L)=6.25
                                         K(Eu+2H+2H2L)=10.85
Method: solvent extraction
*************************************************************************
C2H8O7P2             H4L    HEDPA           CAS 2809-21-4  (436)
1-Hydroxyethane-1,1-diphosphonic acid; CH3.C(OH)(PO3H2)2
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
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
-------------------------------------------------------------------------
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```
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(EuAL3)=9.04. A is 2-methyl-
pyridine. Also data for ternarycomplexes 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; HOOC.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 B3=3.86	1971ALd (25001)	266
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		K(Eu+HL)=2.00	1968CMa (25140)	270
Eu+++	gl	NaClO4	31°C	2.0M	U		K(Eu+HL)=1.81 K(EuHL+HL)=0.8	1963BCb (25141)	271

****

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		K(Eu+HL)=1.64	1968CMa (25206)	272

```
--------------------------------------------------------------------------------
Eu+++      gl  NaClO4 31°C  2.0M U                        1963BCb (25207) 273
                                        K(Eu+HL)=2.15
                                        K(EuHL+HL)=1.3
********************************************************************************
C3H6O3                  HL                      CAS 81598-26-7  (2521)
3-Hydroxypropanoic acid; HO.CH2.CH2.COOH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      gl  NaClO4 25°C 2.00M U        K1=1.64        1969JCc (25264) 274
********************************************************************************
C3H6O3                  HL    L-Lactic acid    CAS 79-33-4  (82)
L-2-Hydroxypropanoic acid; CH3.CH(OH).COOH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      dis NaClO4 25°C 1.00M C   H    K1=2.46   B2=4.28   1984LLa (25436) 275
                                        B3=5.76
                                        B4=6.5
Solvent extraction (5x10-4 M HDEHP in n-heptane pH 4.00)
--------------------------------------------------------------------------------
Eu+++      oth KCl    10°C 1.50M U        K1=2.62   B2=4.22   1972SNa (25437) 276
Method: (gelatinized cellulose acetate), electrophoresis
--------------------------------------------------------------------------------
Eu+++      dis oth/un 25°C 2.00M U        K1=2.48   B2=4.56   1971ALe (25438) 277
                                        B3=5.83
--------------------------------------------------------------------------------
Eu+++      gl  NaClO4 25°C 0.20M U        K1=2.55   B2=4.67   1964DVa (25439) 278
                                        K3=0.88
                                        K4=0.51
--------------------------------------------------------------------------------
Eu+++      gl  NaClO4 20°C 0.10M U        K1=2.949  B2=5.18   1964PKb (25440) 279
                                        B3=6.43
--------------------------------------------------------------------------------
Eu+++      gl  NaClO4 25°C  2.0M U        K1=2.53   B2=4.60   1961CCa (25441) 280
                                        K3=1.28
********************************************************************************
C3H6O3                  HL    Methoxyacetic    CAS 625-45-6  (29)
Methoxyethanoic acid; CH3.O.CH2.COOH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      gl  NaClO4 20°C 0.10M U        K1=2.12   B2=3.42   1964PKa (25597) 281
********************************************************************************
C3H7NO2                 HL    Alanine          CAS 56-41-7  (86)
2-Aminopropanoic acid; H2N.CH(CH3).COOH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
```

```
Eu+++      gl  KNO3   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  KNO3   25°C 0.10M U        K1=4.7         1967EMb (26169) 285
********************************************************************************
C3H7NO2S              H2L    Cysteine         CAS 52-90-4  (96)
2-Amino-3-mercaptopropanoic acid; H2N.CH(CH2.SH)COOH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
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
********************************************************************************
C3H12NO9P3           H6L    NTPA           CAS 6419-19-8  (2920)
Nitrilotris(methylenephosphonic acid); N(CH2PO3H2)3
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      gl  KNO3   25°C 0.10M C                        1991SKb (28560) 293
                                         K(EuL+H)=7.51
                                         K(EuHL+H)=5.45
********************************************************************************
C4H2O4               H2L    Squaric acid     CAS 2892-51-5  (439)
3,4-Dihydroxy-3-cyclobutene-1,2-dione;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      cal NaClO4 25°C 0.10M U   H    K1=2.84   B2=4.12   1976OCa (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  1976OCb (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
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

Additional method: nmr. Medium not stated.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	EMF	NaClO4	25°C	1.00M	U	M	K1=2.99 B2=4.68 B(EuLA)=5.09	1991WPb (29074)	299

HA=glycolic acid

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	vlt	NaNO3	25°C	0.10M	C		B2=4.72	1987KSf (29075)	300

Method: polarography.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaClO4	25°C	0.10M	U		K1=3.83	1973CDc (29076)	301

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaClO4	25°C	0.10M	U		K1=3.83 B2=5.98	1970RFa (29077)	302

****

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
Eu+++	gl	NaClO4	25°C	0.10M	C		K1=2.78 B(EuHL)=6.15 K(Eu+HL)=2.07	1986LCa (29196)	303

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaClO4	25°C	0.10M	U		K1=2.86	1973CDc (29197)	304

****

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
Eu+++	gl	NaClO4	25°C	0.50M	M		K1=3.77 B2=7.50	1991MOa (29266)	305

****

C4H6O2 HL Methylacrylic (6992)

2-Methylpropenoic acid; CH2:C(CH3)COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KCl	25°C	0.10M	U		K1=2.41	1995PAa (29697)	306

****

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

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-Sulfanyl-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	KNO3	30°C	0.10M	U	M	K(Eu(EDTA)+L)=2.247	1984AIa (30622)	315
Eu+++	gl	KNO3	20°C	0.10M	U		B(EuHL)=8.24	1980SDa (30623)	316
Eu+++	gl	KNO3	20°C	0.10M	U		K1=4.56 B2=7.46 K(Eu+HL)=1.87	1980SDb (30624)	317
Eu+++	gl	NaClO4	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	K(Eu(edta)+L)=2.37	1988KTa (30869)	320
Eu+++	cal	NaClO4	25°C	1.0M	C	H	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.	1963GRd (30870)	321
Eu+++	EMF	NaClO4	20°C	1.00M	U		K1=5.53 B2=10.04 B3=13.20 Method: quinhydrone electrode	1963GTa (30871)	322

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	vlt	NaNO3	25°C	0.10M	C	M	K1=4.30 B2= 6.00 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.	1987KSf (31231)	323
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 NaClO4 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 NaClO4 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  NaClO4 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  NaClO4 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 NaClO4: 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  NaClO4 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  NaClO4 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	1978NBa (33084)	349
							B3=13.80			

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			1984AIa (33105)	350
							K(Eu(EDTA)+L)=3.099			

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

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
Eu+++	ix	NaClO4	25°C	0.10M	U	I	K1=2.80 B3=6.61 B4=7.19	B2=5.20	1971ALb (33467)	354
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
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
Eu+++	dis	NaClO4	25°C	0.50M	U		K1=2.72 B3=6.40	B2=5.08	1966LNa (33470)	357
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
Eu+++	gl	NaClO4	20°C	0.10M	U		K1=3.090 B3=7.32	B2=5.54	1964PKb (33472)	359
Eu+++	gl	NaClO4	25°C	0.50M	U		K1=2.71 B3=5.91	B2=4.92	1964SPa (33473)	360
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
Eu+++	gl	KNO3	25°C	0.10M	C		K1=3.05 K3=1.66	B2=5.45	1975PFb (33678)	362

****

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
Eu+++	EMF	KNO3	25°C	0.10M	U		K1=3.11 K3=1.90	B2=5.54	1976PKb (33697)	363

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.

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

kJ mol-1, DS=-38; DH(B2)=-77.1, DS-152.

****

C4H14N2O6P2 H2L EDDPO CAS 1733-49-9 (2435)
1,2-Diaminoethane-N,N'-bis(methylenephosphonic) acid; (H2O3P.CH2.NH.CH2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	gl	KCl	25°C	0.10M	U				1965DKb (35877)	371
							K(Eu+HL)=8.54			

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	cal	NaClO4	25°C	0.10M	U	H	K1=3.17	B2=4.17	1978COa (35940)	372

DH(K1)=5.23 kJ mol-1, DS=76.4; DH(K2)=0.00, DS=3.3

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	cal	NaClO4	25°C	1.0M	C	H			1990YKb (36049)	373

DH(K1)=-0.29 kJ mol-1, DS(K1)=53.0 J K-1 mol-1.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	EMF	NaClO4	25°C	1.0M	C		K1=2.82	B2= 5.14	1983KKb (36050)	374
							B3=6.86			

Method: Pt/quinhydrone electrode.

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	oth/un	20°C	0.15M	U		K1=4.5	1987DBa (36075)	375

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	oth/un	20°C	0.15M	U		K1=6.1	1987DBa (36111)	376

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	cal	NaClO4	25°C	2.00M	U	H	K1=1.67		1976YCa (36303)	377

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	K(Eu2A6+L)=3.59	1981GMa (36620)	379

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	cal	non-aq	30°C	100%	U	HM	K(EuA3+L)=4.0 K(EuA3L+L)=2.7	1981GMa (36621)	380

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

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	nmr	non-aq	27°C	100%	U	M	K(EuA3+L) > 2.0	1972HSa (36622)	381

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 K3=4.37	1994SSa (37064)	383

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 1971KOa (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

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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

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C5H9NO4 H2L MIDA CAS 4408-64-4 (190)
N-Methyliminodiethanoic acid; CH3.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	gl	KCl	25°C	0.10M	U		K1=6.66	B2=11.88	1980MGc (39249)	403
							B3=14.77			
							B(Eu+2OH+L)=16.37			

****

C5H10N2O3 HL Ala-Gly CAS 687-69-4 (55)
Alanyl-glycine; H2N.CH(CH3).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 (39887)	404

****

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

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

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	gl	KNO3	25°C	0.10M	U		K1=2.90	B2=5.20	1969PCa (40253)	407
							K3=1.60			

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaClO4	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

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

```
--------------------------------------------------------------------------------
Eu+++      gl  NaClO4 25°C 0.10M U        K1=2.46   B2=4.15   1970RDa (40296) 409
                                         K3=1.12
********************************************************************************
C5H10O4                HL                    CAS 19860-56-1  (2327)
2,3-Dihydroxy-2-methylbutanoic acid; CH3.CH(OH).C(OH)(CH3).COOH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      gl  KNO3   25°C 0.10M C        K1=3.13   B2=5.61   1975PFb (40311) 410
                                         K3=1.60
********************************************************************************
C5H10O5                 L    D-Ribose         CAS 50-69-1  (512)
D-Ribose;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      cal none   25°C  0.0  U   H    K1=0.92        1993MLa (40349) 411
DH(K1)=-14.8 kJ mol-1, TDS=-9.6
********************************************************************************
C5H11NO2               HL    Valine           CAS 72-18-4  (43)
2-Amino-3-methylbutanoic acid; H2N.CH(CH(CH3)2)COOH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      gl  KNO3   25°C 0.20M U    M   K1=6.23        1990LSb (40702) 412
                                         K(Eu(phen)+L)=5.97
--------------------------------------------------------------------------------
Eu+++      gl  KCl    25°C 0.10M U T      K1=3.85        1974BFa (40703) 413
********************************************************************************
C5H12O5                 L    Xylitol          CAS 87-99-0  (2139)
Xylitol; HO.CH2.HCOH.HOCH.HCOH.CH2.OH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      cal NaClO4 25°C  2.0M C   H    K1=0.93        1998BMc (41685) 414
--------------------------------------------------------------------------------
Eu+++      nmr oth/un 39°C    ?  U                       1977REa (41686) 415
                                         K1eff=0.59
                                         K2eff=-0.11
********************************************************************************
C6H5NO2                HL    Picolinic acid   CAS 98-98-6  (391)
2-Pyridine-carboxylic acid; C5H4N.COOH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      gl  KNO3   25°C 0.20M U    M   K1=4.82        1987LSc (42525) 416
K(Eu(nta)+L)=4.50, K(Eu(edta)+L)=4.12.
--------------------------------------------------------------------------------
Eu+++      gl  NaClO4 25°C 0.50M U        K1=3.61   B2=6.75   1977GGb (42526) 417
```

B3=9.16

Eu+++ gl KNO3 25°C 0.10M U K1=3.99 B2=7.45 1968PIa (42527) 418
K3=2.86
K4=2.18

Eu+++ gl NaCl 25°C 0.50M U K1=2.86 B2=5.20 1966MPb (42528) 419
K3=1.55

Eu+++ gl NaClO4 25°C 2.0M U K1=3.80 B2=6.73 1965YCa (42529) 420

Eu+++ gl KNO3 25°C 0.10M U K1=4.07 B2=7.48 1964THb (42530) 421
B3=10.6

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaClO4	25°C	0.20M	U		K1=2.10	1973FDa (42670)	422

****

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
Eu+++	gl	NaClO4	25°C	2.0M	U		K1=2.94 B2=5.23	1965YCa (42832)	423

****

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
Eu+++	gl	KNO3	25°C	0.10M	C		K1=8.9	1988ZKa (42923)	424
							B(Eu2L3)=18.4		

****

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
Eu+++	sp	KCl	25°C	0.10M	M	I	K1=6.21	1989PEa (42952)	425

****

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
Eu+++	sp	KCl	25°C	0.10M	U		K1=5.30	1987PLa (43108)	426

****

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-caboxylic 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 K(EuL+H)=7.3	B2=16.8	1988ZKa (43751)	431
Eu+++	EMF	NaCl	25°C	0.10M	U		K1=11.17		1969PKe (43752)	432

****
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 K3=3.80	B2=12.03	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   B2=11.25  1972DSd (44209) 436
                                          K3=4.03
--------------------------------------------------------------------------------
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        1988ZKa (44423) 438
                                          K(EuL+H)=5.7
--------------------------------------------------------------------------------
Eu+++      gl  NaClO4 25°C 0.50M C        K1=12.54  B2=20.92  1976LAb (44424) 439
                                          B(EuHL2)=28.80
********************************************************************************
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  1987KSf (44606) 440
                                          B3=6.66
Method: polarography.
--------------------------------------------------------------------------------
Eu+++      cal non-aq 30°C 100%  U   HM                 1981GMa (44607) 441
                                          K(Eu2A6+L)=2.35
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                 1981GMa (44608) 442
                                          K(EuA3+L)=2.5
                                          K(EuA3L+L)=1.6
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  1987KSf (44695) 443
                                          B3=5.30
                                          B4=7.32
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    Tricarballylic   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 + 0.00000105T^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 NaClO4 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 NaClO4 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 NaClO4 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 NaClO4 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  NaClO4 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  NaClO4 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  1970DRa (47962) 479
                                      K3=5.60
Medium: 75% acetone, 0.1 M
********************************************************************************
C6H10O3                HL                    CAS 16841-19-3  (3649)
1-Hydroxycyclopentanecarboxylic acid; HO.C5H8.COOH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      gl  NaClO4 25°C 0.10M U        K1=2.803  B2=5.00   1966PRb (47988) 480
                                      K3=1.57
********************************************************************************
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
```

****

C6H10O4 H2L Adipic acid CAS 124-04-9 (401)
1,6-Hexanedioic acid; HOOC.(CH2)4.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	sp	NaClO4	25°C	0.10M	C		K1=2.59	B2= 4.84	2000WBa (48071)	482

Method: emission spectroscopy.

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	sp	NaClO4	25°C	0.10M	U		K1=4.94	B2=7.44	1984AFa (48338)	483

From laser excitation spectroscopy measurements.

****

C6H10O7 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	NaClO4	25°C	1.00M	C		K1=1.60		1977MCa (48419)	484

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	gl	NaClO4	25°C	0.10M	U	M	K1=4.60		1997PPb (48472)	485
							K(Eu(edta)+L)=4.05			

****

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

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

****

C6H11N3O4 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.CH2.NH.CH2.CH2.NH.CH2.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; CH3.CH(CH3).C(OH)(CH3).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; (CH3)2.C(OH).C(OH)(CH3).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 Gluconic acid CAS 526-95-4 (904)
D-Gluconic acid, 2,3,4,5,6-Pentahydroxyhexanoic acid; HO.CH2(CHOH)4.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
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 Leucine CAS 61-90-5 (47)

2-Amino-4-methylpentanoic acid; H2N.CH(CH2.CH(CH3)2)COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KNO3	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) CH3.(CH2)3.CH(NH2).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; H2N.CH2.CH2.CH2.CH2.CH2.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; (HO.CH2.CH2)2N.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KNO3	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
Eu+++	gl	alc/w	20°C	50%	U	I	K1=6.79	1970KRa (50357)	505

Medium: 0-80% MeOH, 0.03 M KCl. K1(0%)=5.70, K1(20%)=6.22, K1(80%)=7.9

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	oth	NaNO3	20°C	0.10M	U		K1=8.0 B2=14.30	1966JMc (50358)	506

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	KNO3	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

```
Eu+++      vlt NaClO4 25°C 0.10M U  I     K1=5.24   B2=10.52  1969MMe (50531) 508
                                          K(EuL+H2O=EuLOH+H)=-8.03
pH=8.06.     pH=8.62: K(EuL+H20=EuLOH+H)=-8.38; pH=8.90: K=-8.46
**************************************************************************
C6H13N3O3              HL    Citrulline         (579)
2-Amino-5-ureidovaleric acid; H2N.CO.NH.CH2.CH2.CH2.CH(NH2).COOH
--------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------
Eu+++      gl  NaCl   37°C 0.15M U    M   K1=3.01        1997GMa (50576) 509
                                          B(EuHL)=9.97
                                          B(EuH2AL)=24.21
Ligand is DL-citrulline. HA is L-hydroxyproline.
**************************************************************************
C6H15NO6P2            H4L                (6891)
Piperidine-N-Methylenedi(phosphonic acid); C5H10N.CH(PO3H2)2
--------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------
Eu+++      cal NaClO4 25°C 2.00M C   H                    2000JBa (51322) 510
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
--------------------------------------------------------------------------
Eu+++      gl  KCl    25°C 0.10M C                         1998HGa (51449) 511
                                          B(EuH-6L2)=-18.5
                                          B(EuH-7L2)=-29.5
**************************************************************************
C6H15O3P               HL                    CAS 3935-30-6  (8314)
Methylphosphonic acid monoisopentyl ester;
--------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------
Eu+++      dis oth/un 20°C  1.0M C                         1994NSc (51503) 512
K(Eu+3HL(org)=EuL3(org)+3H)=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; (C2H5O)3.PO
--------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------
Eu+++      sp  oth/un 25°C    ?  U    M                    1980BRb (51518) 513
                                          K(EuA3+L=EuA3L)=3.467
                                          K(EuB3+L=EuB3L)=3.246
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

****

C6H18N4 L Tren CAS 4097-89-6 (817)

2,2',2''-Triaminotriethylamine; (H2N.CH2.CH2)3N

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	ISE	non-aq	25°C	100%	C	H	K1=4.32	B2=5.57	1993CCb (52195)	514

Medium: DMSO, 0.1 M Et4NClO4. Method: Ag+ ISE. By calorimetry, DH(K1)=-46.8 kJ mol-1, DS=-74; DH(B2)=-85, DS=-178.

****

C6H20N2O12P4 H8L EDTPA CAS 1429-50-1 (434)

Ethane-1,2-bis(iminobis(methylenephosphonic acid)); ((H2O3PCH2)2NCH2.)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KNO3	25°C	0.10M	C			1991SKb (52330)	515
							K(EuL+H)=7.31		
							K(EuHL+H)=6.25		

****

C7H4N2O7 H2L CAS 609-99-4 (400)

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	oth/un	24°C	0.20M	U		K1=5.40	1972PSd (52476)	516

Medium: LiCl

****

C7H5NO4 H2L Quinolinic acid CAS 89-00-9 (567)

2,3-Pyridinedicarboxylic acid; C5H3N.(COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	vlt	NaClO4	30°C	1.5M	C		K1=3.30	B2= 5.60	1980BPb (52624)	517
							B3=6.10			
							B4=6.95			

Method: polarography.

****

C7H5NO4 H2L Dipicolinic aci CAS 449-83-2 (418)

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	sp	NaClO4	RT	0.50M	C		K1=8.83	B2=15.97	1992OKa (52766)	518
							K3=5.05			

Method: fluorescence spectroscopy. Medium pH: 5.8

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	cal	NaClO4	25°C	0.50M	C	H		1963GRd (52767)	519

DH(K1)=-17.04 kJ mol-1, DS(K1)=111 J K-1 mol-1; DH(B2)=-38.17, DS(B2)=176; DH(B3)=-57.46, DS(B3)=216.

```
------------------------------------------------------------------------------
Eu+++      EMF oth/un 20°C 0.50M U        K1=8.84   B2=15.98  1961GRa (52768) 520
                                          K3=5.51
******************************************************************************
C7H5NO4                HL                      CAS 121-92-6  (490)
3-Nitrobenzoic acid; O2N.C6H4.COOH
------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
------------------------------------------------------------------------------
Eu+++      gl  NaClO4 25°C 0.10M C   H    K1=1.76        1986CLc (52865) 521
DH=6.6 kJ mol-1, DS=56 J K-1 mol-1
******************************************************************************
C7H5NO4                HL                      CAS 62-23-7  (489)
4-Nitrobenzoic acid; O2N.C6H4.COOH
------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
------------------------------------------------------------------------------
Eu+++      gl  NaClO4 25°C 0.10M M   H    K1=1.78        1999YKa (52906) 522
By calorimetry: DH(K1)=7.05 kJ mol-1, DS(K1)=57.6 J K-1 mol-1.
******************************************************************************
C7H5O2F                HL                      CAS 445-29-4  (5711)
3-Fluorobenzoic acid; F.C6H4.COOH
------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
------------------------------------------------------------------------------
Eu+++      gl  NaClO4 25°C 0.10M C   H    K1=1.88        1986CLc (53234) 523
DH=7.5 kJ mol-1, DS=61 J K-1 mol-1
******************************************************************************
C7H5O2F                HL                      CAS 456-22-4  (5710)
4-Fluorobenzoic acid; F.C6H4.COOH
------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
------------------------------------------------------------------------------
Eu+++      gl  NaClO4 25°C 0.10M C   H    K1=2.08        1986CLc (53254) 524
DH=8.3 kJ mol-1, DS=68 J K-1 mol-1
******************************************************************************
C7H5O6BrS             H2L                       (1626)
3-Bromo-5-sulfosalicylic acid; Br.C6H2(OH)(COOH).SO3H
------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
------------------------------------------------------------------------------
Eu+++      gl  NaClO4 25°C 0.10M C      T                 1993ALa (53367) 525
                                         B(1,1,1)=12.46
                                         B(1,0,1)=7.60
                                         B(1,0,2)=13.02
                                         B(1,-1,1)=-0.09
B(p,q,r); pEu+qH+rL=(Eu)pHqLr.  B(1,-2,1)=-8.49.
******************************************************************************
C7H6O2                 HL    Tropolone         CAS 533-75-5  (3129)
2-Hydroxycyclohepta-2,4,6-trien-1-one;
```

```
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      gl  KNO3   25°C 0.10M U        K1=7.10   B2=12.81  1969CMb (53671) 526
                                         K3=4.81
********************************************************************************
C7H6O2                 HL    Benzoic Acid     CAS 65-85-0  (462)
Benzenecarboxylic acid; C6H5.COOH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
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   B2=11.09  1974BPb (53832) 529
                                         K3=2.73
********************************************************************************
C7H6O3               H2L    Salicylic acid   CAS 69-72-7  (14)
2-Hydroxybenzoic acid, Salicylic acid; HO.C6H4.COOH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
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                 1989HMa (54191) 531
                                          K(Eu+HL)=2.02
                                          K(EuHL+HL)=1.82
--------------------------------------------------------------------------------
Eu+++      gl  alc/w  25°C 100%  U        K1=5.81   B2=10.92  1973BPd (54192) 532
                                         K3=3.23
Medium: 99.9% MeOH, 0.1 M NaCl
--------------------------------------------------------------------------------
Eu+++      dis NaClO4 22°C 0.10M U                      1970ISa (54193) 533
                                          K(Eu+HL)=2.59
                                          K(EuHL+HL)=1.62
                                          K(Eu(HL)2+HL)=0.65
********************************************************************************
C7H6O3               H2L                  CAS 99-06-9  (1370)
3-Hydroxybenzoic acid; HO.C6H4.COOH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      gl  NaClO4 25°C 0.10M C                      1988LLa (54378) 534
                                          K(Eu+HL)=2.13
********************************************************************************
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				1988LLa (54414)	536
							K(Eu+HL)=2.36			
Eu+++	gl	alc/w	25°C	99%	U		K1=6.56	B2=11.73	1974BPb (54415)	537
							K3=3.22			

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; HO3S.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		2004TAb (54969)	539
							*K(EuL)=-5.78			
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	1968KTb (54973)	543
							K(Eu+HL)=2.26			

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	gl	NaClO4	25°C	0.50M	C	T	K1=8.35	B2=13.76	1976LAc (55095)	544

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

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

```
-------------------------------------------------------------------------------
Eu+++      gl  NaClO4 25°C 0.10M C        K1=2.49   B2=4.78   1989HMa (55222) 545
-------------------------------------------------------------------------------
Eu+++      gl  NaClO4 25°C 0.10M U   H    K1=4.26        1981YKa (55223) 546
By calorimetry: DH(K1)=4.60 kJ mol-1, DS(K1)=97.0 J K-1 mol-1.
-------------------------------------------------------------------------------
Eu+++      gl  non-aq 25°C 100%  U        K1=7.01   B2=12.81  1970BBh (55224) 547
                                        K3=3.26
                                        K4=2.52
Medium: MeOH, 0.1 M NaCl
*******************************************************************************
C7H7NO2                HL                      CAS 150-13-0  (1376)
4-Aminobenzoic acid; H2N.C6H4.COOH
-------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------------
Eu+++      gl  NaClO4 25°C 0.10M M   H    K1=2.12        1999YKa (55378) 548
By calorimetry: DH(K1)=7.50 kJ mol-1, DS(K1)=65.7 J K-1 mol-1.
-------------------------------------------------------------------------------
Eu+++      gl  KCl    25°C 0.20M U        K1=2.66        1977EBa (55379) 549
*******************************************************************************
C7H7NO3               H2L                      CAS 89-73-6  (204)
2-Hydroxybenzohydroxamic acid (salicylhydroxamic acid); HO.C6H4.CO.NHOH
-------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------------
Eu+++      gl  mixed  25°C  75%  U                         1970SEa (55592) 550
                                      K(Eu+HL)=7.40
                                      K(EuHL+HL)=6.84
                                      K(Eu(HL)2+HL)=5.04
Medium: 75% acetone, 0.1 M NaClO4
*******************************************************************************
C7H7NO6S              H3L                      CAS 6201-86-1  (7899)
3-Amino-5-sulfosalicylic acid;
-------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------------
Eu+++      gl  KCl    25°C 0.20M M T H    K1=8.13        1991BPb (55687) 551
                                      K(Eu+OH+L)=14.68
DH(K1)=-84 kJ mol-1, DS(K1)=-123 J K-1 mol-1.
Also K1 data for 35, 45 and 55 C. Value for K(Eu+OH+L) is at 35 C.
*******************************************************************************
C7H8O4                 HL    Methyl kojic     CAS 1506-07-8  (2686)
3-Hydroxy-6-(hydroxymethyl)-2-methyl-4H-pyran-4-one;
-------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------------
Eu+++      sp  KCl    25°C 0.10M M  I     K1=6.42        1986PLb (56126) 552
*******************************************************************************
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-((Phenylenedioxo)methylene)diphosphonic acid); C6H4O2C(PO3H2)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	KNO3	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	KNO3	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; HOOC.CH(C2H5)NH.CH(COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KNO3	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; HO.C6H10.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaClO4	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
Eu+++	gl	mixed	30°C	75%	U		K1=8.22	1971DRb (57273)	560

Medium: 75% acetone, 0.1 M

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KNO3	25°C	0.10M	U		K1=4.46 B2=7.05	1968PFa (57362)	561

****

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
Eu+++	gl	NaCl	20°C	0.10M	U		K1=2.87	1977SSc (57397)	562
Eu+++	EMF	NaClO4	25°C	1.0M	U		K1=2.67 B2=4.69 K3=1.46 K4=0.75	1967OTa (57398)	563

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
Eu+++	gl	KNO3	20°C	0.10M	U		K1=8.51 B2=16.12	1980RPa (57611)	564

****

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
Eu+++	cal	mixed	25°C	10 %	U	IH	K1=1.34	2000RZa (57701)	565

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
Eu+++	gl	KCl	25°C	0.10M	U		K1=2.60	1973FMa (57796)	566

****

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	B2=5.06	1965TVa (57861)	567
							K3=1.37			
							K4=1.25			

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	2001AAb (57993)	570
							*K(EuL)=-5.33		
							K(2Eu(OH)L=Eu2(OH)2L2)=8.61		

****

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

****

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

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

```
--------------------------------------------------------------------------------
Eu+++      sp  NaNO3  25°C 0.10M U        K1=4.01        1985OHa (58499) 573
--------------------------------------------------------------------------------
Eu+++      sp  NaClO4 30°C 0.10M C                       1978BKd (58500) 574
                                       K1eff=5.442
Medium pH 5.4 (acetate).
--------------------------------------------------------------------------------
Eu+++      sp  KNO3   12°C 0.10M U                       1965GEa (58501) 575
                                       K(Eu+H2L)=4.17
********************************************************************************
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 KNO3 25°C 0.10M U K1=6.24 B2=12.29 1968BBe (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			1996YLa (59824)	595
							K(EuL+Phen)=2.51			
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
-------------------------------------------------------------------------
Eu+++      cal NaClO4 25°C 0.10M C   H                  2000MNa (60131) 602
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
                                        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(EuHL)=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
-------------------------------------------------------------------------
Eu+++      vlt KNO3   30°C  0.5M C        K1=7.30   B2=14.43  1982BNa (60342) 604
Method: polarography.
*************************************************************************
C8H9NO4              H2L                        (4520)
Dehydroethanoic acid oxime;
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
Eu+++      gl  diox/w 35°C  50%  U                     1971MAa (60492) 605
                                        K(Eu+HL)=4.52
                                        K(Eu+2HL)=8.19
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
-------------------------------------------------------------------------
Eu+++      gl  NaClO4 25°C 0.10M U        K1=13.75  B2=24.85  1980ZMa (60567) 606
*************************************************************************
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
```

Eu+++ EMF R4N.X 20°C 0.10M U K1=10.84 B2=21.56 1972GLb (60631) 607
Medium: N(CH3)4Br
****
C8H10O4 L CAS 34241-51-5 (5701)
3-Acetyl-6-methylhydropyrane-2,4-dione;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ gl alc/w 22°C 20% U K1=4.40 B2=7.92 1988ZTa (60847) 608
K3=3.10
****
C8H10O5 H2L CAS 145-73-7 (138)
7-Oxa-bicyclo[2.2.1]-heptan-2,3-dicarboxylic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
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
****
C8H11NO8 H4L CAS 7408-20-0 (2608)
Amino-di(butanedioic acid);HN(CH(COOH)CH2.COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ gl KCl 25°C 0.10M U K1=11.14 B2=18.18 1979BEb (61205) 611
B(EuHL)=15.38
****
C8H11NO9P2 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 2002BBh (61232) 612
B(EuHL)=19.7
B(EuH2L)=24.7
B(EuH3L)=27.4
B(EuH-1L)=1.9
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    Barbital         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'-dimalonic 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		1979ZKb (62899)	626
							K(Eu+HL)=13.11			
							K(Eu+H2L)=9.20			

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		1979ZKb (63354)	629
							K(Eu+HL)=8.08			
							K(EuHL+HL)=6.11			

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	1971MAb (63561)	630
							K3=5.35			

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

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

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

```
Eu+++      gl  NaClO4 25°C 0.10M U        K1=5.43   B2=10.13  1973MAa (63694) 631
                                         K3=4.30
**************************************************************************
C9H6NO4IS             H2L    Ferron           CAS 547-91-1  (275)
7-Iodo-8-hydroxyquinoline-5-sulfonic acid; (HO)(HO3S)C9H4NI
--------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------
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;
```

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);

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
Method: spectrophotometry.

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;

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

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;

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;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ gl KCl 30°C 0.10M U K1=4.40 1996SZa (64974) 645

****

C9H10O2 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	NaClO4	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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	gl	NaClO4	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

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	gl	NaClO4	25°C	1.0M	U		K1=2.55	B2=4.72	1966TVa (65437)	648

****

C9H10O3 HL CAS 1878-49-5 (1600)
2-Phenyl-2-methoxyethanoic acid; C6H5.CH(OCH3)COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	gl	NaClO4	25°C	0.10M	C		K1=2.17	B2=4.12	1989HMa (65459)	649

****

C9H10O3 HL Tropic acid CAS 529-64-6 (1601)
2-Phenyl-3-hydroxypropanoic acid; HO.CH2.CH(COOH)C6H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	gl	NaClO4	25°C	0.10M	C		K1=2.21	B2=4.02	1989HMa (65473)	650

****

C9H10O4 H2L (7232)
Bicyclo[2.2.1]hept-5-en-2-endo,3-cis-dicarboxylic acid;

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

****

C9H10O4 H2L CAS 3853-88-1 (5687)
endo-cis-Bicyclo-[2,2,1]-5-hepten-2,3-dicarboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	gl	NaClO4	24°C	0.10M	U		K1=4.43 K(Eu+HL)=1.67		1986ZBa (65585)	652

****

C9H10O5 H2L CAS 54384-22-4 (8406)

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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	NaClO4	30°C	0.20M	U	T	K1=10.28	1979NSb (65642)	655
							K1=10.40 when T=40.		
							K1=10.50 when T=50.		

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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; HSO3.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	1988ZKa (66460)	657
							B(Eu2L3)=25.0		

****

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        2001AAb (67252) 660
                                         *K(EuL)=-5.60
                                         K(2Eu(OH)L=Eu2(OH)2L2)=9.13
                                         B(EuLA)=8.73
                                         B(EuLB)=8.34
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                         1983MAa (67317) 661
                                        K(Eu+H2L)=0.88
*************************************************************************
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       2002BBh (67367) 662
                                        B(EuHL)=20.84
                                        B(EuH2L)=26.98
                                        B(EuH3L)=29.9
                                        B(EuH-1L)=1.18
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				1987ZGa (68407)	665
							K(Eu+H2L)=8.68			
Eu+++	gl	KNO3	20°C	0.10M	U		K1=17.78		1979ZKb (68408)	666
							K(Eu+HL)=14.43			
							K(Eu+H2L)=11.62			
							K(Eu+H3L)=10.14			
							K(Eu+H4L)=9.00			

****

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

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

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	1992SAa (68475)	668
							K3=6.79			

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.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	gl	NaClO4	25°C	0.10M	U	H	K1=4.86		1994CRa (68514)	670
							K(Eu+HL)=3.86			

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

```
--------------------------------------------------------------------------------
Eu+++      sp  KCl    25°C 0.10M M  I     K1=4.53        1976PEa (68576) 671
********************************************************************************
C10H7NO2               HL                      CAS 132-53-6  (2524)
2-Nitroso-1-naphthol;
--------------------------------------------------------------------------------
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
********************************************************************************
C10H7NO2               HL    Quinaldic acid   CAS 93-10-7  (2209)
Quinoline-2-carboxylic acid;
--------------------------------------------------------------------------------
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
********************************************************************************
C10H7NO2               HL                      CAS 86-59-9  (873)
Quinoline-8-carboxylic acid;
--------------------------------------------------------------------------------
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
********************************************************************************
C10H7NO5S              H2L                     CAS 14090-74-5  (2676)
1-Nitroso-2-hydroxynaphalene-7-sulfonic acid;
--------------------------------------------------------------------------------
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
********************************************************************************
C10H7NO5S              H2L                       (4766)
1-Nitroso-2-hydroxynaphthalene-6-sulfonic acid;
--------------------------------------------------------------------------------
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
********************************************************************************
C10H7NO5S              H2L                     CAS 31005-79-9  (1814)
2-Nitroso-1-hydroxynaphthalene-8-sulfonic acid;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      sp  KCl    25°C 0.10M M        K1=5.61        1978PPb (68943) 679
********************************************************************************
C10H7NO8S2             H3L    Nitroso-R acid   CAS 525-05-3  (1811)
```

1-Nitroso-2-hydroxynaphthalene-3,6-disulfonic acid;

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

****

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

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

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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 K3=5.41	1995MTa (69142)	684

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;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaClO4	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;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	NaClO4	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;

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	sp	alc/w	25°C	100%	U			1989OKb (70346)	690
							K1eff=4.30		

At pH 3.4 by competition with 18-crown-6. Medium: MeOH, 0.03 M Et4NClO4

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	sp	diox/w	25°C	10%	U		K1=9.57	1973KSd (70359)	691

Medium: 10% dioxan, 0.1 M KNO3

****

C10H9N3O2S HL CAS 3012-52-0 (217)
2-(2'-Thiazolylazo)-4-methoxyphenol; CH3O.C6H3(OH).N:N.C3H2N2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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	KNO3	25°C	0.10M	U		K1=6.89 B3=19.62	B2=13.37	1968RSe (70721)	693
Eu+++	gl	alc/w	25°C	80%	U		K1=8.17 K3=4.36	B2=14.47	1967DZa (70722)	694

Medium: 80% MeOH, 0.1 M NaCl

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	gl	alc/w	24°C	80%	U		K1=8.17 K3 = 4.36	B2=14.47	1967DZb (70723)	695

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	gl	alc/w	22°C	100%	U		K1=11.1 K3=4.6 K4=2.9	B2=19.80	1967ZDa (70724)	696

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	NaClO4	25°C	0.10M	M		K1=4.60	B2=7.45	1977HCb (70849)	697

By distribution methods, K1=4.52

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	nmr	none	25°C	0.0	U		K1=2.68		1977KCc (70850)	698

****

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: Et4NClO4

****

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 B3=16.67	B2=11.90	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	KNO3	25°C	0.10M	U		K1=8.92 B2=16.94	1964THa (71257)	701

****

C10H12O2 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 K3=6.1 K4=4.7	1968DZb (71580)	702

Medium: 80% MeOH, 0.1 M NaCl

****

C10H14N5O7P H2L AMP-5 CAS 18422-05-4 (842)
Adenosine-5'-monophosphoric acid, 5-Adenylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KNO3	25°C	0.10M	C	M	K1=4.65 *K(EuL)=-6.93 K(2Eu(OH)L=Eu2(OH)2L2)=11.80 B(EuLA)=9.27 B(EuLB)=8.58	2001AAb (72451)	703

B(EuLC)=8.63, B(EuLD)=7.59. HA=MOPSO, HB=MES, HC=ACES and HD=HEPES.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	R4N.X	25°C	0.10M	C	T	K1=4.63 K(Eu+HL)=2.72	1991SMa (72452)	704

IUPAC evaluation

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	R4N.X	25°C	0.20M	U	T H	K1=5.62	1978GBa (72453)	705

DH(K1)=0.89 kJ mol-1 at 25 C; -5.2 (5 C); -0.4 (15 C); 1.8 (35 C) (?)

****

C10H14N5O8P H3L GMP-5 CAS 85-32-5 (2947)
Guanosine-5'-monophosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KNO3	25°C	0.10M	C	M	K1=5.26 *K(EuL)=-5.63 K(2Eu(OH)L=Eu2(OH)2L2)=9.09 B(EuLA)=9.78 B(EuLB)=9.09	2001AAb (72588)	706

B(EuLC)=10.14, B(EuLD)=9.00. HA=MOPSO, HB=MES, HC=ACES and HD=HEPES.

****

C10H15N5O10P2 H3L ADP CAS 20398-34-9 (2181)
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			1989FVa (72983)	707
							K1eff=5.92		

Competitive reaction with MgL. Medium: 0.05 M PIPES, pH 7.0.

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KCl	25°C	0.10M	U		K1=13.19	1980MMe (73127)	709
							K(Eu+HL)=6.75		
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, Sequestric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	sp	KCl	25°C	0.10M	U		K1=17.52	1997WHb (73725)	712

Method: Laser-exitation luminescence

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	sp	KCl	25°C	0.10M	C		K1=15.5	1996WHa (73726)	713

Method: laser excited luminescence

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	oth/un	25°C	0.15M	U	I	K1=13.13	1989SDb (73727)	714
							B(EuHL)=18.03		
							B(Eu(OH)L)=15.17		

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

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	cal	NaCl	25°C	2.0M	U	H	K1=16.23	1985CLb (73729)	716

DH(K1)=-22.9 kJ mol-1

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KCl	25°C	1.0M	U			1984BKc (73730)	717
							K(EuL+H)=1.43		
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(EuL+PO4)=3.50
-------------------------------------------------------------------------------
Eu+++      vlt KNO3   20°C 0.10M U        K1=17.51       1978NLb (73733) 720
-------------------------------------------------------------------------------
Eu+++      gl  NaClO4 25°C 0.50M U        K1=16.23       1977GGb (73734) 721
-------------------------------------------------------------------------------
Eu+++      gl  KCl    25°C 1.00M U        K2=3.60        1976BKa (73735) 722
                                        K(EuL+HL)=2.48
                                        K(2EuL+L)=6.64
-------------------------------------------------------------------------------
Eu+++      gl  KCl    25°C  1.0M U                       1976GMb (73736) 723
                                        K(EuL+H)=1.89
-------------------------------------------------------------------------------
Eu+++      sp  KCl    25°C 0.10M U        K2=3.60        1975BKa (73737) 724
                                        K(2EuL+L)=6.64
                                        K(EuL+HL)=2.48
-------------------------------------------------------------------------------
Eu+++      EMF KCl    25°C 0.10M U      T                1974BKb (73738) 725
                                        K(EuL+H)=1.67
-------------------------------------------------------------------------------
Eu+++      gl  KCl    25°C  1.0M C        K2=3.60        1974BKe (73739) 726
                                        K(EuL+HL)=2.48
                                        K(2EuL+L=Eu2L3)=6.64
-------------------------------------------------------------------------------
Eu+++      gl  KNO3   25°C 0.10M U T  M                 1973TRb (73740) 727
                                        K(EuL+HA)=3.44
                                        K(EuL+A)=5.24
                                        K(EuL+A)=4.7
Also at 2, 35, 45 C. H5A=tripolyphosphoric acid.     K(EuL+B)=4.7
H4B=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        K1=17.9        1971DCa (73741) 728
-------------------------------------------------------------------------------
Eu+++      cal KNO3   20°C 0.10M U                       1971GKb (73742) 729
K(EuL(H2O)x=EuL(H2O)x-1+H2O)=-0.15
-------------------------------------------------------------------------------
Eu+++      sp  KCl    40°C  1.0M U T      K1=15.30       1971KTk (73743) 730
                                        K(Eu+HL)=7.17
K1(50 C)=15.24, K1(6 0C)=15.19, K1(7 0C)=15.15
K(Eu+HL)(50 C)=7.29, K(60 C)=7.40, K(70 C)=7.49
-------------------------------------------------------------------------------
Eu+++      gl  NaClO4 25°C 0.10M U    M                 1969AIb (73744) 731
                                        K(EuL+A)=6.90, H4A=tiron
-------------------------------------------------------------------------------
Eu+++      dis oth/un 25°C    ?  U        K1=17.01       1969PJa (73745) 732
Method: paper electrophoresis. Medium: pH=1.86
-------------------------------------------------------------------------------
Eu+++      vlt oth/un   ?   1.0M U        K1=17.5   B2=19.6   1969TKd (73746) 733
                                        B2=22.2 (isomers)
                                        K(Eu+L+HL)=18.9
```

```
                                        K(Eu+L+HL)=19.7 (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         1955EHa (73750) 737
                                        K(Eu+HL)=2.6
--------------------------------------------------------------------------------
Eu+++      vlt oth/un 20°C 0.01M U        K1=17.11       1955WSa (73751) 738
--------------------------------------------------------------------------------
Eu+++      vlt KNO3   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
--------------------------------------------------------------------------------
Eu+++      gl  NaClO4 20°C 0.20M U T H    K1=7.28   B2=11.18  1993VLa (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        1991OKa (74723) 742
Method: competitive spectrophotometry using 5-Br-PAPS at pH 7.13 (HEPES).
--------------------------------------------------------------------------------
Eu+++      gl  R4N.X  25°C 0.10M C      T K1=6.66        1991SMa (74724) 743
                                        K(Eu+HL)=3.65
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-cysteinyl-glycine;
--------------------------------------------------------------------------
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-exitation 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+H2L)=0.62
                                        K(EuL+H3L)=1.52
--------------------------------------------------------------------------------
Eu+++      sp  oth/un   ?   1.0M U                      1972TBb (75378) 756
                                        K(EuL+HL)=-0.87
--------------------------------------------------------------------------------
Eu+++      ix  oth/un   ?     ?  U                      1968MDa (75379) 757
                                        K(EuL+HL)=3.26
--------------------------------------------------------------------------------
Eu+++      gl  KNO3   25°C 0.10M U    M                 1963TLb (75380) 758
                                        K(EuL+A)=4.77
                                        K(EuL+B)=4.6
H2A=iminodiethanoic acid, H2B=hydroxyethyliminodiethanoic acid
--------------------------------------------------------------------------------
Eu+++      EMF oth/un 20°C 0.10M U        K1=15.62       1962PMa (75381) 759
--------------------------------------------------------------------------------
Eu+++      gl  KNO3   15°C 0.10M U T H    K1=15.54       1961MFb (75382) 760
K1=15.44(20 C), 15.35(25 C), 15.30(30 C), 15.32(35 C), 15.22(40 C)
DH(K1)=-20.1 kJ mol-1(25 C), DS=226 J K-1 mol-1
--------------------------------------------------------------------------------
Eu+++      gl  KNO3   25°C 0.10M U        K1=15.21       1956SPa (75383) 761
********************************************************************************
C10H18O2               HL                      CAS 53329-78-7  (4710)
Decane-2,4-dione; CH3.CO.CH2.CO.(CH2)5.CH3
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      dis R4N.X  25°C 0.10M U        K1=6.3    B2=12.50  1976JGa (75591) 762
                                        B3=19.38
********************************************************************************
C10H19N3O4             HL    Leu-Gly-Gly      CAS 1187-50-4  (1230)
Leucyl-glycyl-glycine; H2N.CH(CH2.CH(CH3)2).CO.NH.CH2.CO.NH.CH2.COOH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      gl  KCl    25°C 0.10M U        K1=2.40        1973FMa (75688) 763
********************************************************************************
C10H20N2O4            H2L                       (4753)
N,N'-Diethylethylenedinitrilo-N,N'-diethanoic acid;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      gl  KNO3   25°C 0.10M U        K1=7.1         1973PSb (75781) 764
********************************************************************************
C10H20O5                L    15-Crown-5       CAS 33100-27-5  (576)
1,4,7,10,13-Pentaoxacyclopentadecane; cyclo(-(O.CH2.CH2)5-)
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
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			1970OVb (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.)2O

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	gl	non-aq	25°C	100%	C		K1=4.96		1989BPa (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		1998BRa (76803)	769
							*K(EuL)=-7.9			
							K(EuL+H)=7.1			
							B(EuHL2)=38.1			

****

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		1972GLb (76820)	770
							K(Eu+H2L)=6.19			

****

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	1984APa (77030)	771
Eu+++	gl	mixed	22°C	60%	U		K1=3.91	B2=7.44	1979JMa (77031)	772
							K3=3.15			

Medium: 60% acetone/H20

****

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

K(Eu+HL)=3.73
K(Eu+2HL)=6.63
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 1984OHa (77538) 779
K(Eu+HL)=4.28
*K(EuHL)=-6.33
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; H2N.CH(CH2.C8H6N)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 K1= 4.18

Eu+++ vlt NaClO4 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
---
Eu+++ gl oth/un 30°C 0.10M U B2=21.95 1985EEb (78318) 786
Medium: not stated. For 3'-sulfophenylhydrazo-, 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

---
Eu+++ gl KCl 25°C 0.10M U 1973FMa (78857) 793
K(Eu+HL)=2.85
****
C11H14N2O4 H2L (1880)
N-(6-Methyl-2-pyridylmethyl)iminodiethanoic acid; CH3C5H3NCH2N(CH2COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ gl KNO3 25°C 0.10M U K1=6.76 B2=11.26 1964THa (78881) 794
****
C11H18N2O8 H4L PDTA CAS 4408-81-5 (1655)
1,2-Diaminopropane-N,N,N',N'-tetraethanoic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ EMF KNO3 25°C 0.10M U K1=15.93 1980KBc (79281) 795

Eu+++ vlt KNO3 20°C 0.10M U K1=18.09 1978NLb (79282) 796

Eu+++ vlt KNO3 20°C 0.10M U K1=18.26 1964ICb (79283) 797
****
C11H18N2O8 H4L CAS 38539-29-0 (2573)
1,3-Diaminopropane-N,N'-di(1,4-butanedioic acid)

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ gl KNO3 25°C 0.10M U K1=10.08 1976GKd (79362) 798

Eu+++ gl KNO3 25°C 0.10M U K1=10.08 1976GKd (79363) 799
****
C11H18N2O8 H4L CAS 4408-81-5 (923)
1,3-Diaminopropane-N,N,N',N'-tetraethanoic acid; ((HOOC.CH2)2N.CH2.)2.CH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ cal NaClO4 25°C 0.50M C H K1=13.1 1987CRa (79437) 800
DH(K1)=13.5 kJ mol-1; DS(K1)=296 J K-1 mol-1

Eu+++ dis NaCl 25°C 0.10M C K1=13.54 1985CMc (79438) 801
Method: extraction of 152,154Eu from 0.1 M NaCl (pH 5.5) into
toluene/HDEHP.

Eu+++ ix KNO3 20°C 0.10M U H K1=13.54 1971AWa (79439) 802
DH=24.9 kJ mol-1, DS=343 J K-1 mol-1 by calorimetry

Eu+++ gl KNO3 20°C 0.10M U K1=13.58 1964LAa (79440) 803
Also K1=13.49
****
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 1972DSd (79652) 806
K3=8.76
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; HOOC.C(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(hydroxmethyl)methylamino]propane;

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

```
--------------------------------------------------------------------------------
Eu+++      gl  NaClO4 25°C 0.10M C                      2001GYb (79954) 810
                                        K(2Eu+2OH+2L)=23.62
                                        K(2Eu+4OH+2L)=34.95
                                        K(2Eu+5OH+2L)=39.29
********************************************************************************
C12H6O12              H6L    Mellitic acid      (7400)
Benzenehexacarboxylic acid; (C(COOH))6
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      sp  NaClO4 25°C 0.10M C        K1=6.86        1999WVa (80111) 811
                                        B(EuHL)=12.35
                                        B(EuH2L)=16.34
Method: laser induced fluorimetry.
********************************************************************************
C12H7O2F7               L                          (6994)
1-Heptafluoropropyl-3-phenylpropane-1,3-dione; C3F7.CO.CH2.CO.C6H5
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      gl  alc/w  22°C  80%  U        K1=6.28   B2=11.91  1995MTa (80182) 812
                                        K3=5.12
Medium: 0.1 M NaClO4 in 80% (v/v) EtOH/H2O.
********************************************************************************
C12H8N2                 L    Phenanthroline   CAS 66-71-7  (144)
1,10-Phenanthroline;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      sp  non-aq 25°C 100%  C   H    K1=0.9         2002KNc (80425) 813
Medium: N,N-dimethylformamide, 0.20 M Et4NClO4.
By calorimetry: DH(K1)=-20 kJ mol-1.
--------------------------------------------------------------------------------
Eu+++      dis non-aq 25°C 100%  C   HM                  1998YHa (80426) 814
                                        K(EuA3+L)=7.66
Method: solvent extraction from 0.10 M NaClO4 into CHCl3. HA is
1-(2-thienyl)-4,4,4-trifluoro-1,3-butanedione. DH(EuA3+L)=5.5 kJ mol-1.
********************************************************************************
C12H9N2OCl            HL                      CAS 73446-98-7  (9081)
N-2-(5-Chloropyridyl)salicylaldimine;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Eu+++      gl  alc/w  25°C  50%  C T H    K1=4.95   B2= 8.24  1997GSa (80585) 815
Medium: 50% v/v EtOH/H2O, 0.20 M KCl. At 50 C, K1=4.58, K2=3.03.
DH(K1)=-27 kJ mol-1.
********************************************************************************
C12H10N2O             HL                      CAS 1823-47-8  (3969)
2-Salicylideneaminopyridine; (2-OH).C6H4.CH:N.C5H4N
```

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;

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;

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;

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

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;

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
****
C12H12NO3Cl HL (1055)
2-Chloro-4-dimethylamino-benzylidenepyruvic acid; (CH3)2N.C6H3Cl.CH:CH.CO.COOH

```
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
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;
--------------------------------------------------------------------------------
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
********************************************************************************
C12H13NO3              HL                        (1054)
4-Dimethylamino-benzylidenepyruvic acid; (CH3)2N.C6H4.CH:CH.CO.COOH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
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;
--------------------------------------------------------------------------------
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;
--------------------------------------------------------------------------------
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;
--------------------------------------------------------------------------------
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;
--------------------------------------------------------------------------------
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
```

****

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 monohexyl 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'-dipropanoic 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 B(Eu+HL)=6.34	1988RNa (82163)	837

DH(K1)=1.86 kJ mol-1, DH(Eu+HL)=31.9, DS(K1)=256 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=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 K(EuL+H)=6.78 K(EuHL+H)=5.45	1985CBa (82217)	839

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

```
**************************************************************************
C12H20N2O9            H4L    EEDTA            CAS 923-73-9  (2112)
Oxa-bis(ethyleneimino)diethanoic acid; ((HOOC.CH2)2N.CH2.CH2)2O
--------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------
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;
(HOOC.CH2)2N.CH2.C(CH3)2.N(CH2.COOH)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; HOOC.CH(C6H13)N(CH2.COOH)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-exitation 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                       1993INa (83355) 852
                                          B(EuPL)=6.52
```

B(EuPL2)=8.63
K is the equilibrium constant for extraction of the metal picrate (P) into CH2Cl2. For extraction from D2O, B=6.90 and 9.10.

Eu+++ cal non-aq 25°C 100% U IH K1=2.70 1993LLa (83356) 853
Medium: MeCN. DH(K1)=-12.8 kJ mol-1. In MeOH K1=1.84, DH=12.8

Eu+++ dis non-aq 25°C 100% U B2=8.63 1990NIa (83357) 854
B2=extraction eq.constant: M+3P+2(S)=ML2P3(S); solvent(S)=CH2Cl2, P=picrate

---

Eu+++ gl non-aq 25°C 100% C K1=8.07 1989BPa (83358) 855
Medium: anhydrous propylene carbonate, 0.1 M Et4NClO4

Eu+++ sp alc/w 25°C 100% U 1989OKb (83359) 856
K1eff=2.85
At pH 3.4 by competition with 18-crown-6. Medium: MeOH, 0.03 M Et4NClO4

Eu+++ cal alc/w 25°C 100% U H K1=1.84 1977ILb (83360) 857
Medium: Methanol. DH=12.8 kJ mol-1.

****

C12H26N2O4 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

---

Eu+++ ISE non-aq 25°C 100% U H K1=9.7 1990MGa (83835) 858
In acetonitrile, 0.1 M Et4NClO4. DH=-109 kJ mol-1.

Eu+++ gl non-aq 25°C 100% U K1=<2 1989MGa (83836) 859
Medium: DMF, 0.10 M Et4NClO4

Eu+++ ISE non-aq 25°C 100% C K1=16.5 1986ALa (83837) 860
Medium: propylene carbonate, 0.1 M Et4NClO4

Eu+++ gl alc/w 25°C 100% C I K1=8.59 1983ANb (83838) 861
The equilibration took 7-12 days. Medium: MeOH, 0.05 M Et4NClO4
In propylene carbonate, 0.1 M Et4NClO4, K1=14.6

****

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

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

---

Eu+++ gl non-aq 25°C 100% C K1=5.36 1989BPa (83999) 862
Medium: anhydrous propylene carbonate, 0.1 M Et4NClO4

****

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

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

---
Eu+++ gl KCl 25°C 0.1M C 2002DGc (84074) 863
B(Eu3H-6L3)=-21.4
****
C12H27O4P L CAS 126-73-8 (2432)
Tri-n-butyl phosphate; (C4H9O)3PO

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ sp oth/un 25°C ? U M 1980BRb (84119) 864
K(EuA3+L=EuA3L)=3.432
K(EuB3+L=EuB3L)=3.212
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
****
C12H27O6P HL CAS 14260-97-0 (8268)
Di-(n-butoxyethyl)phosphoric acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ dis non-aq RT 100% C 1977NAb (84125) 865
Medium: benzene. By distribution from 2 M NaCl/HCl or 2 M NaClO4/HClO4.
K(Eu+5HL(org)=EuL3(HL)2(org)+3H)=19.1
****
C12H28N2O9P2 H4L (7242)
1,4,10-Trioxa-7,13-diazacyclopentadecane-7,13-diyldimethylenediphosphonic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ gl R4N.X 25°C 0.10M U K1=13.76 1996BJa (84155) 866
K(Eu+HL)=10.48
K(Eu+H2L)=5.72
Medium: 0.1 M Me4NCl
****
C12H30N6 L CAS 296-35-5 (143)
1,4,7,10,13,16-Hexaazacyclooctadecane; cyclo(-(NH.CH2.CH2)6-)

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ gl NaNO3 25°C 0.20M C K1=8.27 1991KKa (84327) 867

Eu+++ gl NaCl 20°C 0.10M C K1=10.1 1988SJb (84328) 868
****
C13H5O2F13S L (6997)
1-(2-Thienyl)-3-tridecafluorohexylpropane-1,3-dione; C6F13.CO.CH2.CO.C4H3S

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ gl alc/w 22°C 80% U K1=5.54 B2=10.76 1995MTa (84453) 869
K3=4.89

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 B3=27.60 B4=36.08	B2=18.76	1966NAa (84615)	871

****

C13H10O2Se HL CAS 10471-68-8 (4982)
Benzoyl-2-selenoylmethane; 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 B3=16.08	B2=11.04	1968BBe (84987)	872

****

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-Acetylphenylhydrazone)-1,1,1-trifluoropentane-2,4-dione;
CF3.CO.C(CO.CH3):N.HN.C6H4.COCH3

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

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 K3=4.72	B2=12.77	1997GSa (85340)	875

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; ((HOOC.CH2)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 K(Eu+HL)=6.70	1982PPd (86193)	880

****

C13H22N2O8 H4L CAS 1198-14-7 (5004)

1,2-Diaminopentane-N,N,N',N'-tetraethanoic acid; (HOOCCH2)2NCH2CH(C3H7)N(CH2COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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	KNO3	20°C	0.10M	U		K1=12.03	1981NSc (86253)	882

C13H22N2O8 H4L (5003)
3-Methyl-1,2-diaminobutane-N,N,N',N'-tetraethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	vlt	KNO3	20°C	0.10M	U		K1=18.30	1968NLb (86281)	883

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KNO3	25°C	0.10M	C		K1=15.28 K(Eu+HL)=9.50	1985PLa (86302)	884

C13H26N2O2 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	K1=1.04	2001RZa (86451)	885

Medium: 90% w/w CH3CN/DMSO. DH(K1)=29.6 kJ mol-1, DS(K1)=119 J K-1 mol-1.

C13H26O5 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	K1=3.46	1998LBc (86471)	886

Medium: acetonitrile. DH(K1)=-5.23 kJ mol-1, DS(K1)=48.7 J K-1 mol-1.

C14H7O3F9 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		K1=6.04 B2=11.22 B3=15.55	1980GDa (86588)	887

C14H8N2O4 H2L (8065)
1,10-Phenanthroline-2,9-dicarboxylic acid;

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

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-Dihyhroxyanthraquinone;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ gl oth/un 25°C 0.10M U K1=12.06 1981EIa (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 1987VSa (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; (CH3C6H5O)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=3.26        1974GMc (87791) 895
********************************************************************************
C14H16N2O2S            HL                     CAS 189231-67-2  (8475)
2-Thiophenylhydrazodimedone;
--------------------------------------------------------------------------------
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;
--------------------------------------------------------------------------------
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
--------------------------------------------------------------------------------
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;
--------------------------------------------------------------------------------
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;
--------------------------------------------------------------------------------
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;
--------------------------------------------------------------------------------
```

```
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        1987CMe (88441) 903
                                        K(EuHL+H)=5.15
                                        K(EuL+H)=7.61
*************************************************************************
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                        2000SBa (88635) 904
                                        K(EuL+H)=4.2
-------------------------------------------------------------------------
Eu+++      gl  KCl    25°C 0.15M U  I     K1=13.53       1989SDb (88636) 905
                                        B(EuHL)=19.32
                                        B(Eu(OH)L)=15.16
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                       1973TKc (88640) 909
                                        B(Eu(OH)L)=25.02
                                        K(Eu+L+HL)=19.98
-------------------------------------------------------------------------
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-exitation 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 monooctyl 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       1974NLa (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                   1976BKa (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; (HOOC.CH2CH2)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-O,O'-bis(2-aminoethyl ether)-N,N,N',N'-tetraethanoic acid; H4L
--------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------
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        2001VSa (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			1976NGc (90127)	942
							K(Eu+HL)=9.92		

****

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.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	dis	R4N.X	25°C	0.10M	U		K1=12.23	1990MMc (90185)	944

Medium: 0.1M Me4NCl

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	dis	oth/un	25°C	0.10M	U			1990MMe (90186)	945
							K(Eu+H4L=EuL+4H)=12.23		
Eu+++	gl	R4N.X	25°C	0.10M	M		K1=11.85	1986COb (90187)	946

****

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-exitation luminescence

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	sp	KCl	25°C	0.10M	C		K1=20.69	1996WHa (90247)	948

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
---
Eu+++ ISE non-aq 25°C 100% U H K1=9.1 1990MGa (90362) 949
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
Medium: DMF, 0.10 M Et4NClO4

Eu+++ ISE non-aq 25°C 100% C K1=15.2 1986ALa (90364) 951
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
---
Eu+++ gl R4N.X 25°C 0.10M C K1=7.38 1988CCc (90479) 952
****
C14H28O7 L 21-Crown-7 CAS 33089-36-0 (2264)
1,4,7,10,13,16,19-Heptaoxacycloheneicosane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ gl non-aq 25°C 100% C K1=7.14 1989BPa (90520) 953
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
---
Eu+++ gl non-aq 25°C 100% C K1=6.50 1989BPa (90692) 954
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-diyldimethylenediphosphonic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ gl R4N.X 25°C 0.10M U K1=13.08 1996BJa (90763) 955
K(Eu+HL)=10.96
K(Eu+H2L)=5.97
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        1987PBa (90871) 957
                                         K(La+HL)=17.1
                                         K(La+H2L)=15.3
                                         K(La+H3L)=12.9
*************************************************************************
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                         1987ZGa (90933) 958
                                         K(Eu+HL)=7.03
*************************************************************************
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  1967NAa (91214) 961
                                         B3=34.23
                                         B4=43.68
*************************************************************************
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  1979VMa (91491) 962
                                         K3=8.14
*************************************************************************
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-Benzyldiaminoethane-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
Eu+++	EMF	KCl	?	0.10M	U		K1=16.46		1966VLa (92370)	971

****
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
Eu+++	gl	KNO3	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'-methylamide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Eu+++	gl	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
Eu+++	gl	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
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.

****
C15H33NO6 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
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

---
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;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ sp oth/un 25°C ? U 1967SAa (92862) 978
K1eff=4.7
****
C16H12N2O HL CAS 5603-14-5 (9083)
2-[(Quinolylmethylene)amino]phenol;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
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.
****
C16H12N2O4S H2L CAS 13964-82-4 (3475)
1-(4-Sulfophenylazo)-2-hydroxynaphthalene;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ sp oth/un 25°C dil U B2=7.32 1969SPd (92997) 980
****
C16H12N2S L CAS 31230-95-2 (9085)
2(2-Benzothiazolinyl)quinoline;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
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.
****
C16H12N3O4ClS H2L CAS 133131-00-7 (8468)
7-Amino-8-[(4-chlorophenyl)azo]-4-hydroxy-2-naphthalenesulfonic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ gl NaCl 25°C 0.10M U K1=8.78 B2=16.92 1997IHa (93113) 982
B3=23.94
Also data for the 4'-bromo-, 4'-fluoro-, 4'-nitro-, 4'-methoxy-, 4'-di-
methylamino-, 4'-hydroxy-, 4'-carboxy-, 4'-AsO(OH)2-, 2'-hydroxy- analogue
****
C16H12N5O3 L CAS 77251-11-7 (5928)
1-Phenyl-3-methyl-4(2'-nitrophenylhydrazo)-5-pyrazolone;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ gl diox/w 30°C 75% M K1=7.27 1987ESa (93128) 983

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

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ gl NaClO4 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

Eu+++ sp oth/un 25°C ? U 1967SAa (93191) 985
K(?)=8.2
****
C16H13N2O11AsS2 H6L Arsenazo I CAS 520-10-5 (277)
2-(2'-Arsonophenylazo)chromotropic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ sp oth/un 20°C 0.10M U 1971SSd (93253) 986
K(Eu+H2L)=8.36
****
C16H14N2O HL CAS 36210-81-8 (2838)
1-Phenyl-3-methyl-4-phenylpyrazol-5-one;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ dis NaClO4 25°C 0.10M U K1=6.10 B2=10.40 1983SUa (93405) 987
Data for Europium complexes of many related pyrazol-5-one ligands included.
****
C16H14N4O2 H2L (3467)
5-Hydroxy-4-(2-hydroxyphenylazo)-3-methyl-1-phenylpyrazole;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ gl diox/w RT 75% U K1=16.53 B2=30.38 1988ESc (93473) 988
Medium: 75% v/v dioxane/H2O. For the 2-hydroxy-5-methylphenylazo deriv.,K1
=16.32, K2=13.44; for the 2-hydroxy-5-chlorophenylazo, K1=15.68, K2=13.34.
****
C16H18N2O3 HL (5564)
2-(2-Acetylphenylhydrazone)-5,5-dimethyl-1,3-cyclohexanedione;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ gl diox/w 30°C 75% U K1=11.01 B2=19.81 1988ESb (93776) 989
****
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        2001WZa (93841) 990
                                         B(EuHL)=14.53
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 KNO3   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                       1993INa (94248) 992
                                         B(Eu+3P+2L)=7.71
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
```

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;

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-exitation luminescence

Eu+++ gl NaCl 25°C 1.00M C 1994TBa (94890)1004
K(Eu+H2L)=4.32

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;

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 1990MMe (95038)1009
K(Eu+H4L=EuL+4H)=12.33
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);

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

```
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------
Eu+++      dis oth/un 20°C 0.10M C                        1992SNb (95507)1015
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 NaClO4 25°C 0.10M U                        1976AHa (95508)1016
                                        K=0.053
K: Eu+3H2L2(org)=EuL3(HL)3(org)+3H
**************************************************************************
C16H41N3O12P4         H8L                        (6911)
N'-Octyl-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                        1987ZGa (95668)1017
                                        K(Eu+HL)=6.89
**************************************************************************
C17H13N4O3             HL                         (5927)
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
**************************************************************************
C17H14N2O2              L                      CAS 4551-69-3  (698)
4-Benzoyl-3-methyl-1-phenyl-2-pyrazolin-5-one;
--------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------
Eu+++      gl  NaNO3  20°C 0.10M U    M                   1981GCa (95880)1019
                                        B(Eu+3L+3TBP)=25.50
                                        B(Eu+3L+4TBPoxide)=32.0
**************************************************************************
C17H15N4O2              L                      CAS 97671-53-9  (5926)
1-Phenyl-3-methyl-4-(2'-methoxyphenylhydrazo)-5-pyrazolone;
--------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------
Eu+++      gl  diox/w 30°C  75%  M        K1=8.8    B2=17.12  1987ESa (96006)1020
**************************************************************************
C17H20N3O3F            HL                         (7845)
1-Ethyl-6-fluoro-7-(4-methylpyperazine-1-yl)-4-oxo-1,4-dihydroquinoline-3-carboxyli
c acid;
--------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------
Eu+++      gl  alc/w  22°C  0.1M U        K1=6.00   B2=10.75  2000TBb (96284)1021
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		1988OHa	(96418)1022
							K(Eu+HL)=2.76			

****
C17H27NO4 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			1993LLb	(96532)1023
							K(EuNO3+L)=3.31			

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		1984TPa	(96570)1024
							K(Eu+HL)=5.64			

****
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			1980BRb	(97115)1025
							K(EuA3+L=EuA3L)=2.940			
							K(EuB3+L=EuB3L)=2.720			

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-Acetylphenylhydrazone)-1-phenyl-but-1,3-dione;
C6H5.CO.C(CO.CH3):N.NH.C6H4.COCH3

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

****

C18H29NO4 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;((HOOC.CH2)2N.CH2.CH2.N(CH2.COOH).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-exitation 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-diyldimethylenediphosphonic 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.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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-dioxa-1,4,7,10,19-pentaazacycloheneicosa-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 1998ABd (100845)1060
K(GdL+OH)=6.83
Medium: 0.01 M Me4NNO3.
****
C20H43O4P HL CAS 7785-87-1 (2132)
Didecylphosphoric acid; (C10H21O)2P(O)OH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
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 1997PBa (101086)1062
K3=6.9
Medium: CH3CN
****
C22H14O9 H5L CAS 4431-00-9 (3513)
Aurintricarboxylic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ sp oth/un 25°C ? U 1967SAa (101496)1063
K(Eu+HL)=4.6(?)
****
C22H17AsN4O14S3 H6L Arsenazo M CAS 3563-69-7 (623)
2-(2-Arsonophenylazo)-7-(3-sulfophenylazo)-1,8-dihydroxynaphthalene-3,6-disulfonic
acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ sp oth/un ? ? U K1=14.50 1971SSi (101543)1064
****
C22H18N4O14As2S2 H8L Arsenazo III CAS 1668-00-4 (1148)
2,7-Bis(2'-arsonophenylazo)chromotropic acid;

```
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
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
                                      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        K1=15.4          1984HGa (101812)1067
                                      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 KNO3   25°C 0.10M C T H    K1=10.93         1990HLa (101895)1068
                                      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;
((HOOCCH2)2NCH(OC6H4NH2)2
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
Eu+++      gl  R4N.X  25°C 0.10M C        K1=10.87         1993YTa (101976)1069
*************************************************************************
C22H28O13S2           H2L    DSDB21C7         CAS 204931-02-2  (7821)
2,3:11,12-Dibenzo-1,4,7,10,13,16,19-heptaoxacycloheneicosa-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        K1=1.88          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		2001WZa (102112)	1071
							B(EuHL)=15.10			

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	2001MSa (102246)	1072
							B3=19.8			

Medium: acetonitrile, 0.10 M Et4NClO4

****

C22H37N5O14 H7L CAS 3234-59-1 (2425)

Tetraethylenepentaminеheptaethanoic 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.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Eu+++	gl	KNO3	30°C	0.10M	U		K1=20.70	1976GAa (102323)	1074
Eu+++	gl	KNO3	25°C	0.10M	U		K1=20.72	1968MIc (102324)	1075
							K(Eu+HL)=14.51		
							B(EuH-1L)=5.23		

****

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	1995BIa (102355)	1076
							K(EuL+H)=3.95		

Also data for 80 C.

****

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

Chromazurol 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-Acetylphenylhydrazone)-1,3-diphenyl-prop-1,3-dione;
C6H5.CO.C(CO.C6H5):N.NH.C6H4.COCH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
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'-Diantipyrylmethane,
4,4'-phenylmethylene-bis-(1,2-dihydro-1,5-dimethyl-2-phenylpyrazol-3-one

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
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-octaoxacyclotetracosa-2,14-diene-4',4"-disul
fonic 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	2001MSa	(103315)1082
							B3=19.7			

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			1993INa	(106421)1099
							B(Eu+3P+2L)=9.00		

By solvent extraction into dichloromethane. B is the extraction constant
Eu(aq)+picrate(aq)+L(org)=EuL2P3(org).
****
C36H60O30 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                         1980NAb (106593)1102
                                       K(Eu+H3L)=4.25
                                       K(Eu+H2L)=6.58
                                       K(EuH2L+H)=4.81
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'-car
boxypropyl]cyc
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
Eu+++      sp  NaCl   22°C 0.10M C                         2001LPc (106636)1103
                                       K(EuL+H)=5.75
                                       K(EuHL+H)=3.62
*************************************************************************
C39H75NO2P2             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-O(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        1997ACa (107296)1105
                                       B(EuHL)=31.10
                                       B(Eu2HL2)=54.88
                                       B(Eu2H3L2)=76.24
                                       B(Eu2H4L2)=83.30
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        1997ACa (107401)1106
                                       B(EuHL)=19.15
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
---
Eu+++ sp alc/w 25°C 50% C B2=13.2 2004SCa (107532)1107
B3=20.1
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
---
Eu+++ sp non-aq 25°C 100% C K1=4.5 1991ACc (107693)1108
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)are
ne;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ cal non-aq 25°C 100% U H K1=4.82 2001NJa (107702)1109
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)oxymethy
l]crown-4;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Eu+++ sp alc/w 22°C 95% C K1=3.68 2000FSa (107757)1110
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
---
Eu+++ cal non-aq 25°C 100% U H K1=5.21 2001NJa (107879)1111
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
---

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
							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	NaClO4	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
							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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