

SC-Database

Software version = 5.81 Data version = 4.62
 Experiment list contains 1561 experiments for
 (no ligands specified)
 Metal : La+++
 (no references specified)
 (no experimental details specified)

 e- HL Electron (442)
 Electron;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	oth	none	25°C	0.0	U			1974JOb (625)	1	
K(La+3e=La(s))=-119.7(-2.36V)										
K(La+e=La(II))=-64(-3.8V)										

Method: Literature evaluated data

La+++	oth	none	25°C	0.0	U			1952LAb (626)	2	
K(La+3e)=-127.9(-2520 V)										
Method:combination of thermodynamic data. Ce: -125.9(-2480 mV), Pr: -124.8 (-2470 mV), Gd: -121.5(-2400 mV), Dy: -119.3(-2350 mV), Lu: -114.3(-2250 mV)										

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	sol	none	25°C	0.0	C			1992FIa (1149)	3	
Kso(LaAsO4)=-21.45										

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
La+++	cal	non-aq	25°C	100%	U	H		K1=2.22 B2=3.90	1982AVa (2082)	4
Medium: N,N-dimethylacetamide. DH(K1)=32.6 kJ mol ⁻¹ , DH(K2)=45.6 kJ mol ⁻¹										

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	NaClO4	25°C	0.70M	C			K1=5.17	2004LBb (3252)	5
K(La+HCO3=LaHCO3)=1.29										

Medium: 0.70 m NaClO4. Calculated for I=0, K1=6.73, B2=11.30,
 K(La+HCO3=LaHCO3)=2.34, K(La+HL=LaL+H)=-3.60, K(La+2HL=LaL2+2H)=-9.36

 La+++ dis NaClO4 25°C 0.70M C I K1=5.00 B2= 8.78 1998LBb (3253) 6
 Method: H2O/tributylphosphate distribution and ICP-mass spectrometry.
 Values calculated for I=0.0 M, K1=6.98, B2=11.86.

La+++ dis NaClO4 25°C 0.68M C K1=5.31 B2= 9.12 1987CBc (3254) 7
 Method: distribution between 0.68 m NaClO4/NaHCO3 and tributyl
 phosphate. Conditional constants in terms of total carbonate, [CO3]tot.

La+++ sol none 25°C 0.0 C 1986FMa (3255) 8
 Kso(La2(CO3)3)=-29.91

La+++ sol none 25°C 0.0 C 1986HMa (3256) 9
 Kso(La2(CO3)3)=-29.91

Method: spectrophotometry.

La+++ gl oth/un 25°C 1.00M C 1983FSb (3257) 10
 K(La2L3(s)+6H=2La+3CO2(g)+3H2O)=22.65; In 1 M La(ClO4)3 medium

La+++ gl NaClO4 25°C 3.0M C K1=5.67 1981CFa (3258) 11
 B(La2L)=6.92
 K(La+HL)=1.40

La+++ dis oth/un 20°C 2.5M C B4=13.24 1979DBb (3259) 12

Media: 2.5 M (NH4)2NO3/hexane. Analysis by NAA. By competition with edta;
 K1(La(edta))=15.60 recalculated for I=2.5 from J.Am.Chem.Soc.,75 1953,4196

La+++ sol oth/un 25°C 0.0 U 1966JHa (3260) 13
 Kso(La2L3)=-33.4

 C6N6Co--- H3L Cyanocobaltate (5470)
 Hexacyanocobaltate; [Co(CN)6]---

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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La+++	con	non-aq	25°C	100%	U		K1=2.39	1965JTb (3497)	14
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Medium: H2NCHO

La+++	con	oth/un	25°C	0.0	U I		K1=3.74	1963DKb (3498)	15
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In dioxan/H2O: K1=4.09(10% dioxan), 4.60(20%)

La+++	con	none	25°C	0.0	U		K1=3.67	1962AYa (3499)	16
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Method: high-field conductivity

La+++	con	diox/w	25°C	10%	U I		K1=3.72	1960ATb (3500)	17
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Medium: 10% dioxan/H2O; K1=3.42(0%),4.12(20%). At I=0 K1=3.77(0%),4.12(10%)

La+++	con	none	25°C	0.0	U T H		K1=3.76	1950JMc (3501)	18
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DH(K1)=5.6 kJ mol⁻¹, DS=90.8 J K⁻¹ mol⁻¹. K1=3.74(18 C)

La+++ con none 25°C 0.0 U T H K1=3.74 1947JAa (3502) 19
DH(K1)=8.4 kJ mol⁻¹, DS=100.8 J K⁻¹ mol⁻¹. K1=3.71(18 C)

C6N6Fe---- H4L (2191)

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

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

La+++ con alc/w 50°C 10% U TI 1973BMg (3582) 20

K(KLaL(s)=K+La+L)=-9.40

60 C: Ks=-9.45. 0% EtOH, 50 C: Ks=-8.7; 70 C, -8.8. 20% EtOH: 50 C,
-9.85; 60 C: -10.25. 25% EtOH, 50 C: -10.10; 60 C: -10.60

La+++ sp none 25°C 0.0 U K1=5.06 1958PWa (3583) 21

C6N6Fe--- H3L Ferricyanide (2491)

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

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

La+++ cal none 25°C 0.00 M H K1=3.70 1972SCd (3664) 22

DH(K1)=3.6 kJ mol⁻¹, DS=82.8 J K⁻¹ mol⁻¹

La+++ con diox/w 25°C 20% U I K1=3.68 1970JOa (3665) 23

Medium:Dioxan/H2NCHO. K1=2.40(0% dioxan), 4.14(30%), 4.78(40%), 5.56(50 %),
6.20(60%). In acetone/H2NCHO: K1=2.70(10% acetone), 3.39(30%), 4.42(50%)

La+++ con non-aq 25°C 100% U K1=2.40 1965JTb (3666) 24

Medium: H2NCHO

La+++ con oth/un 25°C 0.0 U K1=3.80 1964HPc (3667) 25

K1=3.58(2000 atm.), 3.62(1495 atm), 3.68(985 atm), 3.74(480 atm)
DV1=8 ml(1 atm), 4.6 ml(2000 atm)

La+++ con oth/un 25°C 0.0 U K1=3.74 1963DKb (3668) 26

La+++ oth none 25°C 0.0 U K1=3.66 1961PFb (3669) 27

method:high-field conductivity

La+++ con none 25°C 0.0 U K1=3.43 1953BPb (3670) 28

Method: high-field conductivity

La+++ con none 25°C 0.0 U K1=3.74 1951DJa (3671) 29

also for H2O-glycine

La+++ con none 25°C 0.0 U K1=3.73 1951WYa (3672) 30

La+++ con none 18°C 0.0 U T H K1=3.70 1948DJa (3673) 31

DH(K1)=8.5 kJ mol⁻¹, DS=100.0 J K⁻¹ mol⁻¹(25 C). K1=3.74(25 C), 3.76(30 C)

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	dis	NaCl	25°C	1.0M	C			K1=-0.70	1997HTb (5147)	32
Method: by solvent extraction from 1.0 M NaCl into CHCl ₃ , 0.1 M 1,1,1-trifluoro-4-(2-thienyl)-2,4-pentanedione.										
La+++	nmr	none	27°C	0.0	U			K1=-0.82	1992CDb (5148)	33
La+++	cal	non-aq	25°C	100%	U	H		K1=3.04 B2=5.19 K3=0.43	1991ITa (5149)	34
Medium: DMF, 0.2 M Et ₄ NClO ₄ . DH(K1)=21.2 kJ mol ⁻¹ , DH(K2)=12.1, DS(K1)=129, DS(K2)=82, DS(K3)=249 J K ⁻¹ mol ⁻¹										
La+++	sol	NaClO ₄	25°C	?	U			K1=0.48	1982MAa (5150)	35
La+++	cal	non-aq	25°C	100%	U			K1=2.33 B2=4.12	1980VCa (5151)	36
Medium: dimethylacetamide										
La+++	vlt	non-aq	290°C	100%	U			K1=1.95 B2=3.59	1973SSc (5152)	37
Medium: fused 1:1 (Na,K)NO ₃										
La+++	EMF	non-aq	25°C	100%	U			B3=5.62	1971DTb (5153)	38
Medium: SeOCl ₂ , 0.5 M Et ₄ NClO ₄										
La+++	sol	none	25°C	0.0	U			Kso=-15.51(fresh);-16.76(aged)	1970MSi (5154)	39
Kso: La(OH) ₂ Cl(s)=La+2OH+Cl										
La+++	ISE	NaClO ₄	25°C	1.0M	U			K1=0.20	1965GSb (5155)	40
La+++	cal	oth/un	25°C	0.0	U	H			1964LAd (5156)	41
DH(K1)=5.02 kJ mol ⁻¹										
La+++	dis	NaClO ₄	25°C	4.0M	U			K1=-0.22 B2=-0.64	1964SEa (5157)	42
La+++	EMF	NaClO ₄	25°C	2.0M	U			K1=-0.39 B(LaCl(CH ₃ CO ₂))=0.79	1963FDa (5158)	43
yethod:quinhydrone electrode										
La+++	dis	NaClO ₄	22°C	1.0M	U			K1=-0.5	1962PMb (5159)	44
Similar values for other lanthanides										
La+++	sol	NaClO ₄	25°C	0.50M	U			K1=-0.46	1962SOa (5160)	45

La+++ sol none 25°C 0.0 U 1960ASd (5161) 46
 Kso(La(OH)2Cl)=-15.0
 Kso(La(OH))2.5Cl0.5)=-18.4

 La+++ sp NaClO4 25°C 1.0M U T H K1=-0.12 1951MAa (5162) 47
 K1=-0.11 (19 C), -0.05 (40 C). DH(K1)=5.9 kJ mol-1, DS=17 J K-1 mol-1

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

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

 La+++ sp NaClO4 25°C 1.0M U K1=-0.2 1951MAa (6045) 48

 ClO4- HL Perchlorate CAS 7001-90-3 (287)
 Perchlorate;

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

 La+++ nmr none 27°C 0.0 U K1=-1.52 1992CDb (6288) 49

 La+++ dis NaClO4 ? var U 1964GOa (6289) 50
 Kd(La+3L=LaL3(in TBP))=0.42
 Kd'(La+H+4L=HLaL4(in TBP))=1.57

Data also for other 4f elements. Kd=0.09(Ce), 0.01(Pr), 0.39(Nd)
 Kd'=1.36(Ce), 1.37(Pr), 1.72(Nd)

 CrO4-- H2L Chromate CAS 7738-94-5 (2382)

Chromate;

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

 La+++ con oth/un 25°C 0.0 U K1=3.92 1966ERa (6495) 51

K2(B2?)=3.29

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

Fluoride;

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

 La+++ ix oth/un 25°C 0.02M C T H K1=3.11 B2= 5.16 2004LMa (6978) 52
 Medium: 0.025 M HNO3. Applying Pitzer parameters: at I=0, K1=8.31.
 Data for 5 to 45 C. DH(K1)=10.3 kJ mol-1, DH(B2)=21.4.

 La+++ ISE NaClO4 25°C 0.0 C I K1=3.62 2000LBA (6979) 53
 Method: Fluoride ISE. Values calc. from data for I=0.015-0.70 M NaClO4.
 At I=0.70 M, K1=2.695

 La+++ ix KNO3 25°C 0.02M C K1=3.06 B2= 5.03 1999SBc (6980) 54
 Medium: 0.025 M HNO3. Additional method: ICP-MS.

Assumed $K_1(\text{HF}) = 3.03$, derived from literature values.

 La+++ ISE none 25°C 0.0 C H K1=2.66 B2=7.13 1989MJa (6981) 55
 Kso=-15.3

Also by conductivity and radiometry. $\text{DH}(K_{\text{so}})=59.7 \text{ kJ mol}^{-1}$; $\text{DS}=-92.4$.

 La+++ ISE R4N.X 25°C 0.50M C K1=2.65 B2=7.13 1989MJb (6982) 56

La+++ cal NaClO4 25°C 1.00M C H 1988GBa (6983) 57
 $\text{DH}(K_1)=12.1 \text{ kJ mol}^{-1}$; $\text{DS}(K_1)=91.7 \text{ J mol}^{-1} \text{ K}^{-1}$

 La+++ gl KCl 25°C 1.00M U M 1981KTb (6984) 58
 $K(\text{LaEDTA}+\text{F})=1.25$
 $K(\text{La}(\text{EDTA})\text{F}+\text{F})=0.60$

 La+++ gl NaCl 25°C 1.00M U K1=2.68 1979BHa (6985) 59

La+++ ISE none 25°C 0.0 U T 1974PHa (6986) 60
 $\text{Kso}(\text{LaF}_3(\text{s}))=-17.95$

$\text{Kso}=-17.65(20 \text{ C})$

 La+++ oth NaClO4 25°C 0.10M U K1=2.75 1973MSg (6987) 61
 method:electromigration or transference number

 La+++ dis NaClO4 25°C 0.50M U K1=2.69 B2=5.18 1970ALb (6988) 62
 B3=7.8

 La+++ dis NaClO4 25°C 0.50M C K1=2.69 B2=5.18 1970ALc (6989) 63
 B3=7.78

Method: extraction of 140La from 0.50 M NaClO_4 medium into toluene/
 di-(2-ethylhexyl)phosphoric acid. Medium pH 3.6.

 La+++ sol KNO3 25°C 1.0M U K1=5.15 1970EJa (6990) 64
 $\text{Kso}(\text{LaF}_3(\text{s}))=-17.66$

 La+++ ISE NaNO3 25°C 1.0M U T K1=5.1 1969AJa (6991) 65
 $\text{Kso}(\text{LaF}_3(\text{s}))=-17.09$

 La+++ oth KNO3 25°C 0.10M U 1969CFa (6992) 66
 $\text{Kso}(\text{LaF}_3(\text{s}))=-17.6$

Medium: acetate buffer. Unreliable value?

 La+++ EMF none 25°C 0.0 U 1968LIa (6993) 67
 $\text{Kso}(\text{LaF}_3(\text{s}))=-18.5$

 La+++ ISE oth/un 25°C 0.03M U 1968LIa (6994) 68
 $\text{Kso}(\text{LaF}_3(\text{s}))=-17.9$

 La+++ EMF NaClO4 25°C 1.0M U H K1=2.67 1967WCa (6995) 69
 By calorimetry: $\text{DH}(K_1)=16.8 \text{ J K}^{-1} \text{ mol}^{-1}$, $\text{DS}=107.0 \text{ J K}^{-1} \text{ mol}^{-1}$

La+++ EMF NaClO4 25°C 0.50M U I K1=2.68 1957KHa (6996) 70
K(La+HF=LaF+H)=-0.23

At I=0 corr K1=3.56

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

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

La+++ sol oth/un 25°C 0.0 U 1966FPb (8532) 71
Kso=-10.92

La+++ sol none 25°C 0.0 U 1929MGa (8533) 72
Kso(LaL3)=-11.21

La+++ sol none 25°C 0.0 U 1923B0a (8534) 73
Kso(LaL3.H2O)2=-9.23

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

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

La+++ sol oth/un 25°C dil U 1974L0a (8607) 74
Kso(La(H2IO6)(H2O)3)=-8.52

Mo04-- H2L Molybdate (443)
Molybdate;

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

La+++ sp oth/un 25°C ? U M 1997STa (8738) 75
K(La+H2L=LaL+2H)=-1.0

Ligand: nano-Molibdenomanganate, MnMo9032-----

La+++ con oth/un 25°C .001M U K1=4.22 1968DKc (8739) 76
By solubility: Kso(La2L3)=-20.66, K1=3.68

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

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

La+++ gl oth/un 20°C 0.10M U 1989SBb (8776) 77
B(LaHL)=9.64

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	gl	R4N.X	25°C	5.00M	U		K1=0.2	1985MMa (9174)	78

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	cal	NaClO4	25°C	2.0M	C	IH	K1=-0.12	1998BMb (9739)	79
DH(K1)=2.1 kJ mol ⁻¹ . From Pitzer extrapolation to I=0.0, K1=0.71, DH(K1)=0.1 kJ mol ⁻¹									
La+++	nmr	none	27°C	0.0	U		K1=-0.35	1992CDb (9740)	80
La+++	dis	none	25°C	0.0	U		K1=1.61	1992MSb (9741)	81
La+++	dis	R4N.X	25°C	0.0	C		K1=1.61	1988MSg (9742)	82
Extraction into tributylphosphate from 0.1-2.74 M NH4NO3 medium.									

La+++	cal	non-aq	25°C	100%	U	H	K1=1.23 B2=2.43	1982AVa (9743)	83
Medium: N,N-dimethylacetamide. DH(K1)=48.2 kJ mol ⁻¹ , DH(K2)=23.1 kJ mol ⁻¹									
La+++	gl	NaClO4	35°C	8.10M	U		B2=-0.22 B4=-2.04	1977EKb (9744)	84

La+++	ix	NaClO4	?	3.26M	U		K1=0.25 B2=0.43	1962KSa (9745)	85
La+++	sp	NaClO4	25°C	1.0M	U	TH	K1=-0.26	1951MAa (9746)	86
K1=-0.32(19 C), -0.23(40 C). DH(K1)=7.1 kJ mol ⁻¹ , DS=21 J K ⁻¹ mol ⁻¹									

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	sp	NaClO4	25°C	1.0M	C		K1=0.62	1982GAb (10239)	87
Method: competition with Co(II).									
La+++	EMF	NaClO4	25°C	3.0M	U		K1=0.64	1973MPa (10240)	88

OH-Hydroxide;			HL	Hydroxide			(57)		

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	gl	NaCl	25°C	1.0M	C			2003RSa (11660)	89
							*K1=-8.87		
							*Kso(La(OH)3)=21.15		

*Kso by radiometric titration using 140La.

Method: OH interference on F ion selective electrode.

La+++ gl NaClO4 25°C 3.00M U 1982BBc (11672) 101
*K1=-10.36
*B(2,2)=-17.74

La+++ gl NaClO4 25°C 3.00M U 1973AKa (11673) 102
*K1=-10.4

Medium: LiClO4

La+++ gl NaClO4 25°C 3.00M U 1973AKb (11674) 103
*K1=-10.35

Medium: D2O containing LiClO4. *K1: La+D2O=LaOD+D

La+++ EMF alc/w 20°C 25% U 1973SPe (11675) 104
*K1(LaA+H2O=LaAOH+H)=-8.46

Medium: ca.25 to 35% w/w MeOH or EtOH/H2O. H3A=NTA

La+++ EMF alc/w 25°C 25% U I 1972USa (11676) 105
*K1=-8.70

Medium: 25% v/v EtOH/H2O, 0.05 M NaClO4. *K1=-9.06(v=0), -8.17(v=50);
*K1=-8.73(v=0, I=0)

La+++ dis NaClO4 ? 0.10M U 1971GDb (11677) 106
*K1=-7.4

Medium: LiClO4

La+++ sol none 25°C 0.00 U 1970MSi (11678) 107
Kso(La(OH)3(s)=La+3OH)=-22.76

Kso=-22.76(aged)

La+++ oth oth/un rt 10% U 1967PBb (11679) 108
Kso=-27.7
K(LaL3(s)=LaL3)=-5.3
B3=22.4

Medium: 10% sea water. Method: Tyndall scattering

La+++ gl NaClO4 25°C 0.30M U 1966FKa (11680) 109
*K1=-9.06

La+++ oth oth/un 20°C dil U 1966OPa (11681) 110
Kso=-20.1

Method: Tyndall scattering

La+++ sol NaNO3 ? 0.38M U 1965ZSa (11682) 111
Kso=-19.19

La+++ sol none 20°C 0.0 U 1964KBa (11683) 112
Kso=-27.71

La+++	gl	NaClO4	25°C	3.0M	U		1964LDA (11684)	113
						*B(2,1)=-9.98 *B(5,9)=-71.43 *K1=-10.12		
Medium: 3 M LiClO4								
La+++	EMF	none	25°C	0.0	M		1962AEa (11685)	114
						Kso=-21.5		
Method: H electrode								
La+++	gl	oth/un	25°C	3.0M	U		1961BCb (11686)	115
						*K1=-10.1 *B(2,1)=-9.95		
Medium: LiClO4. *B(5,9)=-71.45 or *B(6,10)=-78.75								
La+++	gl	none	25°C	0.0	U		1960ASd (11687)	116
						Kso(La(OH)3)=-21.7		
La+++	EMF	oth/un	25°C	dil	C		1959SEb (11688)	117
						*Kso=20.46		
*Kso(La(OH)3(s)+3H=La+3H2O). Method: H electrode								
La+++	cal	oth/un	?	0.10M	U	H	1959WAa (11689)	118
Medium:HCl; *Kso: (La(OH)3(s)+3H=La+3H2O); DH(*Kso)=-150 kJ mol-1								
La+++	sol	oth/un	?	var	U		1958STb (11690)	119
						Kso(La(OH)3)=-36		
La+++	gl	none	?	0.0	U		1957MOa (11691)	120
						Kso=-22.60		
La+++	gl	oth/un	25°C	dil	U		1955KRa (11692)	121
						*K1=-8.3		
La+++	gl	oth/un	20°C	dil	U		1953WSa (11693)	122
						*K1=-5.6		
La+++	con	oth/un	25°C	?	U		1951DAa (11694)	123
						K1=3.30		
La+++	gl	oth/un	25°C	var	U		1951MFb (11695)	124
						Kso(La(OH)3)=-18.77		
La+++	gl	oth/un	25°C	var	U		1944MKa (11696)	125
						Kso(La(OH)3)=-19.0		
La+++	gl	none	25°C	0.0	U		1938OKa (11697)	126
						Kso(La(OH)3)=-18.7		
La+++	sol	oth/un	100°C	var	U		1932ENa (11698)	127
						Kso=3.11 + y		

Kso: $K(\text{La}(\text{OH})_3(\text{s})=\text{La}+3\text{OH})$; $y=\text{Kso}$ for Y^{+++} .

 La+++ con oth/un 25°C dil U 1931KEa (11699) 128
 Kso=-20.04 (aged)

La+++ EMF oth/un 18°C var C 1927SAa (11700) 129
 Kso=-20.98(aged)
 Kso=-18.93(fresh)

Kso: $K(\text{La}(\text{OH})_3(\text{s})=\text{La}+3\text{OH})$. Method: H electrode

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

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

La+++ gl NaNO3 25°C 0.10M C 2003MYd (12668) 130
 $K(2\text{La}+3\text{H}_2\text{O}_2=\text{La}_2(\text{O}_2)_3+6\text{H})=-31.51$, $K(2\text{La}+2\text{H}_2\text{O}_2=\text{La}_2(\text{O}_2)_2(\text{OH})_2+6\text{H})=-37.11$,
 $K(2\text{La}+2\text{H}_2\text{O}_2=\text{La}_2(\text{O}_2)_3(\text{OH})(\text{OH})_2+5\text{H})=-27.7$. Also spectrophotometric values.

 La+++ gl NaClO4 30°C 0.10M U 1998KSf (12669) 131
 $K(2\text{La}+3\text{H}_2\text{O}_2=\text{La}_2(\text{O}_2)_3+6\text{H})=-30.48$

 La+++ sp NaClO4 25°C 1.0M U 1951MAa (12670) 132
 $K(\text{La}+\text{H}_2\text{O}_2=\text{LaO}_2\text{H}+\text{H})<-5.2$

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

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

La+++ sol none 25°C 0.0 M 1997LBd (13231) 133
 Kso(LaP04)=-25.75

Calculated from data for 0.10 M HClO4 solution.

 La+++ gl NaClO4 25°C 0.10M M M 1995HKc (13232) 134
 $K(\text{La}(\text{nta})+\text{HL})=9.9$
 $K(\text{La}(\text{edta})+\text{HL})=4.1$

 La+++ sol oth/un 25°C 0.0 C I 1993FKb (13233) 135
 Kso(LaP04)=-27.92

In synthetic seawater, $\text{Ks}(\text{LaP04})=-24.51$.

 La+++ sol none 25°C 0.0 C 1991FBa (13234) 136
 Kso(LaP04)=-26.15

 La+++ sol NaClO4 25°C 0.0 C 1985JBa (13235) 137
 Kso(LaP04.xH2O)=-24.5

Disolution of LaP04.xH2O in 0.02-0.004 M HNO3. Calculated for I=0 M.

 La+++ dis R4N.X 25°C 0.50M U 1970RSd (13236) 138

K(La+H2L)=1.61

Medium: NH4ClO4

La+++ sol NaClO4 25°C 0.50M U 1963TVa (13237) 139

Kso(LaL)=-22.43

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

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

La+++ gl NaClO4 25°C 0.10M M M 1995HKc (13610) 140

K(La(nta)+HL)=5.9

K(La(edta)+L)=4.2

La+++ gl KCl 25°C 0.50M U 1989APd (13611) 141

K(La+H2L)=3.79

La+++ gl R4N.X 25°C 0.10M U K1=4.66 1968MHb (13612) 142

K(LaL+H)=5.56

K(La+HL)=0.85

Medium: Me4NCl

La+++ kin oth/un 25°C 0.0 U B2=19.53 1967SSo (13613) 143

La+++ sol oth/un 25°C 0.0 U H K1=16.72 B2=18.57 1966SSF (13614) 144

B(La2L)=19.64

K(La4L3(s)=La+3LaL)=-17.36

Medium: 0 corr. DH(Ks)=66.0 kJ mol-1

P2W17O61----- Polytungstate (2102)

alpha-Heterodiphospho-polytungstate (usually alpha1 isomer)

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

La+++ sp NaClO4 25°C 1.0M C K1=5.70 2003VCa (13721) 145

Method: laser-induced fluorescence spectroscopy for Eu+++ as competing ion

La+++ cal NaClO4 25°C 1.0M C H 2002VCa (13722) 146

DH(K1)=-13.20 kJ mol-1, DS(K1)=64.9 J K-1 mol-1.

La+++ cal NaClO4 25°C 1.0M C H K1=3.13 2002VCa (13723) 147

By entropy titration: DH(K1)=-0.99 kJ mol-1, DS(K1)=61.79 J K-1 mol-1.

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

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

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

La+++ gl NaClO4 25°C 0.10M M M 1995HKc (13873) 148

K(La(nta)+HL)=7.1
K(La(edta)+L)=3.4

La+++ gl KNO3 25°C 0.10M U T H B2=8.0 1974KRa (13874) 149
K(La+2HL)=6.1
K(La+2HL)=6.4 and B2=8.3 (35 C), K(La+2HL)=5.9 and B2=7.9 (45 C)
DH(La+2HL)=-20 kJ mol⁻¹; DH(B2)=-11

La+++ gl R4N.X 25°C 0.10M U K1=6.56 1968MHb (13875) 150
K(La+HL)=2.90
K(LaL+H)=5.17
Medium: Me4NCl

La+++ gl NaClO4 30°C 0.30M U K(La+HL)=6.61 1963KUa (13876) 151

La+++ gl NaClO4 ? 0.10M U B2=15.81 1962RKa (13877) 152
K(La+HL)=4.63
K(La+2HL)=8.32

P309--- H3L CAS 13566-25-1 (235)
Cyclotrimetaphosphate;

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

La+++ cal oth/un 25°C 0.10M C H K1=3.24 1983GGb (13961) 153
Medium: 0.10 M HCl. DH(K1)=18.9 kJ mol⁻¹, DS(K1)=126 J K⁻¹ mol⁻¹.

La+++ con none 25°C 0.0 U K1=5.70 1952MOa (13962) 154

P4012---- H4L CAS 13598-74-8 (234)
Cyclotetrametaphosphate;

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

La+++ sol none 25°C 0 U K1=3.3 B2=6.6 1998BKa (14009) 155

La+++ cal oth/un 25°C 0.10M C H K1=2.65 1983GGb (14010) 156
Medium: 0.10 M HCl. DH(K1)=10.8 kJ mol⁻¹, DS(K1)=87 J K⁻¹ mol⁻¹.

La+++ con none 25°C 0.0 U K1=6.66 1952MOa (14011) 157

P4013----- H6L Tetrphosphate (1102)
Tetrphosphate;

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

La+++ gl R4N.X 25°C 0.10M U K1=6.59 1968MHb (14048) 158
K(LaL+H)=5.05
K(La+HL)=3.29

Medium: Me4NCl

S-- H2L Sulfide CAS 7783-06-4 (705)
Sulfide;

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

La+++ oth none 25°C 0 U 1988LIa (14406) 159

Kso(La2S3)=-25.8

*Kso(La2S3)=26.3

Derived from thermodynamic data and K(H+S=HS)=17.3.

La+++ oth none 25°C 0.0 U 1952GGc (14407) 160

Kso(La2L3)=-12.70

From thermodynamic data

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

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

La+++ dis oth/un 25°C 1.0M C K1=0.14 1997HTb (15124) 161

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

La+++ cal non-aq 25°C 100% U H K1=1.5 B2=2.5 1992TIa (15125) 162

K3=0.6

Medium: DMF, 0.2 M R4NX. DH(K1)=9 kJ mol-1, DH(B2)=7, DH(B3)=17

La+++ dis R4N.X 30°C 1.00M U K1=0.12 B2=0.22 1974KMa (15126) 163

Medium: NH4ClO4/NH4SCN, pH 2.8

La+++ dis NaClO4 27°C 1.0M U T K1=0.06 B2=0.05 1968RSj (15127) 164

La+++ dis NaCl ? 2.0M U 1965G0a (15128) 165

Kd(La+3L)=2.4

Extraction into TBP. Kd values also for other lanthanides

La+++ dis NaClO4 25°C 5.0M U T K1=0.24 B2=<-0.62 1964SEa (15129) 166

B3=-0.73

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

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

La+++ sol oth/un 25°C 0.66M C K1=1.94 2004SBb (16284) 167

Method: solubility of BaSO4 in 0.117 m LaCl3 solution.

Calculated for I=0, K1=3.61.

La+++ cal NaClO4 25°C 1.00M U T H K1=0.80 B2=1.00 1987SMa (16285) 168
DH(K1)=54.18 kJ mol⁻¹, DH(K2)=6.65. At 35 C: K1=1.11, K2=0.24; at 45 C:
K1=1.42, K2=0.26; at 55 C: K1=1.70, K2=0.26.

La+++ cal none 25°C 0.0 U H 1974FPc (16286) 169
DH(K1)=13.1 kJ mol⁻¹, DS=113.4 J K⁻¹ mol⁻¹. In D20: DH(K1)=13.2, DS=114.5

La+++ cal none 25°C 0.0 U H 1974POa (16287) 170
DH(K1)=18.4 kJ mol⁻¹

La+++ con oth/un 25°C 0.0 U K1=3.65 1973FPb (16288) 171
In D20: K1=3.67

La+++ kin none 25°C 0.0 U K1=3.62 1973RSb (16289) 172

La+++ dis NaClO4 25°C 0.50M U K1=1.77 B2=2.66 1970ALb (16290) 173

La+++ cal oth/un 25°C 0.0 U H 1969FPa (16291) 174
DH(K1)=14.6 kJ mol⁻¹

La+++ cal oth/un 25°C 0.0 U H K1=3.50 B2=5.35 1969IEa (16292) 175
DH(K1)=13.6 kJ mol⁻¹, DH(K2)=5.27; DS(K1)=112.5 J K⁻¹ mol⁻¹, DS(K2)=53.1

La+++ ISE NaClO4 25°C 2.0M U H K1=1.29 1967CCd (16293) 176
By calorimetry: DH(K1)=15.6 kJ mol⁻¹, DS=76.9 J K⁻¹ mol⁻¹

La+++ con oth/un 25°C 0.0 U K1=3.62 1967FDa (16294) 177
Medium: 0 corr., 1 atm. K1=3.43(500 atm), 3.27(3000 atm), 3.17(1500 atm),
3.07(2000 atm)

La+++ con oth/un 25°C 0.0 U K1=3.70 1966ERa (16295) 178

La+++ sol oth/un 160°C 0.0 U T 1966LSc (16296) 179
Kso(La2L3)=-18.2
Kso=-16.3(135 C), -17.4(150 C), m units

La+++ dis NaClO4 25°C 1.0M U K1=1.45 B2=2.46 1965SEa (16297) 180

La+++ sol oth/un 20°C 0.0 U K1=3.42 1954KOb (16298) 181

La+++ con oth/un 25°C 0.0 U K1=3.62 1954SJa (16299) 182

La+++ EMF oth/un 25°C 0.0 U T H K1=3.82 1952JMb (16300) 183
Method: H electrode. K1=3.79(20 C), 3.86(30 C), 3.88(35 C).
DH(K1)=10.5 kJ mol⁻¹, DS=109 J K⁻¹ mol⁻¹ (25 C)

La+++ sp NaClO4 25°C 1.0M U T H K1=1.40 1951MAa (16301) 184
K1=1.37(19 C), 1.48(40 C). DH(K1)=10.5 kJ mol⁻¹, DS=63 J K⁻¹ mol⁻¹(25 C)

La+++ con oth/un 25°C 0.0 U K1=3.62 1950JMa (16302) 185

La+++ sol oth/un 25°C 0.0 U K1=3.66 1930DAa (16303) 186
By conductivity K1=3.75

S203-- H2L Thiosulfate CAS 73686-28-7 (177)
Thiosulfate;

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

La+++ vlt oth/un var U K1=0.82 B2=0.6 1969SSf (16868) 187
B3=2.58

La+++ sp oth/un 25°C 0.0 U K1=2.99 1964BMb (16869) 188

La+++ dis NaClO4 25°C 1.00M U K1=0.8 1951MAa (16870) 189

La+++ con oth/un 32°C var U B(La2L3)=8.63 1950DUa (16871) 190

CH202 HL Formic acid CAS 64-18-6 (37)
Methanoic acid; H.COOH

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

La+++ gl NaClO4 25°C 1.0M C K1=1.11 B2= 1.68 1996LIa (17621) 191
B3=2.07
B4=1.93

CH40 L Methyl alcohol CAS 67-56-1 (597)
Methanol; CH3.OH

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

La+++ gl alc/w 25°C 100% M 2003GNb (17883) 192
K(2La+H-1L)=10.99
K(2La+2H-1L)=19.62
K(2La+3H-1L)=26.08
K(2La+4H-1L)=32.60

Medium: methanol. K(2La+5H-1L)=37.07. Also data in 10% methanol, 0.01 M
Bu4NClO4.

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

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

La+++ gl KCl 25°C 0.50M U 1989APd (18284) 193
K(La+H2L)=4.81

C2H203 HL Glyoxylic acid CAS 298-12-4 (1142)

Glyoxylic acid; OHC.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	NaClO4	20°C	0.10M	U			K1=2.36 B2=3.96 K3=0.8	1964PSd (18424)	194

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
La+++	ix	R4N.X	25°C	0.05M	C			K1=4.94 B2= 9.28 K(La+HL)=1.92	2001SBf (18937)	195

Medium: 0.05 M NH4NO3. At I=0, K1=5.87, B2=10.47.

La+++	gl	KCl	25°C	1.0M	U	M		K(La(edta)+L)=2.70	1988KTa (18938)	196
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La+++	gl	KNO3	35°C	0.10M	U	M		K1=6.20 B(LaL(cytidine))=9.74	1986RMb (18939)	197
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La+++	vlt	NaClO4	25°C	1.00M	U			K1=4.40 K(La+HL)=2.27	1972MGf (18940)	198
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Method : amperometry

La+++	oth	oth/un	25°C	0.10M	U			K1=4.71 B2=7.83	1971STe (18941)	199
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Method : electrical migration or transference number

La+++	dis	NaClO4	25°C	0.50M	U			K1=4.47 B2=8.00	1970ALb (18942)	200
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La+++	sol	oth/un	25°C	0.50M	U			K1=5.66	1970MKe (18943)	201
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La+++	dis	NaClO4	25°C	1.0M	U			K1=4.3 B2=7.9 B3=10.3	1964SEa (18944)	202
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La+++	dis	NaClO4	20°C	0.10M	U			Kso=-25.0	1963STc (18945)	203
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C2H4N4S HL CAS 16691-43-3 (9032)
3-Amino-5-mercapto-1,2,4-triazole;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	KNO3	25°C	0.10M	C			K1=3.39	2003AHa (19498)	204

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
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La+++ gl none 25°C dil M T H K1=2.20 B2= 4.25 1998DCa (20018) 205
Self medium, 0.01-0.07 M. Data for 40-80 C. At 40 C, K1=2.41, B2=4.36.
DH(K1)=21.05 kJ mol⁻¹, DS(K1)=112.8 J K⁻¹ mol⁻¹.

La+++ gl NaNO3 25°C 0.25M C K1=1.74 B2=3.25 1985DRd (20019) 206
B3=3.8

La+++ sp NaNO3 25°C 0.10M U K1=1.15 19850Ha (20020) 207

La+++ sp NaClO4 21°C 2.0M U K1=1.66 B2=2.30 1984BMa (20021) 208
B3=3.00
B4=3.28

La+++ EMF diox/w ? 50% U I K1=2.42 B2=3.81 1971MCb (20022) 209
Medium: 0-70% dioxan, 0.5 M NaClO4. 0%: K1=1.35. 70%: K1=3.27, B2=5.19

La+++ oth oth/un 20°C 0.20M U 1968TTb (20023) 210
B3=2.97

Method : paper electrophoresis

La+++ gl alc/w 25°C 95% U H K1=4.75 B2=8.32 1967GWa (20024) 211
B3=10.90
B4=11.76

Medium:95% MeOH,0.5 M NaClO4. By calorimetry:DH(K1)=13.7 kJ mol⁻¹, DS=136.6
JK-1 mol⁻¹; DH(K2)=10.9,DS=104.5; DH(K3)=4.5,DS=64.8; DH(K4)=1.7,DS=20.9

La+++ EMF alc/w 25°C 60% U I K1=2.59 B2=4.65 1967MCb (20025) 212
B3=6.36
B4=7.36
B6=7.95

Method:quinhydrone electrode. Medium: 60% EtOH,2 M NaClO4. At 0%:K1=1.54,
B2=2.46,B3=3.16; 20%:K1=1.94,B2=3.06,B3=3.88. 85%:B2=6.85,B3=9.23,B7=13.26

La+++ gl oth/un 25°C 0.0 U K1=2.545 B2=4.12 1964AMa (20026) 213

La+++ cal NaClO4 25°C 2.0M C H 1964GRa (20027) 214
DH(K1)=9.125 kJ mol⁻¹, DS(K1)=61.1 J K⁻¹ mol⁻¹; DH(B2)=15.84, DS(B2)=101;
DH(B3)=19.33, DS(B3)=123.

La+++ gl NaClO4 25°C 2.0M U K1=1.45 B2=2.25 1962BCa (20028) 215
K3=0.3

La+++ gl NaClO4 20°C 0.10M U K1=2.02 B2=3.26 1962KPa (20029) 216

La+++ EMF NaClO4 20°C 2.0M U K1=1.56 B2=2.48 1958S0b (20030) 217
B3=2.98
B4=2.95

Method: quinhydrone electrode

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
La+++	gl	NaClO4	25°C	0.20M	U			K1=6.00 B2=11.21	1996PJa (20334)	218
La+++	gl	NaClO4	25°C	0.20M	U	M		K1=3.40 K(La(EDTA)+L)=3.32	1986LSb (20335)	219
La+++	gl	KNO3	30°C	0.10M	U	M		K(La(CDTA)+L)=2.59	1980RTa (20336)	220
La+++	gl	oth/un	25°C	.065M	U	TIH		K1=3.65 B2=6.85	1975GSa (20337)	221
At 35 C: K1=4.40, K2=3.24; 45 C: 4.67, 3.75. At 35 C, I=0.15: 4.57, 3.66; At 35 C, I=0.25: K1=4.83, K2=3.88										
La+++	cal	NaClO4	25°C	2.0M	C	H			1964GRa (20338)	222
DH(K1)=6.21 kJ mol ⁻¹ , DS(K1)=48.1 J K ⁻¹ mol ⁻¹ ; DH(B2)=16.3, DS(B2)=95.0.										
La+++	gl	NaClO4	20°C	0.10M	U			K(La+HL)=1.98 K(LaHL+HL)=1.00	1964PKa (20339)	223
La+++	gl	NaClO4	25°C	2.0M	U			K(La+HL)=1.42 K(LaHL+HL)=0.7	1962BCa (20340)	224
La+++	gl	KCl	30°C	0.10M	U			K(La+HL)=2.27 K(LaHL+HL)=2.35	1962CTa (20341)	225

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
La+++	gl	NaClO4	25°C	0.20M	U			K1=5.54 B2=10.26	1996PJa (20569)	226
La+++	EMF	NaClO4	25°C	1.00M	U	M		K1=2.13 B2=4.09 B(LaLA)=4.45	1991WPb (20570)	227
H2A=maleic acid										
La+++	gl	NaClO4	25°C	0.20M	U	M		K1=3.60 K(La(EDTA)+L)=3.28	1986LSb (20571)	228
La+++	gl	NaClO4	25°C	2.00M	C	T		K1=2.14 B2=3.79 B3=4.90 B4=5.92	1985AMa (20572)	229

La+++	gl	NaClO4	25°C	0.20M	U	M	K1=3.59		1985LSf (20573)	230
K(La(edta)+L)=3.34										
La+++	gl	KNO3	32°C	0.10M	U				1980PPf (20574)	231
K(La+HL=LaL+H)=-1.58										
*K(LaL)=-6.64										
K(La+2HL=LaL2+2H)=-2.56										
*K(LaL2)=-6.26										
La+++	gl	NaClO4	25°C	0.50M	C	T	K1=2.27	B2=3.86	1977CMa (20575)	232
B3=5.17										
La+++	cal	NaClO4	25°C	2.0M	C	H			1964GRa (20576)	233
DH(K1)=-2.65 kJ mol ⁻¹ , DS(K1)=33 J K ⁻¹ mol ⁻¹ ; DH(B2)=-4.414, DS(B2)=56.9;										
DH(B3)=-7.029, DS(B3)=68.2; DH(B4)=-9.16, DS(B4)=66.1.										
La+++	gl	NaClO4	20°C	0.10M	U		K1=2.55	B2=4.24	1964PKb (20577)	234
B3=5.0										
La+++	gl	KCl	30°C	0.10M	U		K1=2.86	B2=5.28	1962CTa (20578)	235
La+++	EMF	NaClO4	20°C	2.0M	U		K1=2.19	B2=3.76	1959SOb (20579)	236
B3=4.81										
B4=5.1										
B5=4.8										

Method: quinhydrone electrode

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
La+++	gl	NaClO4	25°C	0.20M	U			K1=4.09 B2= 7.58	1996PJa (21592)	237
La+++	gl	KNO3	25°C	0.20M	U	M		K1=5.99	1990LSb (21593)	238
K(La(phen)+L)=5.75										
La+++	gl	NaClO4	25°C	0.20M	U			K1=4.09 B2= 7.58	1987PPa (21594)	239
La+++	gl	KNO3	35°C	0.10M	U				1987RRc (21595)	240
K(La+HL)=3.23										
La+++	gl	NaClO4	25°C	0.20M	U	M		K1=5.32	1986LSb (21596)	241
K(La(EDTA)+L)=4.09										
La+++	gl	KNO3	35°C	0.10M	U	M			1986Rmb (21597)	242
K(La+HL)=3.23										
K(La+HL+cytidine)=8.27										
La+++	gl	NaClO4	25°C	0.20M	U	M		K1=5.32	1985LSe (21598)	243

K(La(edta)+L)=4.09.

La+++ gl alc/w 20°C 60% U I T K1=3.54 1980SKc (21599) 244
In 0.1 M NaCl: K1=4.01

La+++ EMF KCl 25°C 1.0M U M 1977GMa (21600) 245
K(LaA+L)=3.11
K(LaA+HL)=2.93
K(LaA+H2L)=3.40

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

La+++ gl NaClO4 30°C 0.2M U T K1=3.85 1977MSf (21601) 246

La+++ gl KCl 30°C 0.10M U T K1=3.23 B2=6.15 1962CTa (21602) 247

C2H6OS HL CAS 60-24-2 (841)
2-Mercaptoethanol; HS.CH2.CH2.OH

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

La+++ gl NaClO4 25°C 0.10M U T K1=5.02 1981SKb (22071) 248
Temp range 15-35. K1 at 15 = 5.47; K1 at 45 = 4.71

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

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

La+++ sp non-aq 25°C 100% U 1992MBb (22104) 249
K8=2.2
K9=1.0
K10=0.9

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

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

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

La+++ gl NaClO4 22°C 0.10M U 1972Mcd (22149) 250
K(LaH-1L+H)=8.50

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

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

La+++ gl KCl 25°C 0.15M U I 1989AMa (22172) 251
K(La+H2L)=4.37

C2H7O4P HL CAS 813-78-5 (1754)
Dimethylphosphoric acid; (CH3O)2P(O)OH

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

La+++ kin none 25°C 0.00 U K1=0.73 1966SSb (22575) 252

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

La+++ ISE non-aq 25°C 100% C H K1=1.48 B2=2.77 1992CBa (23183) 253
B3=3.31

Medium: DMSO, 0.10 M Et4NClO4. By calorimetry, DH(K1)=-23, DH(B2)=-51,
DH(B3)=-75 kJ mol-1.

La+++ gl KNO3 25°C 0.10M U TIH K1=4.88 B2=9.07 1986NSa (23184) 254
B(LaAL)=8.28

H2A=phthalic acid. DH(LaAL)=-35.8 kJ mol-1, DS=38.5 J K-1 mol-1

La+++ cal non-aq 23°C 100% U K1=9.5 B2=17.00 1969FMa (23185) 255
K3=6.2
K4=3.3

Medium: CH3CN

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

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

La+++ sp oth/un 25°C 0.70M U K(La+H2L)=5.31 1987APa (23380) 256

C2H9NO6P2 H4L IDPA CAS 32545-63-4 (1335)
Imino-N,N-bis(methylenephosphonic acid); HN(CH2PO3H2)2

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

La+++ gl KNO3 25°C 0.1M C K1=10.79 B(LaHL)=18.43 1985MMa (23455) 257

C3H2O2 HL Propynoic acid CAS 471-25-0 (162)
Propiolic acid; HCC.COOH

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

La+++ gl NaClO4 25°C 1.00M C H K1=1.31 B2=2.19 1996HBa (23487) 258
B3=3.1

DH(K1)= 2.7 kJ mol⁻¹, DS=34 J K⁻¹ mol⁻¹

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

La+++ gl NaClO4 25°C 0.10M C H K1=1.95 B2=3.61 1996HBa (23990) 259
B3=5.2

DH(K1)=7.0 kJ mol⁻¹, DS=61 J K⁻¹ mol⁻¹

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

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

La+++ nmr NaClO4 25°C 2.00M U H K1=1.0 1980CCa (24057) 260

DH=-3.72 kJ mol⁻¹. Alternative method: Calorimetry.

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

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

La+++ gl NaClO4 25°C 1.00M U K1=3.045 B2=5.133 1987MOa (24476) 261
B(LaHL)=6.48

La+++ gl NaClO4 25°C 0.20M U M K1=3.80 1986LSb (24477) 262
K(La(EDTA)+L)=2.96

La+++ gl NaClO4 25°C 1.00M C K1=2.89 B2=4.51 1985AMa (24478) 263
B3=5.70

La+++ gl NaNO3 25°C 0.25M C K1=3.82 B2=6.13 1985DRd (24479) 264
B(LaHL)=7.08

La+++ gl NaClO4 25°C 0.20M U M K1=3.84 1985LSf (24480) 265
K(La(edta)+L)=3.01

La+++ gl NaClO4 25°C 0.20M U M K1=3.80 1984LSd (24481) 266
K(La(edta)+L)=2.96

La+++ gl NaClO4 25°C 0.10M U K1=4.01 1972DCc (24482) 267

La+++ gl NaClO4 25°C 1.00M U K1=3.07 B2=5.14 1971DGA (24483) 268
B(LaHL)=6.31
B(LaHL2)=9.18

La+++ ix NaClO4 25°C 0.15M U 1968KKc (24484) 269
K(La+HL)=1.34

K(LaHL+HL)=0.85

La+++ gl KNO3 25°C 0.10M U K1=3.69 B2=5.90 1968PFa (24485) 270

La+++ gl oth/un 25°C ->0 U T H K1=5.00 1956GNb (24486) 271
K1=4.15(35 C). DH(K1)=-20 kJ mol⁻¹

La+++ gl oth/un 25°C ->0 U K1=4.89 1951PJb (24487) 272

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

La+++ gl KCl 25°C 0.20M U K1=3.25 1973LPb (24628) 273

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

La+++ gl diox/w 20°C 50% U K1=4.73 1971MAf (24645) 274
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

La+++ gl diox/w 20°C 50% U K1=6.07 B2=11.25 1971MAf (24807) 275
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

La+++ gl NaClO4 25°C 1.0M C K1=1.62 B2= 2.48 1996LIa (25015) 276
B3=3.08
B4=3.40

La+++ EMF diox/w 25°C 50% U I K1=2.50 B2=4.32 1971MCC (25016) 277
B3=4.80
Medium:0.5NaClO4. 0%: K1=1.24, B2=2.10; 20%: K1=1.78, B2=2.92; 60%: K1=2.95,
B2=5.04, B3=5.81; 70%: B2=5.90, B3=6.65

La+++ gl NaClO4 25°C 2.0M U K1=1.53 B2=2.42 1965CGa (25017) 278

La+++ gl NaClO4 20°C 0.10M U K1=1.89 B2=3.07 1964PKa (25018) 279

K(La(edta)+L)=3.40

La+++ gl KNO3 30°C 0.10M U 1983MPc (25470) 291
K(La+HL=LaL+H)=-0.88
*K(LaL)=-5.36
K(La+2HL=LaL2+2H)=-1.71
*K(LaL2)=-4.8

La+++ EMF alc/w 25°C 20% U I K1=3.96 1973LSa (25471) 292
Data for 0% and 40.3% EtOH. Also 0.05 M NaClO4 at 0%, 20% and 40.3%

La+++ gl NaClO4 25°C 0.10M U K1=2.44 B2=4.32 1966GGb (25472) 293

La+++ gl NaClO4 25°C 0.20M U K1=2.44 B2=3.93 1964DVa (25473) 294

La+++ gl NaClO4 20°C 0.10M U K1=2.60 B2=4.34 1964PKb (25474) 295
B3=5.6

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

La+++ gl NaClO4 20°C 0.10M U K1=2.03 B2=2.88 1964PKa (25602) 296

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

La+++ gl NaClO4 25°C 0.20M U K1=3.76 B2= 7.19 1996PJa (26193) 297

La+++ gl NaNO3 25°C 0.0 U K1=4.32 1991ADb (26194) 298
Extrapolated from data for 0.01-0.1 M NaNO3. Data for 35 and 45 C.

La+++ gl NaClO4 20°C 0.10M M TIH K1=3.20 1991ELa (26195) 299
K(La+HL=LaL+H)=-6.49
DH(K1)=32.4 kJ mol⁻¹, DS=171 J K⁻¹ mol⁻¹; DH(La+HL)=62, DS=88

La+++ gl KNO3 25°C 0.20M U M K1=5.68 1990LSb (26196) 300
K(La(phen)+L)=5.42

La+++ gl KNO3 35°C 0.10M U K1=4.93 1990RSe (26197) 301

La+++ gl NaClO4 25°C 0.20M U K1=3.76 B2= 7.19 1987PPa (26198) 302

La+++ gl NaClO4 25°C 0.20M U M K1=5.82 1986LSb (26199) 303
K(La(EDTA)+L)=4.28

La+++ gl NaClO4 25°C 0.20M U M K1=5.82 1985LSe (26200) 304

K(La(edta)+L)=4.28.

La+++ gl NaClO4 25°C 0.20M U M K1=5.82 1984LSd (26201) 305
K(La(edta)+L)=4.28

La+++ gl KNO3 25°C 0.10M U K1=4.5 1967EMb (26202) 306

C3H7NO2 HL B-Alanine CAS 107-95-9 (575)
3-Aminopropanoic acid; H2N.CH2.CH2.COOH

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

La+++ gl NaClO4 25°C 0.20M U M K1=5.20 1986LSb (26461) 307
K(La(EDTA)+L)=4.33

La+++ gl NaClO4 25°C 0.20M U M K1=5.20 1984LSd (26462) 308
K(La(edta)+L)=4.33

La+++ gl KCl 30°C 0.10M U T K1=2.43 1962CTa (26463) 309

C3H7NO2 HL Sarcosine CAS 107-97-1 (87)
N-Methyl-2-aminoethanoic acid; CH3.NH.CH2.COOH

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

La+++ nmr oth/un ? 0.10M U 1971KOb (26604) 310
K(La+HL)=0.60

Medium: 0.1HL, 0.1 LaCl3

C3H7NO2 HL (6927)
N-Methylacetohydroxamic acid; CH3.CO.N(OH)CH3

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

La+++ sp NaClO4 25°C 2.0M C 1999BGa (26624) 311
K(La+HL=LaL+H)=-3.456

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

La+++ gl NaNO3 15°C 0.10M U T K1=13.35 B2=18.65 1984IDa (26803) 312
At 30 C, K1=13.25, K2=5.20.

La+++ gl NaClO4 20°C 0.0 U TIH K1=6.025 1980SDc (26804) 313
Extrapolated from data for I=0.10-1.0 M. Data for 35 and 45 C.
DH(K1)=-17.3 kJ mol⁻¹, DS(K1)=56 J K⁻¹ mol⁻¹.

C3H7NO3 HL Serine CAS 56-45-1 (49)

2-Amino-3-hydroxypropanoic acid; H₂N.CH(CH₂.OH)COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	NaClO4	25°C	0.20M	U			K1=4.72 B2= 8.69	1996PPa (27146)	314
La+++	gl	NaNO3	25°C	0.10M	M	I M		K1=4.51 K(La(egta)+L)=3.39	1995KDd (27147)	315

Data for 0.15 and 0.05 M NaNO3. At I=0, K1=4.81, K(La(egta)+L)=3.63.

La+++	gl	NaClO4	20°C	0.10M	M	TIH		B(LaHL)=3.18	1991ELa (27148)	316
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Constant independent of I. DH(K1)=19.2 kJ mol⁻¹, DS=126 J K⁻¹ mol⁻¹

C3H8NO5P H3L Glyphosate CAS 1071-83-6 (1617)
N-(Phosphonomethyl)glycine; H₂O3P.CH₂.NH.CH₂.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	KNO3	25°C	0.1M	C			K1=6.7 B2=10.1 B(LaHL)=13.6	1985MMa (27405)	317

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
La+++	gl	NaClO4	22°C	0.10M	U			K(LaH-1L+H)=8.65	1972Mcd (27679)	318

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
La+++	gl	NaClO4	22°C	0.10M	U			K(LaH-1L+H)=8.35	1972Mcd (27738)	319

La+++	gl	NaCl	25°C	0.10M	U			K(LaH-1L+H)=8.28	1970PKe (27739)	320
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C3H10N2 L Propanediamine CAS 109-76-2 (123)
1,3-Diaminopropane; H₂N.CH₂.CH₂.CH₂.NH₂

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	KNO3	27°C	0.10M	M	M		K(LaL+phthalate)=6.21 K(LaL+malonate)=5.39	1979KSc (28310)	321

K(La(EDTA)+L)=3.80

La+++ gl KNO3 25°C 0.10M U T HM K1=4.76 B2=8.08 1986NSa (29094) 330
B(LaAL)=7.92

H2A=phthalic acid. DH(LaAL)=-41.5 kJ mol⁻¹, DS=0.3 J K⁻¹ mol⁻¹

La+++ gl NaClO4 25°C 2.00M C K1=2.56 B2=3.90 1985AMa (29095) 331

La+++ gl NaClO4 25°C 0.20M U M K1=4.22 1985LSf (29096) 332
K(La(edta)+L)=3.86

La+++ gl NaClO4 25°C 0.10M U K1=3.44 1973CDc (29097) 333

La+++ gl NaClO4 25°C 0.10M U K1=3.45 B2=5.43 1970RFa (29098) 334

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

La+++ gl NaClO4 25°C 0.10M C K1=2.47 1986LCa (29205) 335
B(LaHL)=6.01
K(La+HL)=1.93

La+++ gl KNO3 25°C 0.10M U T HM K1=3.01 1986NSa (29206) 336
B(LaAL)=5.70

H2A=phthalic acid. DH(LaAL)=-28.7 kJ mol⁻¹, DS=12.2 J K⁻¹ mol⁻¹

La+++ gl NaClO4 25°C 0.10M U K1=2.74 1973CDc (29207) 337

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

La+++ gl NaClO4 25°C 0.50M M K1=3.11 1991MOa (29270) 338

La+++ gl oth/un 25°C ? U K1=5.3 B2=9.3 1956GNc (29271) 339

C4H5NO5 H2L (7375)
Oxalohydroxamic acid; HOOC.CO.CH2.CO.NHOH

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

La+++ gl KNO3 25°C 0.1M M K1=9.54 B2=18.34 1989LWa (29313) 340
K3=7.64

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	KCl	25°C	0.10M	U			K1=2.27	1995PAa (29700)	341

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
La+++	gl	NaClO4	25°C	0.20M	U	M		K1=3.32 K(La(EDTA)+L)=2.92	1986LSb (29717)	342

La+++	gl	NaClO4	25°C	0.20M	U	M		K1=3.35 K(La(edta)+L)=2.97	1985LSf (29718)	343

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
La+++	gl	NaClO4	25°C	0.10M	M	H		K1=3.09	1986CDb (29983)	344
DH=11.5 kJ mol-1, DS=98 J K-1 mol-1										

La+++	gl	NaClO4	25°C	0.20M	U	M		K1=3.73 K(La(EDTA)+L)=3.50	1986LSb (29984)	345

La+++	gl	KNO3	25°C	0.10M	U	T HM		K1=3.56 B2=6.56 B(LaAL)=6.38	1986NSa (29985)	346
H2A=phthalic acid. DH(LaAL)=-44.2 kJ mol-1, DS=-26.1 J K-1 mol-1										

La+++	gl	NaClO4	25°C	0.20M	U	M		K1=3.77 K(La(edta)+L)=3.56	1985LSf (29986)	347

La+++	gl	NaClO4	25°C	0.20M	U	M		K1=3.73 K(La(edta)+L)=3.50	1984LSd (29987)	348

La+++	sol	oth/un	25°C	0.50M	U			K1=3.77	1970MKe (29988)	349

La+++	ix	NaClO4	25°C	0.15M	U			K(La+HL)=1.48 K(LaHL+HL)=1.2	1968KKc (29989)	350

La+++	gl	oth/un	25°C	->0	U			K1=3.96	1951PJb (29990)	351

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
La+++	gl	NaClO4	25°C	0.20M	U			K1=6.13 B2=11.54	1996PJa (30341)	352

 La+++ gl NaClO4 25°C 0.20M U M K1=4.29 1986LSb (30342) 353
 K(La(EDTA)+L)=4.04

La+++ gl KNO3 30°C 0.10M U M 1980RTa (30343) 354
 K(La(CDTA)+L)=2.99

La+++ gl KCl 30°C 0.10M U 1962CTa (30344) 355
 K(La+HL)=3.01
 K(LaHL+HL)=2.57
 K(La(HL)2+HL)=2.27

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
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La+++	gl	NaClO4	25°C	0.20M	U		K1=4.51 B2= 8.81	1996PJa (30657)	356
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La+++	gl	NaClO4	25°C	1.00M	U		K1=3.685 B2=6.093 B(LaHL)=5.00	1987MOa (30658)	357
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La+++	gl	NaClO4	25°C	0.50M	C		K1=3.86 B2=6.30 B(LaHL)=6.44	1986LEd (30659)	358
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The above values for S(-)-malic acid. With R,S-Malic acid K1=3.95, B2=6.58
 B(MHL)=6.56

La+++	gl	NaClO4	25°C	0.20M	U	M	K1=3.75 K(La(EDTA)+L)=3.38	1986LSb (30660)	359
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La+++	gl	NaClO4	25°C	2.00M	C		K1=3.531 B2=5.98 B3=6.85	1985AMa (30661)	360
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La+++	gl	NaClO4	25°C	0.20M	U	M	K1=3.79 K(La(edta)+L)=3.43	1985LSf (30662)	361
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La+++	gl	KNO3	20°C	0.10M	U		K1=3.96 B2=5.26 K(La+HL)=1.81	1980SDb (30663)	362
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La+++	gl	NaClO4	25°C	0.10M	U		K1=4.37 B2=7.16	1970RFa (30664)	363
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La+++	EMF	NaClO4	25°C	2.00M	U		K1=3.71 B2=6.17	1969JPa (30665)	364
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La+++	EMF	KCl	25°C	0.20M	U		K1=4.04	1964DAb (30666)	365
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La+++	gl	KCl	30°C	0.10M	U		K1=4.73 B2=7.95 K3=2.68	1962CTa (30667)	366
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La+++	gl	oth/un	22°C	0.12M	U		K1=4.38	1962DAa (30668)	367
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T:21-22

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

La+++ gl KNO3 25°C 0.10M M M K1=2.41 1989NDa (30888) 368
K(LaL+ida)=2.12
K(LaL+gly)=2.29
B(LaLA)=8.45
B(LaLB)=9.35

H2A is tartaric acid, H2B is malic acid. Also data for quaternary systems:
LaLA+ida, LaLA+gly, LaLB+ida, LaLB+gly.

La+++ gl KCl 25°C 1.0M U M K(La(edta)+L)=2.10 1988KTa (30889) 369

La+++ cal NaClO4 25°C 1.0M C H 1963GRd (30890) 370
DH(K1)=-0.293 kJ mol⁻¹, DS(K1)=93.3 J K⁻¹ mol⁻¹; DH(B2)=-3.46, DS(B2)=149;
DH(B3)=-1.98, DS(B3)=189.

La+++ EMF NaClO4 20°C 1.00M U K1=4.93 B2=8.41 1963GTa (30891) 371
B3=10.25

Method: quinhydrone electrode

C4H6O6 H2L DL-Tartaric acid CAS 133-37-9 (94)
DL-Tartaric acid,DL-2,3-Dihydroxybutanedioic acid; HOOC.CH(OH).CH(OH).COOH

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

La+++ gl NaClO4 25°C 1.00M U K1=2.72 B2=4.93 1987MOa (31026) 372
B(LaHL)=5.08

La+++ gl NaClO4 25°C 2.00M C K1=2.95 B2=5.48 1985AMa (31027) 373

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

La+++ sp KCl 25°C .044M U M B2=6.25 1981KFa (31287) 374

La+++ sp oth/un 25°C 0.0 U T H K1=4.58 1975YBa (31288) 375
DH(K1)=-9.2 kJ mol⁻¹, DS=59 J K⁻¹ mol⁻¹. Temperature range 9-15 C only

La+++ gl R4N.X 25°C 0.10M U I K1=3.68 B2=6.13 1972DMb (31289) 376
B(LaHL)=6.41

I=0.1-0.4 M Me4NCl

La+++ gl none 25°C 0.00 M T K1=4.60 B2=7.59 1972DMb (31290) 377

K(La+HL)=2.48

15 C-35 C

La+++ gl NaClO4 25°C 0.10M U K1=3.62 B2=6.67 1972RMa (31291) 378
Values quoted for meso form
K1(d1)=4.39, K2(d1)=3.01, B2(meso-d1)=7.43

La+++ gl alc/w 25°C 50% U I K1=5.22 1972SSj (31292) 379
Medium: 0-50% EtOH, 0.05 M. 50% EtOH, I=0: K1=6.90

La+++ EMF NaClO4 25°C 2.00M U K1=3.26 B2=5.05 1969JPa (31293) 380

La+++ gl KCl 24°C 0.20M U K1=2.89 1966DDa (31294) 381

La+++ EMF oth/un 25°C var U K1=3.68 B2=6.37 1966PBb (31295) 382
B(La2L)=5.32
K(La+H-1L)=10.73

Method: H electrode

La+++ con oth/un 25°C ? U K(La+HL)=2.5 1965BRF (31296) 383

La+++ dis NaClO4 20°C 0.10M U B2=6.72 1963STc (31297) 384

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

La+++ EMF NaClO4 25°C 0.10M U K1=1.61 1971RCa (31503) 385

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

La+++ gl KNO3 25°C 0.10M C M K(LaL+A)=3.53 2003AHa (31874) 386
HA is 3-amino-5-mercapto-1,2,4-triazole.

La+++ gl NaClO4 25°C 0.20M U K1=5.30 B2=10.31 1996PJa (31875) 387

La+++ gl NaClO4 25°C 0.20M U K1=5.30 B2=10.31 1996PPa (31876) 388

La+++ gl NaClO4 21°C 0.10M M K1=4.53 1987WLa (31877) 389
B(LaHL)=12.49

La+++ gl NaClO4 25°C 0.20M U M K1=5.61 1986LSb (31878) 390
K(La(EDTA)+L)=4.55

La+++ gl NaClO4 30°C 0.10M U K1=4.47 1984YLa (31879) 391

La+++ gl KCl 30°C 0.10M U K1=4.84 B2=8.26 1962CTa (31880) 392

La+++ gl KCl 25°C 0.10M U K1=5.0 B2=9.20 1961BLb (31881) 393

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

La+++ sp oth/un 25°C 0.10M U K1=5.88 1997YSa (32286) 394

La+++ gl KCl 25°C 1.0M U M K(La(edta)+L)=2.84 1988KTa (32287) 395

La+++ gl NaClO4 25°C 0.20M U M K1=6.30 B2=11.10 1988VSc (32288) 396
K(La(HEDTA)+L)=4.37
K(La(CDTA)+L)=4.17
K(La(DTPA)+L)=3.60

La+++ gl NaClO4 25°C 0.20M U M K1=6.30 B2=11.10 1987VSb (32289) 397
K(La(nta)+L)=5.37
K(La(edta)+L)=3.97

La+++ gl KNO3 27°C 0.10M M M K(LaA+L)=5.25 1984KTb (32290) 398
K(LaB+L)=5.11

H2A=Citraconic acid, H2B=Maleic acid

La+++ gl KNO3 27°C 0.10M U M K(LaA+L)=5.82 1980KTb (32291) 399
K(LaB+L)=5.37

H2A=phthalic acid, H2B=malonic acid

La+++ gl alc/w 20°C 60% U I K1=6.21 1980SKc (32292) 400
In 0.1 M NaCl: K1=7.54

La+++ EMF KCl 25°C 1.0M U M K(LaA+L)=3.36 1977GMa (32293) 401
K(LaA+HL)=0.98
K(LaA+H2L)=1.95
K(LaA+H3L)=3.61

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

La+++ gl alc/w 25°C 1.0M U I K1=6.03 B2=10.96 1976TBb (32294) 402
K(La+3L)=14.2

Medium:1 M LiCl in 60% MeOH/H2O v/v; in 100%H2O K1=5.01;B2=8.81; B3=11.3
Also data for EtOH, Dioxane, Acetone mixed solvents

La+++ gl KCl 25°C 0.10M U K1=6.10 1974KPd (32295) 403

La+++ cal KNO3 20°C 0.10M U HM 1971GKb (32296) 404

K(LaA+L)=2.80

DH(LaA+L)=-6.53 kJ mol⁻¹, DS=31.8 J K⁻¹ mol⁻¹. DH(LaAL)=-18.79, DS=287.

H4A=EDTA

La+++ gl KNO3 20°C 0.10M U HM K1=5.70 B2=9.67 1964ANa (32297) 405

By calorimetry: DH(K1)=-0.7 kJ mol⁻¹, DS=107.0 k=J K⁻¹ mol⁻¹

DH(B2)=-0.7, DS=182. Ternary complexes with HEDTA

La+++ gl KNO3 25°C 0.10M U K1=5.88 B2=9.97 1962THa (32298) 406

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

La+++ gl diox/w 20°C 50% U K1=7.42 B2=13.73 1971MAf (32542) 407

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

La+++ gl diox/w 25°C 50% U K1=6.6 B2=12.5 1954CFa (32543) 408

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

La+++ gl NaClO4 21°C 0.10M M 1987WLa (32704) 409

B(LaH-1L)=-6.97

La+++ gl NaClO4 30°C 0.10M U K1=3.47 1984YLa (32705) 410

La+++ gl NaClO4 30°C 0.2M U K1=3.53 1977MSf (32706) 411

La+++ gl NaClO4 25°C 0.10M U B2=6.48 1973TSc (32707) 412

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

La+++ gl NaClO4 30°C 0.10M U T H K1=3.35 B2=5.85 1980SBb (33032) 413

K3=2.43

DH=-114.45 kJ mol⁻¹. Further data available for T=40. Alternative method:

Conductivity.

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

La+++ gl KCl 60°C 0.10M U K1=5.93 B2=9.71 1978NBa (33087) 414
B3=12.64

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

La+++ gl KNO3 30°C 0.10M U M 1984AIa (33108) 415
K(La(EDTA)+L)=2.439

La+++ EMF KCl 25°C 0.10M U K1=3.8 B2=6.6 1954VIa (33109) 416
K3<0.1

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

La+++ gl NaClO4 25°C 2.00M U H K1=1.57 B2=2.47 1965CGa (33234) 417
By calorimetry: DH(K1)=14.5 kJ mol⁻¹, DS=79 J K⁻¹ mol⁻¹; DH(K2)=10.5, DS=52

La+++ gl NaClO4 25°C 0.50M U K1=1.64 B2=2.16 1964SPa (33235) 418

C4H8O2 HL CAS 107-92-6 (1118)
n-Butanoic acid; CH3.CH2.CH2.COOH

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

La+++ EMF diox/w 25°C 60% U I K1=2.93 B2=5.21 1971MSi (33338) 419
B3=6.79

Medium: 0-70% dioxan, 0.5 M NaClO4. K1(0%)=1.64, B2=2.43; K1(20%)=1.96,
B2=3.33; K1(40%)=2.36, B2=4.25; K1(50%)=2.78, B2=4.61; B2(70%)=5.97, B3=8.40

C4H8O2S HL CAS 2935-90-2 (1147)
Methyl-3-mercaptopropionate; HS.CH2.CH2.CO2.CH3

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

La+++ gl KNO3 25°C 0.10M U T H K1=2.44 1975SBa (33370) 420
K(LaL+30H)=1.22

DH=-29.5 kJ mol⁻¹ and DS=-32.6 J mol⁻¹ K⁻¹.
Values available when T=35 and 45 and also via conductivity.

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
La+++	gl	NaClO4	31°C	2.0M	U			K1=1.70 B2=2.50	1963BCb (33408)	421

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
La+++	gl	NaClO4	25°C	0.20M	U			K1=2.30 B2=4.04	1964DVa (33483)	422
La+++	EMF	NaClO4	25°C	1.0M	U			K1=2.16 B2=3.63 K3=0.75 K4=0.46	1964EVa (33484)	423

Method: quinhydrone electrode

La+++	gl	NaClO4	20°C	0.10M	U			K1=2.62 B2=4.42 B3=5.53	1964PKb (33485)	424
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La+++	gl	NaClO4	25°C	0.50M	U			K1=2.22 B2=3.67	1964SPa (33486)	425
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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
La+++	gl	KNO3	25°C	0.10M	C			K1=2.65 B2=4.52 K3=1.20	1975PFb (33681)	426

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
La+++	gl	KNO3	25°C	0.10M	U			K1=2.69 B2=4.69 K3=1.60	1976PKb (33703)	427

La+++	gl	NaClO4	25°C	0.50M	U			K1=2.40 B2=3.88 B3=4.90	1964SPa (33704)	428
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C4H9NO2 HL 2-Aminobutyric CAS 2835-81-6 (571)
 2-Aminobutanoic acid; CH3.CH2.CH(NH2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	KNO3	25°C	0.10M	U T			K1=4.27	1978SSb (33917)	429

C4H9NO3 HL Threonine CAS 72-19-5 (48)
 2-Amino-3-hydroxybutanoic acid; H2N.CH(CH(OH)).CH3COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	gl	NaClO4	25°C	0.20M	U		K1=4.86 B2= 8.90	1996PPa (34310)	430
La+++	gl	oth/un	25°C	0.05M	U	TIH	K1=4.05 B2= 7.05	1975SCf (34311)	431

Data for 0.15 and 0.25 M. Also data for 45 C. At I=0, B2=7.68.
DH(K1)=-31.8 kJ mol⁻¹, DS(K1)=-29 J K⁻¹ mol⁻¹; DH(K2)=-4.52, DS(K2)=42.3.

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
La+++	gl	KNO3	25°C	0.10M	C		K1=3.35 *K(LaL)=-5.65 K(2La(OH)L=La2(OH)2L2)=8.69	2001AAb (34627)	432

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	kin	oth/un	25°C		U		K1=1.24	1971MGb (35260)	433
La+++	kin	none	25°C	0.00	M		K1=1.82	1966SSb (35261)	434

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
La+++	EMF	NaClO4	25°C	100%	C	H	K1=5.29 B2= 8.36	2000CDa (35793)	435

Medium: DMF, 0.10 M Et4N[CF3SO3]. Method: Ag/Ag+ electrode.
By calorimetry: DH(K1)=-44.9, DH(B2)=-89.7 kJ mol⁻¹.

La+++	ISE	non-aq	25°C	100%	C	H	K1=2.78 B2=4.70	1993CCb (35794)	436
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Medium: DMSO, 0.1 M Et4NClO4. Method: Ag+ ISE. By calorimetry, DH(K1)=-40.2 kJ mol⁻¹, DS=-82; DH(B2)=-79.0, DS-175.

C4H14N2O4P2 H2L CAS 37107-07-6 (4287)
Ethylenebis(iminomethylenephosphonous acid)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	gl	KNO3	25°C	0.10M	U		K1=4.16	1971MMh (35831)	437

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
La+++	gl	KCl	25°C	0.10M	U				1965DKb (35884)	438

K(La+HL)=7.49

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
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La+++	cal	NaClO4	25°C	0.10M	U	H		K1=3.05 B2=4.49	1978COa (35944)	439
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DH(K1)=4.05 kJ mol⁻¹, DS=71.9; DH(K2)=4.51, DS=43.0

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
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La+++	cal	NaClO4	25°C	1.0M	C	H			1990YKb (36058)	440
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DH(K1)=-0.72 kJ mol⁻¹, DS(K1)=41.6 J K⁻¹ mol⁻¹.

La+++	EMF	NaClO4	25°C	1.0M	C			K1=2.30 B2= 4.09 B3=5.26	1983KKb (36059)	441
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Method: Pt/quinhydrone electrode.

C5H4O2S HL 2-Thenoic acid CAS 527-72-0 (2312)
 Thiophene-2-carboxylic acid; C4H3S.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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La+++	gl	NaClO4	25°C	0.10M	U			K1=1.77 B2=2.89	1969RFa (36258)	442
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C5H4O3 HL 2-Furoic acid CAS 88-14-2 (2492)
 Furan-2-carboxylic acid; C4H3O.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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La+++	gl	NaClO4	25°C	0.10M	U			K1=1.79 B2=2.91	1969RFa (36296)	443
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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
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La+++	cal	NaClO4	25°C	2.00M	U	H		K1=1.48	1976YCa (36306)	444
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DH=6.19 kJ mol⁻¹ and DS=49.79 J mol⁻¹ K⁻¹.

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
La+++	gl	diox/w	25°C	50%	U		K1=7.13	1970GDa (36791)	445
Medium: 50% dioxan, 0.1 M NaClO4									

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
La+++	gl	diox/w	25°C	50%	M I		K1=5.34 B2=9.98 K3=3.98	1994SSa (37066)	446
Medium: 50% dioxan, I=0 corr. At 35 C: K1=5.10, K2=4.44, K3=3.01									

C5H6OS		HL					CAS 98-02-2 (4309)		
Furfurylmercaptan; C4H3O.CH2.SH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	gl	alc/w	25°C	50%	U T		K1=4.70 K3=4.07	1973SSf (37345)	447
Medium: 50% EtOH, 0.1 M NaClO4									
K1(35 C)=4.66, K1(45 C)=4.58, K3(35 C)=4.03, K3(45 C)=3.98									

C5H6O4		H2L					Citraconic acid CAS 498-23-7 (3021)		
Citraconic acid; CH3.C(COOH):CH.COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	gl	NaClO4	25°C	0.20M	U	M	K1=4.61 K(La(EDTA)+L)=3.81	1986LSb (37361)	448
La+++	gl	NaClO4	25°C	0.20M	U	M	K1=4.66 K(La(edta)+L)=3.83	1985LSf (37362)	449

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
La+++	gl	KCl	25°C	0.20M	U		K1=2.52 K(La+HL)=1.56	1989MFa (37425)	450
La+++	gl	NaClO4	25°C	0.20M	U	M	K1=3.81 K(La(EDTA)+L)=3.56	1986LSb (37426)	451
La+++	gl	NaClO4	25°C	0.20M	U	M	K1=3.85 K(La(edta)+L)=3.59	1985LSf (37427)	452
La+++	sol	oth/un	25°C	1.0M	U		K1=4.10	1984KPF (37428)	453

in 1.0 M HCl

C5H7NO3 HL (4313)

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

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

La+++ gl diox/w 20°C 50% U K1=3.86 B2=6.73 1971MAf (37528) 454
Medium: 50% v/v dioxan, 0.1 M NaClO4

C5H8N2O3 H2L (4317)

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

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

La+++ gl diox/w 20°C 50% U K1=4.98 B2=9.00 1971MAf (37705) 455

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

La+++ gl KCl 25°C 0.10M U K1=4.89 B2=8.35 1995PAa (38003) 456
K3=2.53

La+++ gl diox/w 30°C 75% U K1=6.50 B2=11.98 1979MBc (38004) 457
K3=4.09

La+++ gl NaClO4 ? 0.10M U M 1973TZa (38005) 458
K(La(EDTA)+L)=3.45

La+++ gl alc/w ? 50% U I K1=5.88 1971K0a (38006) 459
Medium: 5-80% MeOH, 0.005 LaCl3, 0.005 HL. K1(5%)=5.00, K1(80%)=6.95

La+++ gl mixed 30°C 67% U K1=6.12 B2=10.67 1964DBb (38007) 460
K3=3.83
Medium: 67% acetone, 0.1 M NaClO4

La+++ gl NaClO4 25°C 2.0M U K1=4.71 B2=8.16 1964YCa (38008) 461

La+++ gl oth/un 30°C 0.10M U K1=4.96 B2=8.41 1960GFa (38009) 462
K3=2.5

La+++ gl diox/w ? 75% U K1=6.15 B2=10.82 1956DBa (38010) 463
K3=3.68

La+++ gl oth/un 30°C 0.0 U K1=5.1 B2=8.90 1955IFa (38011) 464
K3=3.00

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

La+++ gl KCl 25°C 0.20M U K1=3.70 1989ZPa (38244) 465
In 70.4% v/v EtOH/H2O: K1 = 5.96

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

La+++ gl NaClO4 25°C 0.50M C K1=2.52 1986LEe (38263) 466
B(LaHL)=6.44

La+++ gl NaClO4 25°C 0.10M U K1=2.95 B2=4.59 1970RFa (38264) 467

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

La+++ gl NaClO4 25°C 0.10M M H K1=2.99 1986CDb (38324) 468
DH=12.4 kJ mol⁻¹, DS= 99 J K⁻¹ mol⁻¹

La+++ gl NaClO4 25°C 0.20M U M K1=3.70 1986LSb (38325) 469
K(La(EDTA)+L)=2.86

La+++ gl NaClO4 25°C 0.20M U M K1=3.74 1985LSf (38326) 470
K(La(edta)+L)=2.90

La+++ gl NaClO4 25°C 0.20M U M K1=3.70 1984LSd (38327) 471
K(La(edta)+L)=2.86

La+++ gl alc/w 25°C 25% U I K1=3.24 1973CSd (38328) 472
Medium: 0-40% EtOH, 0.05 M. K1(0%)=3.02, K1(40%)=3.52

La+++ sol oth/un 25°C 0.50M U K1=3.10 1970MKe (38329) 473

La+++ gl oth/un 25°C ->0 U K1=3.83 1951PJb (38330) 474

C5H8O5 H2L (+)-Citramalic CAS 6236-09-5 (2692)
S-2-Hydroxy-2-methylsuccinic acid; HOOC.C(CH3)(OH).CH2.COOH

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

La+++ gl NaClO4 25°C 0.50M C K1=4.39 B2=7.38 1986LEc (38406) 475
B(LaHL)=6.80

C5H8O7 H2L CAS 40120-71-6 (3022)

2,3,4-Trihydroxypentanedioic acid, Trihydroxyglutaric acid; $\text{HOOC} \cdot (\text{CH}(\text{OH}))_3 \cdot \text{COOH}$

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

La+++ EMF oth/un 25°C 0.10M U K1=3.98 1969PSc (38429) 476

La+++ gl KCl 24°C 0.20M U K1=3.20 1966DDa (38430) 477

C5H9NO2 HL Proline CAS 147-85-3 (44)
Pyrrolidine-2-carboxylic acid; $\text{C}_4\text{H}_8\text{N} \cdot \text{COOH}$

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

La+++ gl NaClO4 25°C 0.10M U T H K1=4.32 1984SGb (38625) 478
35 C, K1=4.22; 45 C, 4.10. DH=-5.3 kJ mol⁻¹, DS=31 J K⁻¹ mol⁻¹

La+++ gl NaClO4 25°C 0.10M U B2=4.26 1981ZLa (38626) 479

C5H9NO3 HL Hydroxyproline CAS 51-35-4 (416)
4-Hydroxy-2-pyrrolidinecarboxylic acid; $\text{C}_4\text{H}_7\text{N}(\text{OH})(\text{COOH})$

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

La+++ gl NaCl 37°C 0.15M U K1=3.64 B2= 6.96 1997GMa (38738) 480

La+++ gl NaClO4 25°C 0.10M U B2=3.90 1981ZLa (38739) 481

La+++ gl oth/un 25°C 0.05M U TIH K1=3.80 B2= 6.85 1975SCf (38740) 482
Data for 0.15 and 0.25 M. Also data for 45 C. At I=0, B2=7.56.
DH(K1)=-7.28 kJ mol⁻¹, DS(K1)=48.3 J K⁻¹ mol⁻¹; DH(K2)=-10.9, DS(K2)=21.9.

C5H9NO4 H2L Glutamic acid CAS 56-86-0 (22)
2-Aminopentanedioic acid; $\text{H}_2\text{N} \cdot \text{CH}(\text{CH}_2 \cdot \text{CH}_2 \cdot \text{COOH}) \cdot \text{COOH}$

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

La+++ gl KNO3 25°C 0.10M C M K(LaL+A)=3.37 2003AHa (39092) 483

HA is 3-amino-5-mercapto-1,2,4-triazole.

C5H9NO4 H2L MIDA CAS 4408-64-4 (190)
N-Methyliminodiethanoic acid; $\text{CH}_3 \cdot \text{N}(\text{CH}_2 \cdot \text{COOH})_2$

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

La+++ gl KCl 25°C 0.10M U K1=6.18 B2=11.08 1980MGc (39258) 484
B3=14.48
B(La+2OH+L)=16.27

La+++ nmr oth/un 25°C 1.00M U K1=5.74 1972KNb (39259) 485

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

La+++ gl NaClO4 25°C 0.10M U K1=2.06 B2=3.54 1970RDa (40299) 494
K3=1.21

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

La+++ gl KNO3 25°C 0.10M C K1=2.57 B2=4.35 1975PFb (40314) 495
K3=1.00

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

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

La+++ cal none 25°C 0.0 U H K1=0.49 1993MLa (40351) 496
DH(K1)=-9.6 kJ mol⁻¹, TDS=-6.8

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

La+++ gl NaClO4 25°C 0.20M U K1=5.29 B2=10.09 1996PPa (40722) 497

La+++ gl KNO3 25°C 0.20M U M K1=5.48 1990LSb (40723) 498
K(La(phen)+L)=5.30

La+++ gl NaClO4 25°C 0.20M U M K1=5.94 1986LSb (40724) 499
K(La(EDTA)+L)=5.10

La+++ gl NaClO4 25°C 0.20M U M K1=5.94 1985LSe (40725) 500
K(La(edta)+L)=5.10.

La+++ gl KCl 25°C 0.10M U K1=3.73 1974BFa (40726) 501

C5H11NO2 HL Nor-Valine CAS 760-78-1 (689)
2-Aminopentanoic acid; CH3.CH2.CH2.CH(NH2).COOH

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

La+++ gl KNO3 27°C 0.10M M TI K1=5.36 1996ALa (40839) 502
For I = 0.05, K1=5.41; I=0.15, K1=5.09. Also data for 32 and 37 C.

K4=1.30

La+++ gl NaClO4 25°C 2.0M U K1=3.50 B2=5.89 1965YCa (42558) 512

La+++ gl oth/un 25°C 0.50M U I K1=3.21 B2=6.06 1964MTa (42559) 513
B3=7.94

I=0.02:K1=4.19, B2=7.20, B3=10.47

La+++ gl KNO3 25°C 0.10M U K1=3.54 B2=6.28 1964THb (42560) 514
B3=8.9

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

La+++ gl NaClO4 25°C 0.20M U K1=1.90 1973FDa (42674) 515

C6H5NO3 HL 2-Nitrophenol CAS 88-75-5 (510)
2-Nitrohydroxybenzene; HO.C6H4.NO2

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

La+++ sp NaClO4 25°C 0.10M U K1=2.20 1966PMa (42736) 516

C6H5NO3 H2L CAS 874-24-8 (4356)
3-Hydroxypyridine-2-carboxylic acid; C5H3N.(OH)(COOH)

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

La+++ gl NaClO4 30°C 0.10M U 1969DNc (42752) 517

K(La+HL)=3.18

K(LaHL+HL)=3.04

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

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

La+++ gl R4N.X 25°C 0.10M C K1=1.0 1990CBe (42809) 518

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

La+++ gl NaClO4 25°C 2.0M U K1=2.53 B2=4.29 1965YCa (42835) 519

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

La+++ gl NaNO3 25°C 0.0 U M K1=9.22 1996KDb (42930) 520
K(La(egta)+L)=5.29

Extrapolated from data for I=0.05-0.15 M NaNO3.

La+++ gl KNO3 25°C 0.10M U K1=7.81 B2=13.14 1981BDa (42931) 521

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

La+++ sp KCl 25°C 0.10M M I K1=5.42 1989PEa (42955) 522

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

La+++ sp KCl 25°C 0.10M U K1=4.68 1987PLa (43111) 523

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

La+++ gl oth/un 30°C 0.10M U K1=5.28 B2=9.76 1972DSd (43134) 524

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

La+++ sp KCl 25°C 0.10M U K1=4.71 1987PLa (43153) 525

C6H6N2O2 HL Cupferron CAS 135-20-6 (637)
N-Nitrosophenylhydroxylamine; C6H5.N(OH).NO

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

La+++ dis NaClO4 25°C 0.10M U K2=4.07 1960RYa (43417) 526
K3=3.61

Extraction into hexane

La+++ dis NaClO4 25°C 0.10M U 1954DYa (43418) 527
B3=12.90

C6H6O HL Phenol CAS 108-95-2 (457)

Hydroxybenzene, phenol; C6H5.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	gl	KCl	25°C	0.10M	U		K1=4.17	1978KYb (43540)	528
La+++	sp	NaClO4	25°C	0.10M	U		K1=1.51	1966PMa (43541)	529

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
La+++	gl	NaNO3	25°C	0.0	U	M	K1=9.37 K(La(egta)+L)=5.36	1996KDb (43775)	530
Extrapolated from data for I=0.05-0.15 M NaNO3.									
La+++	gl	NaClO4	25°C	0.20M	U		K1=8.30	1996PJa (43776)	531
La+++	gl	NaClO4	25°C	0.20M	U	M	K1=8.55 K(La(EDTA)+L)=6.20	1986LSb (43777)	532
La+++	gl	KNO3	25°C	0.10M	U	TIH	K1=7.24 B2=12.36 B(LaAL)=10.26	1986NSa (43778)	533
H2A=phthalic acid. DH(LaAL)=-44.8 kJ mol ⁻¹ , DS=45.9 J K ⁻¹ mol ⁻¹									

La+++	gl	NaClO4	25°C	0.20M	U	M	K1=8.64 K(La(edta)+L)=6.12	1985LSf (43779)	534
La+++	gl	NaClO4	28°C	0.20M	U	M	K1=8.55 K(La(edta)+L)=6.20	1982LSa (43780)	535
La+++	gl	KNO3	25°C	0.05M	M	I	K1=9.12 B2=17.32	1981BDc (43781)	536
Also data for I=0.2 and 0.35 M. At I=0, K1=9.60, K2=8.60									

La+++	EMF	NaCl	25°C	0.10M	U		K1=9.46	1969PKe (43782)	537

C6H6O2		H2L		Resorcinol			CAS 108-46-3	(3645)	
1,3-Dihydroxybenzene; HO.C6H4.OH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	gl	NaClO4	25°C	0.20M	U	M	K1=4.45 K(La(EDTA)+L)=2.10	1986LSb (43878)	538
La+++	gl	NaClO4	25°C	0.20M	U	M	K1=4.49 K(La(edta)+L)=2.13	1985LSf (43879)	539
La+++	gl	NaClO4	28°C	0.20M	U	M	K1=4.45 K(La(edta)+L)=2.10	1982LSa (43880)	540

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
La+++	gl	NaClO4	25°C	0.20M	U		K1=8.85	1996PJa (43964)	541
La+++	gl	NaClO4	30°C	0.20M	U	M	K1=9.14 K(La(nta)+L)=4.87	1978MSk (43965)	542

C6H6O3 H3L Phloroglucinol CAS 6099-90-7 (2525)
1,3,5-Trihydroxybenzene; C6H3(OH)3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	gl	NaClO4	25°C	0.20M	U	M	K1=3.50 K(La(EDTA)+L)=2.20	1986LSb (44015)	543
La+++	gl	NaClO4	25°C	0.20M	U	M	K1=3.53 K(La(edta)+L)=2.24	1985LSf (44016)	544
La+++	gl	NaClO4	28°C	0.20M	U	M	K1=3.50 K(La(edta)+L)=2.20	1982LSa (44017)	545

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
La+++	gl	NaClO4	30°C	0.10M	U	M	K1=5.22 B2=9.31 B(LaLA)=11.74 K(LaA+L)=5.86 K(LaB+L)=4.95 K(LaC+L)=4.08	1989NOB (44091)	546

H2A=iminodiacetic acid, H2B=hydroxyethyliminodiacetic acid, H3C=nitrilo-triethanoic acid

La+++	gl	NaClO4	30°C	0.10M	U		K1=5.76 B2=10.17 K3=3.17	1970DSc (44092)	547
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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
La+++	gl	NaClO4	30°C	0.10M	U	M	K1=5.03 B2=9.01 B(LaLA)=11.50 K(LaA+L)=5.61 K(LaB+L)=4.26	1989NOB (44223)	548

$$K(\text{LaC}+\text{L})=3.80$$

H2A=iminodiacetic acid, H2B=hydroxyethyliminodiethanoic acid, H3C=nitrilo-triethanoic acid

 La+++ sp KCl 25°C 0.10M C I K1=5.302 1987PEa (44224) 549
 In 0.086 M KCl, K1=5.352.

La+++ gl oth/un 30°C 0.10M U K1=5.35 B2=9.56 1972DSd (44225) 550
 K3=3.31

La+++ gl NaClO4 25°C 2.0M U K1=5.14 B2=9.27 1964YCa (44226) 551

 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

La+++ gl KNO3 25°C 0.10M U TIH K1=13.30 B2=25.54 1980BDd (44466) 552
 Data for I=0.05-0.2 M and for I=0.10 M (35 C). Also DH and DS values.

La+++ gl NaClO4 25°C 0.10M U K1=12.87 1970SSi (44467) 553

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

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

La+++ gl KNO3 25°C 0.10M U TIH K1=6.24 B2=10.07 1986NSa (44932) 554
 B(LaAL)=12.42
 H2A=phthalic acid. DH(LaAL)=-53.2 kJ mol⁻¹, DS=59.4 J K⁻¹ mol⁻¹

La+++ gl mixed 25°C 50% U I K1=3.54 B2=6.52 1969BCa (44933) 555
 Medium: 50% DMSO, 0.12 M NaClO4. In 0.12 M NaClO4, 50% dioxan: K1=4.50,
 K2=3.14. Medium: 0.12 NaClO4, 50% EtOH: K1=3.59, K2=2.48

 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

La+++ gl diox/w 25°C 50% M I K1=5.39 B2=10.27 1994SSa (45187) 556
 K3=4.23
 Medium: 50% dioxan, I=0 corr. At 35 C: K1=5.31, K2=4.80, K3=4.09

 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

La+++ gl KCl 25°C 0.20M U I K1=3.20 1989ZPa (45470) 557

K(La+HL)=3.80

La+++ ix R4N.X 20°C 0.60M U B2=8.4 1966SSh (46156) 568
Medium: NH4Cl, pH 6. By chromatography, pH 4.3, B2=8.7

La+++ sol oth/un 25°C 0.0 U I K1=8.37 B2=11.05 1965SKc (46157) 569
Kso=-12.06

At I=0.1: K1=6.9, B2=10.7, Kso=-10.71

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

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

La+++ EMF NaClO4 25°C 1.00M U K1=5.72 B2=9.05 1991WPb (46332) 570

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

La+++ ISE NaClO4 25°C 0.10M C I K1=10.16 1997LBb (46870) 571
Method: Cu ISE and competitive complexation by Cu. Data for 0.1-5.0 M.
At I=0.0 M, K1=12.04.

La+++ gl alc/w 30°C 50% C K1=10.06 1994S0a (46871) 572
Medium: 50% v/v MeOH/H2O, 0.10 M NaClO4.

La+++ cal KNO3 25°C 0.10M U T H 1984MPc (46872) 573
DH(K1)=-3.35 kJ mol⁻¹, DH(B2)=-15.48. At 40 C DH(K1)= 2.80
DH(B2)=-11.84

La+++ ISE KNO3 25°C 0.10M C K1=10.19 1980NSf (46873) 574
Competitive method using Cd ion-selective electrode.

La+++ gl alc/w 20°C 60% U K1=11.40 1980SKc (46874) 575

La+++ gl oth/un 20°C 0.10M U B2=17.62 1979M0a (46875) 576

La+++ gl KNO3 20°C 1.0M C K2=6.64 1978GHb (46876) 577

La+++ gl diox/w 30°C 50% U M K(LaL+A)=4.46 1978SGf (46877) 578

HA=tropolone

La+++ gl NaClO4 25°C 0.50M U K1=9.68 1977GGb (46878) 579

La+++ EMF KCl 25°C 1.0M U M K(LaA+L)=5.48 1977GMa (46879) 580
K(LaA+H2L)=3.00

K(LuA+H3L)=3.22

K(LaA+H4L)=5.43

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

La+++ gl KNO3 20°C 0.10M U M 1974TDa (46880) 581
K(LaL+Citrate)=3.6

La+++ cal KNO3 20°C 0.10M U HM 1971GKb (46881) 582
K(LaA+L)=4.79

H4A=EDTA. DH(LaA+L)=-25.44 kJ mol⁻¹, DS=5.0 J K⁻¹ mol⁻¹.

DH(LaLA)=-37.7 kJ mol⁻¹, DS=260 J K⁻¹ mol⁻¹

La+++ nmr oth/un 25°C ? U M 1971KTe (46882) 583
B(LaL(EDTA))=16.30

La+++ gl oth/un 20°C 0.20M U 1970VMa (46883) 584
B(LaL(OH))=5.07

La+++ cal oth/un ? dil U H 1967MPb (46884) 585
DH(K1)=1.25 kJ mol⁻¹, DS(K1)=188.3 J K⁻¹ mol⁻¹
DH(B2)=-15.5 kJ mol⁻¹, DS(B2)=280 J K⁻¹ mol⁻¹

La+++ ISE NaClO4 25°C 0.10M U T K1=10.5 1967SKe (46885) 586
By solubility: K1=10.6

La+++ gl KCl 20°C 0.10M U K1=10.47 B2=17.84 1965ANb (46886) 587

La+++ vlt KCl 20°C 0.10M U T K1=10.48 1964PCa (46887) 588

La+++ dis NaClO4 20°C 0.10M U B2=17.15 1963STc (46888) 589

La+++ gl KNO3 25°C 0.10M U T H T K1=10.36 B2=17.60 1962MFb (46889) 590
15 C: K1=10.38,7.34; 20 C: 10.37,7.25; 30 C: 10.43,7.25; 35 C: 10.43,7.17;
40 C: 10.49,7.16. DH(K1)=8.6 kJ mol⁻¹, DS=228 J K⁻¹ mol⁻¹; DH(K2)=-10.2, DS=104

La+++ vlt KNO3 20°C 0.10M U 1957NOa (46890) 591
B(La2L3)=35.5

La+++ vlt KNO3 20°C 0.10M U T K1=10.47 1956SGa (46891) 592

La+++ gl KCl 20°C 0.10M U K1=10.37 1951SFa (46892) 593

La+++ gl KCl 20°C 0.10M U K1=>10 K2=7.4 1948SBa (46893) 594
K(LaLOH+H)=9.2

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

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

La+++ gl KNO3 35°C 0.10M U 1987RRc (47572) 595
K(La+HL)=3.41

La+++ gl KNO3 35°C 0.10M U M 1986RMB (47573) 596
K(La+HL)=3.41
K(La+HL+cytidine)=8.47

La+++ gl NaClO4 37°C 3.00M U T K1=3.40 B2=6.85 1971JWa (47574) 597
B(LaHL)=11.07

La+++ gl NaClO4 25°C 3.00M U T K1=4.10 B2=5.40 1970JWa (47575) 598
B(LaHL)=11.75

C6H10N2O5 H2L ADA CAS 26239-55-4 (2747)
N-(2-Acetamido)iminodiethanoic acid; H2N.CO.CH2.N(CH2.COOH)2

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

La+++ gl KNO3 25°C 0.10M C M K1=6.65 2003AHa (47845) 599
K(LaL+A)=3.48

HA is 3-amino-5-mercapto-1,2,4-triazole.

C6H10O2 HL CAS 3002-24-2 (2742)
2,4-Hexanedione; CH3.CO.CH2.CO.CH2.CH3

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

La+++ gl mixed 30°C 67% U K1=6.22 B2=11.09 1964DBb (47931) 600
K3=4.16

Medium: 67% acetone, 0.1 M NaClO4

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

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

La+++ gl mixed 30°C 75% U K1=6.76 B2=12.26 1970DRa (47964) 601
K3=4.60

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

La+++ gl NaClO4 25°C 0.10M U K1=2.377 B2=4.06 1966PRb (47991) 602
K3=0.95

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

La+++ gl mixed 30°C 75% U K1=5.48 B2=10.28 1969DRa (48014) 603
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

La+++ gl NaClO4 25°C 0.10M M H K1=2.95 1986CDb (48074) 604
DH=14.4 kJ mol⁻¹, DS=105 J K⁻¹ mol⁻¹

La+++ sol oth/un 25°C 0.50M U K1=3.96 1970MKe (48075) 605

La+++ gl oth/un 25°C ->0 U K1=4.10 1951PJa (48076) 606

C6H10O4 H2L CAS 597-43-3 (2693)
2,2-Dimethylbutanedioic acid; HOOC.C(CH3)2.CH2.COOH

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

La+++ gl NaClO4 25°C 0.50M C K1=3.13 1986LEe (48102) 607
B(LaHL)=7.13

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

La+++ gl NaClO4 25°C 1.00M C H K1=4.35 B2=7.71 1974GGa (48343) 608
B3=8.60
B(LaHL2)=9.42

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

La+++ gl NaClO4 25°C 0.10M U M K1=4.42 1997PPb (48478) 609
K(La(edta)+L)=3.90

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

La+++ gl alc/w 30°C 50% C K1=8.57 1994SOa (48750) 610

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

La+++ gl KNO3 20°C 1.00M U K1=7.62 B2=13.25 1974Cmd (48751) 611
K(LaL2(OH)+H)=10.56

La+++ oth NaNO3 20°C 0.10M U M K1=8.15 B2=13.95 1966JMc (48752) 612
Method: paper electrophoresis. Mixed complexes with HEDTA

La+++ gl KCl 25°C 0.10M U K1=7.33 B2=13.90 1965DTa (48753) 613

La+++ gl KNO3 25°C 0.10M U K1=8.00 B2=13.98 1963TLa (48754) 614

La+++ gl KNO3 25°C 0.10M U 1958CGa (48755) 615
K(LaLOH+H)=8.5

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

La+++ gl R4N.X 25°C 0.10M C K1=7.04 1988CCb (49247) 616

La+++ gl NaClO4 25°C 1.00M C H K1=6.96 B2=11.55 1974GGa (49248) 617
B(LaH2L)=17.66

La+++ gl KNO3 25°C 0.10M U K1=7.04 B2=11.77 1962THb (49249) 618

C6H12N2O4 H2L CAS 4726-83-4 (5911)
N,N-Dihydroxyhexanediamide; HN(OH).CO.(CH2)4.CO.NH(OH)

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

La+++ gl NaNO3 25°C 0.10M C K1=9.01 1989EHa (49335) 619

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

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

La+++ gl NaCl 20°C 0.10M U K1=2.30 1986GKb (49426) 620

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

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

La+++ EMF NaClO4 25°C 1.0M U K1=1.85 B2=3.11 1965TVa (49461) 621
K3=0.56
K4=0.42

Method: quinhydrone electrode

C6H1203 HL (3662)
2-Hydroxy-2-methylpentanoic acid; (Methylpropylglycolic acid)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	EMF	NaCl04	25°C	1.0M	U			K1=2.20 B2=3.45 K3=0.77	1964EVa (49481)	622

Method: quinhydrone electrode.

C6H1204 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
La+++	gl	KNO3	25°C	0.10M	U			K1=2.81 B2=4.66 K3=0.60	1979PPa (49495)	623

C6H1205 L CAS 22416-73-5 (8237)
Methyl-alpha-D-lyxofuranoside;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	kin	non-aq	25°C	100%	C			K1=2.57	1980LVc (49512)	624

Medium: methanol.

C6H1205 L CAS 52485-92-4 (8236)
Methyl-alpha-D-ribofuranoside;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	kin	non-aq	25°C	100%	C			K1=2.38	1980LVc (49515)	625

Medium: methanol. For methyl-beta-D-ribofuranoside, K1<1.0

C6H1205 L CAS 1824-96-0 (8238)
Methyl-alpha-D-xylofuranoside;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	kin	non-aq	25°C	100%	C			K1=1.95	1980LVc (49519)	626

Medium: methanol. For methyl-beta-D-xylofuranoside, K1=1.60

C6H1207 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
La+++	gl	NaCl04	25°C	0.20M	U	M		K1=2.96 K(La(EDTA)+L)=2.13	1986LSb (49729)	627

La+++ gl NaClO4 25°C 0.20M U M K1=2.99 1985LSf (49730) 628
K(La(edta)+L)=2.16

La+++ oth oth/un 20°C 0.10M U K1=2.60 B2=4.75 1967MMe (49731) 629
K3=1.54

Method: paper electrophoresis.

La+++ EMF alc/w 25°C 90% U I K1=6.11 1966KRb (49732) 630
Medium: 90% MeOH. K1=4.48(50%), 5.17(80%)

La+++ gl KCl 25°C 0.20M U K1=2.43 B2=4.25 1963K0c (49733) 631

La+++ ix oth/un ? 0.20M U K1=2.38 B2=4.28 1962K0a (49734) 632
K3=1.42

By electrostatic(?): K2=1.98, K3=1.43. K4=0.84, K5=0.17, K6=-0.4

C6H13NO2 HL Isoleucine CAS 73-32-5 (424)
2-Amino-3-methylpentanoic acid; CH3.CH2.CH(CH3).CH(NH2).COOH

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

La+++ gl NaNO3 25°C 0.10M M M K1=5.27 1996KDd (49907) 633
*K(LaL)=-8.50
*K(La(OH)L)=-8.98
K(La(egta)+L)=3.56
Data for 0.05-0.15 M NaNO3. At I=0, K1=5.48, K(La(egta)+L)=3.71.

La+++ gl NaClO4 25°C 0.20M U K1=4.22 B2= 7.74 1987PPa (49908) 634

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

La+++ gl NaNO3 25°C 0.10M M M K1=5.25 1996KDd (50079) 635
*K(LaL)=-8.53
*K(La(OH)L)=-9.01
K(La(egta)+L)=3.52
Data for 0.05-0.15 M NaNO3. At I=0, K1=5.50, K(La(egta)+L)=3.70.

La+++ gl KNO3 25°C 0.20M U M K1=5.27 1990LSb (50080) 636
K(La(phen)+L)=5.15

La+++ gl NaClO4 25°C 0.20M U K1=4.59 B2= 8.63 1987PPa (50081) 637

La+++ gl NaClO4 25°C 0.20M U M K1=5.61 1986LSb (50082) 638
K(La(EDTA)+L)=4.31

La+++ gl NaClO4 25°C 0.20M U M K1=5.61 1985LSe (50083) 639
K(La(edta)+L)=4.31.

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

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

La+++ gl NaNO3 25°C 0.10M M M K1=5.13 1996KdD (50183) 640
*K(LaL)=-8.56
*K(La(OH)L)=-9.04
K(La(egta)+L)=3.50

Data for 0.05-0.15 M NaNO3. At I=0, K1=5.33, K(La(egta)+L)=3.69.

La+++ gl NaClO4 22°C 0.10M M M K1=4.60 B2=9.09 1991DTa (50184) 641
B3=12.55
K(LaA+L)=8.08

H4A=trans-cyclohexane-1,2-diaminotetraethanoic acid. Definitions wrong?

La+++ gl KCl 20°C 0.20M U K1=3.00 1990PLa (50185) 642

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

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

La+++ gl KCl 20°C 0.20M U K1=3.93 1990PLa (50218) 643

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

La+++ gl KNO3 20°C 0.10M U K1=4.99 B2=8.40 1982RFa (50375) 644

La+++ gl NaClO4 20°C 0.10M U T K1=5.30 B2= 8.62 1981SGd (50376) 645
Data for 20-40 C. At 30 C: K1=5.01, K2=3.15

La+++ nmr oth/un 25°C 1.00M U K1=4.61 1974KTa (50377) 646
Method: proton NMR

La+++ gl KCl 30°C 0.10M U K1=4.95 B2=8.60 1973MSe (50378) 647

La+++ gl alc/w 20°C 50% U I K1=6.06 1970KRa (50379) 648
Medium: 0-80% MeOH, 0.03 M KCl. K1(0%)=4.84, K1(20%)=5.39, K1(80%)=7.10

La+++ oth NaNO3 20°C 0.10M U K1=7.3 B2=12.10 1966JMc (50380) 649
Method: paper electrophoresis

La+++ gl KNO3 25°C 0.10M U K1=5.0 1958CGa (50381) 650

C6H13NO4S HL MES CAS 4432-31-9 (7807)

4-Morpholineethanesulfonic acid;

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

La+++ gl KNO3 25°C 0.10M C K1=3.40 2001AAb (50432) 651
*K(LaL)=-6.12
K(2La(OH)L=La2(OH)2L2)=10.13

C6H13NO5 HL Tricine CAS 5704-04-1 (1239)
N-(Tris(hydroxymethyl)methyl)glycine; (HO.CH2)3C.NH.CH2.COOH

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

La+++ gl KNO3 25°C 0.10M C M K1=4.99 2003AHa (50503) 652
K(LaL+A)=3.28

HA is 3-amino-5-mercapto-1,2,4-triazole.

La+++ gl KNO3 25°C 0.10M M I K1=5.02 B2= 9.23 1997EAa (50504) 653
Also values in 40% w/w ethanol, DMF, dioxane, acetonitrile.

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

La+++ gl NaCl 37°C 0.15M U M K1=2.39 B2= 5.13 1997GMa (50581) 654
B(LaHL)=11.37
B(LaH2AL)=24.43

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

C6H14N2O2 HL Lysine CAS 56-87-1 (41)
2,6-Diaminohexanoic acid; H2N.(CH2)4.CH(NH2)COOH

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

La+++ gl NaClO4 20°C 0.10M U T H K1=5.8 1983SDa (50826) 655
30 C: K1=5.52, 40 C: 5.22. DH=-48.7 kJ mol⁻¹, DS=-55 J K⁻¹ mol⁻¹

C6H15O4P HL CAS 1611-31-0 (4393)
Dipropylphosphoric acid; (CH3.CH2.CH2.O)2.PO.OH

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

La+++ kin none 25°C 0.00 M K1=1.92 1966SSb (51515) 656

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

La+++ ISE non-aq 25°C 100% C H K1=4.13 1993CCb (52201) 657
 Medium: DMSO, 0.1 M Et4NC1O4. Method: Ag+ ISE. By calorimetry, DH(K1)=-50.9
 kJ mol⁻¹, DS=-92.

C6H20N208P4 H4L CAS 938-16-3 (4402)
 Ethylenediaminetetra(methylenephosphonous acid);

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

La+++ gl KNO3 25°C 0.10M U K1=6.44 1971MMh (52248) 658

C6H20N2012P4 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

La+++ gl NaCl 37°C 0.15M C K1=11.64 1995WJa (52345) 659
 K(LaL+H)=6.98
 K(LaHL+H)=6.60

 La+++ gl KNO3 25°C 0.10M C K(LaL+H)=7.1 1991SKb (52346) 660
 K(LaHL+H)=7.6

 La+++ gl KCl 25°C 0.10M U K1=20.15 1967KDa (52347) 661
 K(La+HL)=15.38
 K(La+H2L)=12.13
 K(La+H3L)=10.00
 K(La+H4L)=8.04

K(La+H5L)=4

C7H4N206 HL CAS 2460-59-5 (3139)
 3,5-Dinitrosalicylaldehyde; HO.C6H2(NO2)2.CHO

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

La+++ sp NaClO4 25°C 0.10M U K1=1.84 1966PMa (52396) 662

C7H4N207 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

La+++ gl NaNO3 25°C 0.10M U I M K1=4.83 1996KDC (52486) 663
 *K(LaL)=-7.60
 K(La(egta)+L)=4.55

Data for 0.05 and 0.15 M NaNO3. At I=0, K1=5.18, *K(LaL)=-7.79,
 K(La(egta)+L)=4.97.

 La+++ gl oth/un 24°C 0.20M U K1=4.51 1972PSd (52487) 664

Medium: LiCl

La+++ EMF KNO3 30°C 0.10M U K1=5.0 1971DDa (52488) 665

C7H5N04 H2L Dipicolinic aci CAS 449-83-2 (418)
2,6-Pyridinedicarboxylic acid; C5H3N.(COOH)2

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

La+++ cal NaCl04 25°C 0.50M C H 1963GRd (52784) 666
DH(K1)=-13.10 kJ mol⁻¹, DS(K1)=108 J K⁻¹ mol⁻¹; DH(B2)=-26.8,
DS(B2)=173; DH(B3)=-36.11, DS(B3)=223.

La+++ EMF oth/un 20°C 0.50M U K1=7.98 B2=13.79 1961GRa (52785) 667
K3=4.27

C7H5N04 HL CAS 121-92-6 (490)
3-Nitrobenzoic acid; O2N.C6H4.COOH

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

La+++ gl NaCl04 25°C 0.10M C H K1=1.57 1986CLc (52868) 668
DH=5.5 kJ mol⁻¹, DS=49 J K⁻¹ mol⁻¹

C7H5N04 HL CAS 5274-70-4 (3148)
3-Nitrosalicylaldehyde; HO.C6H3(NO2).CHO

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

La+++ sp NaCl04 25°C 0.10M U K1=3.03 1966PMa (52883) 669

C7H5N04 HL CAS 62-23-7 (489)
4-Nitrobenzoic acid; O2N.C6H4.COOH

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

La+++ gl NaCl04 25°C 0.10M M H K1=1.59 1999YKa (52909) 670
By calorimetry: DH(K1)=7.10 kJ mol⁻¹, DS(K1)=54.2 J K⁻¹ mol⁻¹.

C7H5N04 HL CAS 97-51-8 (1887)
5-Nitrosalicylaldehyde; O2N.C6H3(OH).CHO

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

La+++ sp NaCl04 25°C 0.10M U K1=2.73 1966PMa (52936) 671

C7H5O2Cl HL (3747)
2-Hydroxy-6-chlorobenzaldehyde (6-chlorosalicylaldehyde)

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

 La+++ sp NaClO4 25°C 0.10M U K1=4.08 1966PMa (53158) 672

 C7H5O2Cl HL CAS 1927-94-2 (3143)
 3-Chlorosalicylaldehyde; HO.C6H3(Cl).CHO

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

La+++ sp NaClO4 25°C 0.10M U K1=3.16 1966PMa (53189) 673

 C7H5O2Cl HL CAS 2420-26-0 (3144)
 4-Chlorosalicylaldehyde; HO.C6H3(Cl).CHO

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

La+++ sp NaClO4 25°C 0.10M U K1=3.38 1966PMa (53208) 674

 C7H5O2Cl HL CAS 635-93-8 (3145)
 5-Chlorosalicylaldehyde; HO.C6H3(Cl).CHO

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

La+++ sp NaClO4 25°C 0.10M U K1=3.20 1966PMa (53223) 675

 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

La+++ gl NaClO4 25°C 0.10M C H K1=1.65 1986CLc (53237) 676
 DH(K1)=6.7 kJ mol⁻¹, DS=54 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

La+++ gl NaClO4 25°C 0.10M C H K1=1.88 1986CLc (53257) 677
 DH(K1)=8.1 kJ mol⁻¹, DS=63 J K⁻¹ mol⁻¹

 C7H5O3As HL CAS 50722-40-2 (8008)
 2-Arsenosobenzoic acid;

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

La+++ gl alc/w 35°C 20% U K1=4.05 1973SPf (53278) 678
 Medium: 20% EtOH/H2O, 0.1 M KNO3.

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

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  NaCl04 25°C 0.10M C  H  T                      1993ALa (53370) 679
                                     B(1,1,1)=12.30
                                     B(1,0,1)=6.49
                                     B(1,0,2)=10.72
                                     B(1,-1,1)=-2.73
B(p,q,r); pLa+qH+rL=(La)pHqLr. B(1,-2,1)=-11.85.

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*****
C7H6N2O4      H2L                      CAS 2683-49-0 (3753)
4-Aminopyridine-2,6-dicarboxylic acid (4-aminodipicolinic acid)
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      sol KNO3  20°C 0.10M U          K1=9.6   B2=16.27 1965ABa (53510) 680
                                     K3=4.50

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*****
C7H6O5      HL      Thiotropolone      CAS 1073-38-7 (8477)
2-Mercapto-2,4,6-cycloheptatrien-1-one;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  diox/w 30°C 50% M  I      K1=4.75  B2= 9.10 1978SSi (53545) 681
Medium: 50% v/v dioxane/H2O, 0.10 M NaCl04. Data for 0.005 and 0.2 M
NaCl04.

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*****
C7H6O2      HL      Salicylaldehyde CAS 90-02-8 (193)
2-Hydroxybenzaldehyde, Salicylaldehyde; HO.C6H4.CHO
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      sp  NaCl04 25°C 0.10M U          K1=3.40                      1966PMa (53624) 682

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*****
C7H6O2      HL      Tropolone          CAS 533-75-5 (3129)
2-Hydroxycyclohepta-2,4,6-trien-1-one;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      sp  NaCl04 25°C 0.10M U          K1=6.25                      1970HOa (53678) 683

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La+++      gl  KNO3   25°C 0.10M U          K1=6.19  B2=11.12 1969CMb (53679) 684
                                     K3=4.19

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*****
C7H6O2      HL      Benzoic Acid      CAS 65-85-0 (462)
Benzenecarboxylic acid; C6H5.COOH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      cal NaCl04 25°C 0.10M U  H      K1=1.92  B2=3.56  1982CBc (53839) 685

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DH1= 8.0 kJ mol⁻¹, DS= 64 J K⁻¹ mol⁻¹

La+++ gl alc/w 25°C 99% U K1=5.60 B2=9.75 1974BPb (53840) 686
K3=2.42

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

La+++ gl NaClO4 25°C 0.1M C H 1996HYa (54241) 687
By calorimetry: DH(K1)=2.01 kJ mol⁻¹, DH(B2)=5.07 J K⁻¹ mol⁻¹

La+++ gl NaNO3 25°C 0.10M U I M K1=7.43 1996KDC (54242) 688
*K(LaL)=-8.04
K(La(egta)+L)=5.37

Data for 0.05 and 0.15 M NaNO3. At I=0, K1=7.78, *K(LaL)=-8.20,
K(La(egta)+L)=5.72.

La+++ gl alc/w 24°C 20% C M K1=2.51 1996MIa (54243) 689
K(La(ada)+L)=2.81

Medium: 20% w/w EtOH/H2O, 0.10 M KNO3.
ada: N-(acetamido)-iminodiethanoic acid.

La+++ gl NaClO4 25°C 0.10M C T 1989HMa (54244) 690
K(La+HL)=1.80
K(LaHL+HL)=1.75

La+++ gl alc/w 25°C 40% U M T K1=7.36 1986LSb (54245) 691
K(La(EDTA)+L)=7.09

Medium: 40% v/v EtOH/H2O, 0.2 M NaClO4

La+++ gl KNO3 25°C 0.10M U T HM K1=9.64 1986NSa (54246) 692
B(LaAL)=14.99

H2A=phthalic acid. DH(LaAL)=-48.7 kJ mol⁻¹, DS=123.4 J K⁻¹ mol⁻¹

La+++ gl NaClO4 25°C 0.20M U M K1=7.43 1985LSf (54247) 693
K(La(edta)+L)=7.13

La+++ gl KNO3 30°C 0.10M U M 1976RTb (54248) 694
K(La(NTA)+L)=6.20

La+++ ix mixed 20°C 50% U 1976TRa (54249) 695
K(La+HL)=2.17
K(La+2HL)=3.52
K(La+3HL)=4.01

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

La+++ gl alc/w 25°C 100% U K1=5.32 B2=9.60 1973BPd (54250) 696
K3=3.11

Medium: 99.9% MeOH, 0.1 M NaCl

La+++ sp oth/un 25°C 0.10M U 1968ENa (54251) 697
K(La+HL)=2.08

La+++ gl KCl 30°C 0.10M U K1=2.64 1962CTa (54252) 698

La+++ con oth/un 25°C ? U 1959FEa (54253) 699
K(La+HL)=2.82

By solubility: $K(\text{LaL}_3(\text{s})=\text{LaL}_3)=-10.48$

La+++ gl oth/un 21°C 2.86M U B2=16.82 1959FEa (54254) 700
K(LaL(HL)2+H)=7.5
K(LaL2HL+H)=10.0
K(La+H+3L)=16.57

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

La+++ gl NaCl04 25°C 0.10M C H 1988LLa (54382) 701
B(La+HL)=1.76

La+++ gl alc/w 25°C 99% U K1=5.79 B2=10.31 1974BPb (54383) 702
K3=3.12

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

La+++ gl NaCl04 25°C 0.10M M H K1=1.71 1999YKa (54422) 703
By calorimetry: $\text{DH}(K1)=8.64 \text{ kJ mol}^{-1}$, $\text{DS}(K1)=61.7 \text{ J K}^{-1} \text{ mol}^{-1}$.

La+++ gl NaCl04 25°C 0.10M C H 1988LLa (54423) 704
K(La+HL)=1.97

$\text{DH}=8.63 \text{ kJ mol}^{-1}$, $\text{DS}=66.6 \text{ J K}^{-1} \text{ mol}^{-1}$

La+++ gl alc/w 25°C 99% U K1=6.00 B2=10.64 1974BPb (54424) 705
K3=2.62

C7H6O4 H3L Resorcylic acid CAS 89-86-1 (876)
2,4-Dihydroxybenzoic acid, b-Resorcylic acid; C6H3(OH)2.COOH

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

La+++ gl NaCl04 25°C 0.20M U M T K1=6.09 1986LSb (54529) 706
K(La(EDTA)+L)=4.06

La+++ gl NaClO4 25°C 0.20M U M K1=6.09 1985LSd (54530) 707
K(La(edta)+L)=4.06
B(La(edta)L)=15.49

La+++ gl NaClO4 25°C 0.20M U M K1=6.15 1985LSf (54531) 708
K(La(edta)+L)=4.13

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

La+++ gl NaClO4 25°C 0.20M U K1=9.28 1996PJa (54677) 709

La+++ gl NaClO4 25°C 0.20M U M K1=7.95 1986LSb (54678) 710
K(La(EDTA)+L)=4.22

La+++ gl NaClO4 25°C 0.20M U M K1=7.95 1985LSd (54679) 711
K(La(edta)+L)=4.22
B(Ln(edta)L)=15.75

La+++ gl NaClO4 25°C 0.20M U M K1=8.04 1985LSf (54680) 712
K(La(edta)+L)=4.29

C7H6O5 H4L Gallic acid CAS 149-91-7 (446)
3,4,5-Trihydroxybenzoic acid; C6H2(OH)3.COOH

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

La+++ gl NaClO4 30°C 0.20M U M K1=11.23 1978MSk (54753) 713
KLa(NTA)+L)=4.98

C7H6O5S H2L CAS 632-25-7 (4436)
2-Carboxybenzenesulfonic acid; HOOC.C6H4.SO3H

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

La+++ gl KCl 25°C 0.20M U K1=2.4 1973DPa (54779) 714

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

La+++ gl KNO3 20°C 0.10M U T K1=7.24 1982DBa (55017) 715

La+++ gl KNO3 30°C 0.10M U M 1976RTb (55018) 716
K(La(NTA)+L)=4.76

La+++ gl NaClO4 20°C 1.0M U K1=5.92 B2=10.73 1972CBb (55019) 717

La+++ gl KNO3 35°C 0.10M U K1=6.54 B2=11.87 1969MDa (55020) 718

C7H7NOS HL (2034)

N-Thioformyl-N-phenylhydroxylamine; H(C:S)N(C6H5)OH

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

La+++ gl diox/w 30°C 70% U K1=7.54 B2=13.26 1981MBb (55153) 719

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

La+++ gl alc/w 24°C 20% C M K1=2.555 1996MIa (55233) 720
K(La(ada)+L)=2.86

Medium: 20% w/w EtOH/H2O, 0.10 M KNO3.
ada: N-(acetamido)-iminodiethanoic acid.

La+++ gl NaNO3 25°C 0.10M M I M K1=3.33 1995KDC (55234) 721
K(La(egta)+L)=2.46

Data for 0.05 and 0.15 M NaNO3. At I=0, K1=3.76, K(La(egta)+L)=2.98.

La+++ gl NaClO4 25°C 0.10M C K1=1.96 B2=4.08 1989HMa (55235) 722

La+++ gl alc/w 25°C 0.20M U M K1=2.05 1986LSb (55236) 723
K(La(EDTA)+L)=1.96

La+++ gl KNO3 30°C 0.20M C M 1985KMD (55237) 724
K(La(nta)+L)=3.60
K(La(edta)+L)=4.22

La+++ gl NaClO4 25°C 0.10M U H K1=4.02 1982KYc (55238) 725
By calorimetry, DH(K1)=4.44 kJ mol⁻¹, DS(K1)=91.96 J K⁻¹ mol⁻¹.

La+++ gl non-aq 25°C 100% U K1=6.05 B2=10.87 1970BBh (55239) 726
K3=3.04
K4=2.64

Medium: MeOH, 0.1 M NaCl

La+++ gl KCl 30°C 0.10M U K1=3.14 1962CTa (55240) 727

C7H7NO2 HL Salicylamide CAS 65-45-2 (3155)

2-Hydroxybenzamide; HO.C6H4.CO.NH2

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

La+++ gl diox/w 30°C 50% U T H K1=4.23 B2= 7.46 1973PSc (55331) 728
Medium: 50% dioxane/H2O, 0.3 M KNO3. DH and DS values reported.

Data for 40 C.

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

La+++ gl NaClO4 25°C 0.10M M H K1=1.91 1999YKa (55384) 729
By calorimetry: DH(K1)=5.80 kJ mol⁻¹, DS(K1)=56.5 J K⁻¹ mol⁻¹.

La+++ gl KCl 25°C 0.20M U K1=2.12 1977EBa (55385) 730

C7H7NO2 HL CAS 495-18-1 (184)
Benzohydroxamic acid; C6H5.CO.NH.OH

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

La+++ gl diox/w 35°C 50% A K1=9.25 B2=17.00 1977AKa (55504) 731
K3=6.73

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

La+++ gl KNO3 25°C 0.1M M K1=9.79 B2=18.12 1989LWa (55599) 732
K3=8.04

La+++ gl mixed 25°C 75% U 1970SEa (55600) 733

K(La+HL)=6.30
K(LaHL+HL)=5.96
K(La(HL)2+HL)=4.90

Medium: 75% acetone, 0.1 M NaClO4

C7H7NO5S H2L CAS 3577-63-7 (3181)
5-Sulfoanthranilic acid; (5-sulfo-2-aminobenzoic acid)

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

La+++ gl NaNO3 25°C 0.10M M I M K1=3.23 1995KDC (55677) 734
K(La(egta)+L)=2.27

Data for 0.05 and 0.15 M NaNO3. At I=0, K1=3.55, K(La(egta)+L)=2.54.

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

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

La+++ gl KCl 25°C 0.20M M T H K1=7.94 1991BPb (55690) 735
K(La+OH+L)=14.39

DH(K1)=-115 kJ mol⁻¹, DS(K1)=-236 J K⁻¹ mol⁻¹. DH(La(OH)L)=-248.5, DS(La(OH)L)=-557. Also data for 35, 45 and 55 C.

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

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

La+++ gl NaNO₃ 25°C 0.0 U M K1=9.49 1996KDb (56069) 736
K(La(egta)+L)=5.47

Extrapolated from data for I=0.05-0.15 M NaNO₃.

La+++ gl mixed 25°C 50% U I K1=3.82 B2=7.32 1969BCb (56070) 737
Medium: 50% DMSO, 0.12 M NaClO₄. In 50% dioxan, 0.12 M NaClO₄: K1=4.60,
K2=3.47; 50% EtOH, 0.12 M NaClO₄: K1=3.95, K2=2.75

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

La+++ sp KCl 25°C 0.10M M I K1=5.50 1986PLb (56129) 738

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

La+++ sp KCl 25°C 0.10M M I K1=5.26 1986PLb (56148) 739

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

La+++ gl KNO₃ 25°C 0.10M U K1=5.31 B2=9.37 1963THb (56808) 740

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

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

La+++ gl KNO₃ 25°C 0.1M U K1=7.50 1982KKc (56847) 741

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

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

La+++ gl KNO₃ 20°C 0.10M U K1=11.02 B2=18.24 1974RMg (56912) 742

C7H12N2O3 HL Gly-Pro CAS 704-15-4 (257)
Glycyl-proline; H2N.CH2.CO.NC4H7.COOH

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

La+++ gl KNO3 25°C 0.15M M T H K1=3.46 1979SKd (57124) 743
Data for 35 and 45 C. At 35 C, K1=3.56, DH(K1)=18.2 kJ mol-1,
DS(K1)=127 J K-1 mol-1.

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

La+++ gl NaClO4 25°C 1.0M U K1=1.76 B2=3.19 1967STd (57264) 744

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

La+++ gl mixed 30°C 75% U K1=7.07 1971DRb (57275) 745
Medium: 75% acetone, 0.1 M

C7H12O4 HL CAS 96740-23-7 (2249)
1,5-Dimethoxy-pent-2,4-dione, CH3.O.CH2.CO.CH2.CO.CH2.O.CH3

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

La+++ gl diox/w 24°C 50% U K1=4.5 1979ACa (57292) 746

C7H12O4 H2L Pimelic acid CAS 111-16-0 (985)
1,7-Heptanedioic acid; HOOC.(CH2)5.COOH

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

La+++ gl KNO3 25°C 0.20M U M 1990KMF (57305) 747

K(La(nta)+L)=5.44
K(La(hedta)+L)=5.38
K(La(cdta)+L)=5.24
K(La(dtpa)+L)=5.09

hedta is N-(hydroxyethyl)diaminoethane-N,N',N'-triethanoic acid

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

La+++ gl KNO3 25°C 0.10M U K1=3.61 B2=5.95 1968PFa (57366) 748

La+++ gl NaClO4 25°C 0.10M C K1=1.75 B2=2.97 1976SPa (57876) 755

C7H15N04 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

La+++ gl KNO3 20°C 0.10M U K1=4.49 B2=7.50 1982RFa (57938) 756

C7H15N05S 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

La+++ gl KNO3 25°C 0.10M C K1=3.34 2001AAb (57994) 757

*K(LaL)=-5.82

K(2La(OH)L=La2(OH)2L2)=9.62

C8H204C14 H2L CAS 632-58-6 (3214)

Tetrachlorophthalic acid; C14.C6(COOH)2

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

La+++ gl oth/un 20°C 0.10M U 1960Wka (58390) 758

Kso=5.06

C8H5N5O6 H3L Murexide (453)

Purpuric acid (Murexide is ammonium salt);

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

La+++ sp non-aq 25°C 100% C K1=6.08 2003ZRa (58514) 759

Medium: DMSO.

La+++ sp NaNO3 25°C 0.10M U K1=3.29 19850Ha (58515) 760

La+++ sp NaClO4 30°C 0.10M C 1978BKd (58516) 761

K1eff=4.577

Medium pH 5.4 (acetate).

La+++ sp KNO3 12°C 0.10M U 1965GEa (58517) 762

K(La+H2L)=3.43

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

La+++ gl alc/w 22°C 80% U K1=5.74 B2=10.68 1995MTa (58636) 763

K3=3.71

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

La+++ gl mixed 25°C 50% U K1=5.30 1980SBc (58637) 764
Medium: 50% MeCN

La+++ dis non-aq 25°C 100% U T M 1972KKd (58638) 765
K(LaL3+bpy)=4.76
K(LaL3+2bpy)=6.70
K(LaL3+A)=3.34
K(LaL3+2A)=5.55

Medium: benzene. K(LaL3+phen)=6.25, K(LaL3+2phen)=9.91. A=4,4'-dipyridyl
Temperature range 15-35 C

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

La+++ gl alc/w 24°C 20% C M K1=3.71 1996MIa (58978) 766
K(La(ada)+L)=4.43

Medium: 20% w/w EtOH/H2O, 0.10 M KNO3.
ada: N-(acetamido)-iminodiethanoic acid.

La+++ gl NaNO3 25°C 0.10M M I M K1=4.16 1995KDb (58979) 767
K(La(egta)+L)=3.85

Data for 0.05 and 0.15 M NaNO3. At I=0, K1=4.44, K(La(egta)+L)=4.17.

La+++ gl alc/w 25°C 40% U M K1=4.09 1986LSb (58980) 768
K(La(EDTA)+L)=3.08

Medium: 40% v/v EtOH/H2O, 0.2 M NaClO4

La+++ gl KNO3 25°C 0.10M U K1=2.95 1986NSa (58981) 769

La+++ gl NaClO4 25°C 0.20M U M K1=4.14 1985LSf (58982) 770
K(La(edta)+L)=3.16

La+++ gl NaClO4 30°C 0.10M U K1=4.10 B2=7.28 1966KPb (58983) 771

La+++ gl oth/un 25°C 0.0 U B2=4.74 1951PJb (58984) 772

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

La+++ cal NaClO4 25°C 0.10M U H K1=2.15 1982CBc (59055) 773
DH= 14.57 kJ mol-1, DS= 90 J K-1 mol-1

C8H7NO2 HL CAS 532-54-7 (4363)

Isonitrosoacetophenone, Phenylglyoxal 2-oxime;

```
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  diox/w 20°C  50% U      K1=5.72  B2=10.64  1971MAf (59103) 774
Medium: 50% v/v dioxan, 0.1 M NaClO4
*****
C8H7NO3    HL                      (7376)
benzoylhydroxamic acid; C6H5COCONHOH
-----
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  KNO3   25°C  0.1M M      K1=8.15  B2=15.55  1989LWa (59126) 775
K3=6.36
*****
C8H7O2Cl   HL                      CAS 1450-74-4 (6325)
2-Hydroxy-5-chloro-acetophenone; Cl(HO)C6H3.CO.CH3
-----
```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  alc/w  25°C  20% M I      K1=5.44                      1994KDa (59219) 776
Medium: 20% v/v EtOH/H2O, 0.10 M NaNO3. Also data for 0.05 and 0.15 M
NaNO3. At I=0 (20% v/v), K1=5.78, *K(LaL)=-8.99, *K(La(OH)L)=-9.28.
*****
C8H8N2O    L                      CAS 4856-97-7 (3820)
2-(Hydroxymethyl)benzimidazole;
-----
```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  diox/w 30°C  50% U T H    B2=15.36                      1988NOa (59311) 777
40 C: B2=15.30; 50 C: B2=15.25. DH=-9.8 J K-1 mol-1, DS=261 J K-1 mol-1.
*****
C8H8N2O2   HL  Phenylglyoxime (3222)
Phenylglyoxime; C6H5.C(:N.OH).CH:N.OH
-----
```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  diox/w 20°C  50% U      K1=6.38  B2=11.90  1971MAf (59338) 778
Medium: 50% dioxan, 0.1 M NaClO4
*****
C8H8N4OS   L                      (6097)
2-Acetylpyridinethiosemicarbazone; C5H4N.CO.CH:N.NH.CS.NH2
-----
```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  alc/w  25°C  75% C I      K1=6.91  B2=13.50  1988GSa (59409) 779
In 75%(v/v) ethanol/water; 0.1 M NaClO4. I=0.2 M: K1=6.82, K2=6.76;
I=0.05 M: K1=7.02, K2=6.73; I=0.02 M: K1=7.14, K2=6.90
*****
C8H8O2     HL  2-Acetylphenol  CAS 118-93-4 (1888)
-----
```

2-Hydroxyacetophenone; HO.C6H4.CO.CH3

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  alc/w  25°C  20%  M  I      K1=6.05      1994KDa (59466) 780
Medium: 20% v/v EtOH/H2O, 0.10 M NaNO3. Also data for 0.05 and 0.15 M
NaNO3. At I=0 (20% v/v), K1=6.34, *K(LaL)=-8.92, *K(La(OH)L)=-9.46.
*****
C8H8O2      HL  Phenylacetic      CAS 103-82-2 (1361)
Phenylethanoic acid; C6H5.CH2.COOH
-----
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  NaClO4 25°C  0.1M  C  H      K1=1.74      1996HYa (59552) 781
By calorimetry: DH(K1)=11.30 kJ mol-1
-----
La+++      gl  NaClO4 25°C  0.10M  C  H      K1=1.74      1990HYa (59553) 782
By calorimetry: DH(K1)=11.3 J K-1 mol-1
*****
C8H8O2      HL                               CAS 583-80-2 (3191)
beta-Methyltropolone;
-----
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      sp  alc/w  ?    3%  U      K1=6.12      1967GDb (59599) 783
Medium: 3% EtOH, 0.2 M NaClO4
*****
C8H8O3      H2L                               CAS 490-78-8 (6324)
2,5-Dihydroxyacetophenone; (HO)2C6H3.CO.CH3
-----
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  alc/w  25°C  20%  M  I      K(La+HL)=5.84
1994KDa (59680) 784
Medium: 20% v/v EtOH/H2O, 0.10 M NaNO3. Also data for 0.05 and 0.15 M
NaNO3. At I=0 (20% v/v), K1=6.18, *K(LaHL)=-8.86, *K(La(OH)HL)=-9.26.
*****
C8H8O3      HL  o-Anisic acid      CAS 579-75-9 (2337)
2-Methoxybenzoic acid; CH3O.C6H4.COOH
-----
```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  NaClO4 25°C  0.10M  M  H      K1=1.78      1988CLb (59738) 785
DH=7.97 kJ mol-1, DS=61 J K-1 mol-1
-----
La+++      gl  diox/w 30°C  76%  M      K1=6.89      1978PMa (59739) 786
Medium: 76% v/v dioxane/H2O, 0.10 M NaClO4.
*****
C8H8O3      HL  Mandelic Acid      CAS 611-72-3 (80)
2-Phenyl-2-hydroxyethanoic acid; C6H5.CH(OH).COOH
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      cal alc/w  25°C  60%  U   H                               1996YLa (59843) 787
                                         K(LaL+Phen)=2.44
Medium: 60% v/v MeOH/H2O. Phen: 1,10-phenanthroline.
DH=-3.95 kJ mol-1, DS=75.2 J K-1 mol-1.
-----
La+++      gl  NaClO4 25°C  0.10M C           K1=2.55  B2=4.14  1989HMa (59844) 788
-----
La+++      gl  NaClO4 25°C  2.0M  U           T K1=1.93          1972DCb (59845) 789
-----
La+++      gl  KNO3   25°C  1.0M  U   I           K1=1.94  B2=3.34  1967PNb (59846) 790
At I=0.1: K1=2.24, K2=1.7
-----
La+++      gl  NaClO4 25°C  1.0M  U           K1=2.18  B2=3.62  1966TVa (59847) 791
                                         K3=1.23
                                         K4=0.74
*****
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
-----
La+++      gl  NaClO4 25°C  0.10M M   H           K1=1.96          1988CLb (59913) 792
DH=5.41 kJ mol-1, DS=56 J K-1 mol-1
*****
C8H8O3      HL                        CAS 148-52-8 (3193)
3-Methoxysalicylaldehyde; CH3O.C6H3(OH).CHO
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  NaNO3   25°C  0.10M M   I M          K1=4.267          1995KDD (59929) 793
                                         K(La(egta)+L)=2.637
Data for 0.15 and 0.05 M NaNO3. At I=0, K1=4.491, K(La(egta)+L)=2.946.
*****
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
-----
La+++      gl  NaClO4 25°C  0.10M M   H           K1=2.06          1988CLb (59955) 794
DH=6.88 kJ mol-1, DS=63 J K-1 mol-1
-----
La+++      gl  diox/w  30°C  76%  M           K1=6.80          1978PMa (59956) 795
Medium: 76% v/v dioxane/H2O, 0.10 M NaClO4.
*****
C8H8O4      H3L                        CAS 480-66-0 (8525)
2,4,6-Trihydroxyacetophenone;
-----

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	gl	diox/w	25°C	50%	M		K1=3.19	1978AGc (60054)	796
Medium: 50% v/v dioxane/H2O, 0.10 M NaClO4.									

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
La+++	gl	diox/w	35°C	50%	U		K1=4.05 B2=7.23	1971MAa (60092)	797
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
La+++	cal	NaClO4	25°C	0.10M	C	H		2000MNa (60133)	798
DH(La+H2L)=0.16 kJ mol ⁻¹ , DS=80. DH(La+2H2L)=-2.31, DS=141.									

La+++	gl	NaClO4	25°C	0.10M	C		K1=8.45 B2=11.65	1995JNa (60134)	799
B(LaH2L)=15.33									
B(LaHL)=-12.05									
B(LaH-1L)=-1.97									
B(LaH4L2)=30.02									
B(LaH3L2)=26.73									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	gl	NaNO3	25°C	0.10M	M	I M	K1=4.66	1995KDC (60233)	800
K(La(egta)+L)=4.11									
Data for 0.05 and 0.15 M NaNO3. At I=0, K1=4.89, K(La(egta)+L)=4.39.									

C8H9NO2		HL					CAS 4389-45-1	(3226)	
3-Methyl-2-aminobenzoic acid; CH3.C6H3(NH2).COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	gl	KN03	30°C	0.10M	C	M	K1=5.39 B2=10.24	1987RSc (60345)	801
K3=4.35									
K(La(hedta)+L)=3.80									
hedta is N-hydroxyethyldiaminoethane-N,N',N'-triethanoic acid.									

La+++	gl	KN03	20°C	0.10M	M	T	K1=5.45 B2=10.35	1986RSc (60346)	802
K3=4.39									
Data for 20-50 C. At 30 C, K1=5.39, K2=4.85, K3=4.35.									

 C8H9NO2S HL CAS 104-18-7 (4575)
 (4-Aminophenylthio)ethanoic acid; H2N.C6H4.S.CH2.COOH

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

 La+++ gl KNO3 25°C 0.05M M K1=3.50 1975DPb (60373) 803

 C8H9NO4 H2L (4520)
 Dehydroethanoic acid oxime;

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

 La+++ gl diox/w 35°C 50% U 1971MAa (60498) 804
 K(La+HL)=3.85
 K(La+2HL)=6.88

Medium: 50% dioxan, 0.01 M NaClO4

 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

 La+++ gl R4N.X 25°C 0.10M C K1=12.82 B2=22.64 1975JTa (60635) 805

 La+++ gl oth/un 20°C 0.0 U K2=10 1948SBa (60636) 806

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

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

 La+++ gl diox/w 30°C 50% C TIH K1=4.04 B2=7.17 1989GDa (60816) 807
 DH(K1)=-58.27 kJ mol⁻¹

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

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

 La+++ gl alc/w 22°C 20% U K1=4.18 B2=7.44 1988ZTa (60850) 808
 K3=2.91

 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

 La+++ gl KCl 30°C 0.10M C K1=5.85 B2=10.05 1996SZa (60870) 809
 For the -5-en-2-exo isomer, K1=6.08, B2=10.84.

Cyclohexane-1,4-dicarboxylic acid; C6H10.(COOH)2

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  NaClO4 25°C 0.10M M  H   K1=4.34      1986Cdb (61711) 817
DH=12.9 kJ mol-1, DS=126 J K-1 mol-1
*****
```

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

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  KNO3   20°C 0.10M U      K1=8.30  B2=13.77  1974RMg (61765) 818
*****
```

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

```
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  KNO3   20°C 0.10M U      K1=9.98  B2=16.33  1974RMg (61790) 819
*****
```

```
C8H13NO6S     H3L      (5675)
2-Mercapto-1-aminoethane-N,N,S-triethanoic acid; HOOC.CH2.S.CH2.CH2.N(CH2COOH)2
-----
```

```
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  NaClO4 25°C 0.10M U      K1=7.59      1975POa (61825) 820
K(La+HL)=2.60
*****
```

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

```
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  KCl    25°C 0.50M U      K(La+H3L)=1.11
K(La+H2L)=2.43
K(La+2H2L)=5.00
*****
```

```
C8H14O3      HL      CAS 607-97-6 (4489)
3-Ethylethylacetoacetate; CH3.CO.CH(C2H5).CO.OC2H5
-----
```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  mixed  30°C 75% U      K1=7.58      1971DRb (62079) 822
Medium: 75% acetone, 0.1 M
*****
```

```
C8H14O4      H2L      Suberic acid      CAS 505-48-6 (517)
Octanedioic acid; HOOC.(CH2)6.COOH
-----
```

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	KNO3	25°C	0.20M	U	M			1990KMF (62096)	823
								K(La(nta)+L)=3.33 K(La(hedta)+L)=3.26 K(La(cdta)+L)=3.22 K(La(dtpa)+L)=3.20		

hedta is N-(hydroxyethyl)diaminoethane-N,N',N'-triethanoic acid.

 C8H16N2O4 H2L (267)
 1,2-Diaminoethane-N,N'-di(2-propanoic acid); ((CH3)(COOH).CH.NH.CH2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	KCl	20°C	0.10M	U			K1=5.8	1958ISa (62472)	824
								CAS 13288-40-9 (3237)		
								1,2-Diaminoethane-N,N'-di(3-propanoic acid); (HOOCH2CH2NHCH2.)2		

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	KCl	20°C	0.10M	U			K1=5.8	1958ISa (62503)	825
								(266)		
								N,N'-Dimethylethylenediamine-N,N'-diethanoic acid;		

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	KNO3	25°C	0.10M	C			K1=6.60 B2=11.70	1993WLa (62529)	826
								K(La+HL)=2.24		
								CAS 38937-66-5 (5912)		
								N,N-Dihydroxyoctanediamide; HN(OH).CO.(CH2)6.CO.NH(OH)		

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	NaNO3	25°C	0.10M	C			K1=9.59	1989EHa (62541)	827
								CAS 294-93-9 (174)		
								1,4,7,10-Tetraoxacyclododecane; cyclo(-0.(CH2.CH2.0)3.CH2.CH2-)		

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	ISE non-aq		25°C	100%	U			K1=5.00 B2=6.98	1982MDa (62682)	828
								CAS 7365-45-9 (2786)		
								4-(2-Hydroxyethyl)-1-piperazine-ethanesulfonic acid;		

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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 La+++ gl KNO3 25°C 0.10M C K1=3.33 2001AAb (62876) 829
 *K(LaL)=-6.15
 K(2La(OH)L=La2(OH)2L2)=10.21

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

La+++ gl KCl 25°C 0.10M U K(La+HL)=15.6
 K(La+H2L)=8.43

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

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

La+++ gl non-aq 25°C 100% C K1=3.92 1989BPa (62987) 831
 Medium: anhydrous propylene carbonate, 0.1 M Et4NClO4

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

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

La+++ gl NaCl 30°C 0.10M C K1=3.76 B2= 8.20 2002NWa (63061) 832
 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

La+++ kin oth/un 25°C 0.02M U K1=1.64 1974GMc (63182) 833

La+++ kin none 25°C 0.0 M K1=2.02 1966SSb (63183) 834

La+++ sol oth/un ? 0.0 U K1=1.80 B2=3.5 1965SSg (63184) 835
 B3=4.62

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

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

La+++ gl KCl 25°C 0.10M U K1=10.13 1965DKb (63340) 836
 K(La+HL)=5.37

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
La+++	gl	diox/w	35°C	75%	U			K1=6.10 B2=11.40 K3=4.50	1971MAb (63566)	837

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

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	sp	diox/w	20°C	50.0M	U			K1=2.43 B2=3.20	1977MBb (63610)	838

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
La+++	gl	NaClO4	25°C	0.10M	U			K1=4.68 B2=8.71 K3=3.4	1973MAa (63699)	839

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
La+++	gl	NaClO4	25°C	0.10M	U	I		K1=4.65 B2=9.23 B3=12.48	1987BCd (63812)	840

Data also in 42% MeOH, 51% EtOH and 61.2% dioxan

La+++	gl	oth/un	20°C	0.10M	U	I		K1=5.00	1978GMb (63813)	841
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In 60% EtOH/H2O: K1=6.50

La+++	gl	oth/un	20°C	0.10M	U			K1=4.92	1977SKd (63814)	842
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C9H6N2O5S H2L CAS 5263-74-1 (2738)
7-Nitroso-8-hydroxyquinoline-5-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	alc/w	27°C	50%	C	H		K1=6.28 B2=11.58	1986EAa (63876)	843

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
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 La+++ sp KNO3 25°C 0.10M U K1=6.63 1974KSa (63927) 844

 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

La+++ gl NaClO4 25°C 0.10M U H K1=4.81 1994CRa (63971) 845
 K(La+HL)=2.59
 DH(K1)=14.2 kJ mol⁻¹; DS=140 J K⁻¹ mol⁻¹

C9H7N L CAS 91-22-5 (1538)
 Quinoline;

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

La+++ gl NaClO4 25°C 0.5M M H K1=2.96 1991KBb (64064) 846
 By calorimetry: DH(K1)=4.55 kJ mol⁻¹, DS(K1)=72.0 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

La+++ gl KNO3 25°C 0.10M U TIH K1=6.57 B2=12.06 1986NSa (64293) 847
 B(LaAL)=14.66
 H2A=phthalic acid. DH(LaAL)=-45.9 kJ mol⁻¹, DS=126.4 J K⁻¹ mol⁻¹

La+++ sol none RT 0.0 U 1981FCa (64294) 848
 Kso(LaL3)=-28.06
 Method: spectrophotometry.

La+++ gl oth/un 20°C 0.10M U I K1=5.87 1978GMb (64295) 849
 in 60% EtOH/H2O: K1=7.30

La+++ gl oth/un 20°C 0.10M U K1=5.89 1977SKd (64296) 850

La+++ sp alc/w 25°C 50% U B2=14.63 1974BUb (64297) 851
 B3=21.89

La+++ gl diox/w 30°C 50% U K1=8.48 B2=16.21 1970GMb (64298) 852
 Medium: 50% dioxan, 0.3 M NaClO4

La+++ dis NaClO4 25°C 0.10M U 1960RYa (64299) 853
 K2K3=10.4

La+++ dis NaClO4 25°C 0.10M U K1=5.85 1954DYa (64300) 854
 B3=16.95

La+++ gl diox/w 25°C 50% U K1=8.66 B2=16.40 1954JFa (64301) 855

C9H7NO2 HL CAS 1127-45-3 (4614)
8-Hydroxyquinoline-N-oxide;

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

La+++ gl diox/w 30°C 50% U K1=6.68 1970GMb (64407) 856
Medium: 50% dioxan, 0.3 M NaClO4

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

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

La+++ gl KNO3 30°C 0.10M U M 1976RTb (64555) 857
K(La(NTA)+L)=3.88

La+++ cal KNO3 20°C 0.10M U HM 1971GKb (64556) 858
K(LaA+L)=3.36

DH(LaA+L)=-12.58 kJ mol⁻¹, DS=21.32 J K⁻¹ mol⁻¹
DH(LaHL): DH=-24.83, DS=275.9. H4A=EDTA

La+++ gl oth/un 25°C 0.0 U H K1=5.63 B2=10.13 1958F0b (64557) 859
K3=3.70

DH(K1)=-10.0 kJ mol⁻¹, DS=75 J K⁻¹ mol⁻¹; DH(K2)=-17.6, DS=25; DH(K3)=-18.8,
DS=8

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

La+++ sp NaNO3 25°C 0.10M C K1=6.93 19850Hb (64711) 860
K(La+HL)=3.61
K(LaL+H)=6.12

C9H8N2O4S2 HL CAS 219931-32-5 (8394)
3-Phenylsulfonamidorhodanine;

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

La+++ sp alc/w 30°C 20% C T H K1=7.27 B2=13.53 1998EGa (64831) 861
Medium: 20% v/v EtOH/H2O, 0.10 M KCl. Also data for 35 and 45 C.

DH and DS values reported

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

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

La+++ sp NaClO4 ? 0.20M U K1=7.07 1967GDc (64944) 862
B(LaHL)=9.48

La+++ gl NaClO4 25°C 0.20M U K1=7.20 B2=12.76 1966GDa (64945) 863
K3=3.40

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

La+++ gl KCl 30°C 0.10M U K1=4.06 B2= 7.09 1996SZa (64977) 864

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

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

La+++ gl diox/w 27°C 0.10M U K1=3.84 1982LMa (65162) 865

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

La+++ gl NaClO4 25°C 0.10M C K1=2.09 B2=3.84 1989HMa (65462) 866

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

La+++ gl NaClO4 25°C 0.10M C K1=2.02 B2=3.90 1989HMa (65476) 867

C9H10O4 HL CAS 1521-38-6 (8489)
2,3-Dimethoxybenzoic acid;

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

La+++ gl diox/w 25°C 76% M K1=6.33 1978PMa (65531) 868
Medium: 76% v/v dioxane/H2O, 0.10 M NaClO4.

C9H10O4 HL CAS 91-52-1 (8490)
2,4-Dimethoxybenzoic acid;

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

La+++ gl diox/w 25°C 76% M K1=7.10 1978PMa (65538) 869
Medium: 76% v/v dioxane/H2O, 0.10 M NaClO4.

C9H10O4 HL CAS 1466-76-8 (8491)
2,6-Dimethoxybenzoic acid;

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

La+++ gl diox/w 25°C 76% M K1=6.19 1978PMa (65545) 870
Medium: 76% v/v dioxane/H2O, 0.10 M NaClO4.

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

La+++ gl KCl 30°C 0.10M C K1=3.92 B2=6.69 1996SZa (65573) 871
For the -2,5-dien-2-exo isomer, K1=4.06, B2=7.09.

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

La+++ gl NaClO4 24°C 0.10M U K1=4.12 1986ZBa (65588) 872
K(La+HL)=1.60

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

La+++ gl KCl 30°C 0.10M U K1=5.24 B2= 7.95 1996SZa (65605) 873

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

La+++ gl KCl 30°C 0.10M C K1=5.24 B2=7.95 1996SZa (65620) 874

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

La+++ gl NaCl 25°C 0.15M U H K1=2.78 1992ZNa (65948) 875
By calorimetry: DH(K1)=-1.67 kJ mol⁻¹, DS(K1)=47.62 J K⁻¹ mol⁻¹.

La+++ gl NaNO3 25°C 0.0 U K1=4.01 1991ADb (65949) 876
Extrapolated from data for 0.01-0.1 M NaNO3. Data for 35 and 45 C.

La+++ gl KNO3 35°C 0.10M U K1=4.71 1990RSe (65950) 877

La+++ gl KCl 25°C 0.10M U K1=3.8 1972BFe (65951) 878

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

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

La+++ gl KNO3 25°C 0.10M U K(La+HL)=3.82 1977SAb (66229) 879

At 35 C, I=0: K(La+HL)=4.23

La+++ gl KCl 25°C 0.10M U K(La+HL)=4.2 1972BFe (66230) 880

C9H11N3O2S HL CAS 51146-75-9 (6170)
N-(2-Hydroxy-3-methoxybenzylidene)thiosemicarbazide; CH3O(OH)C6H3.CH:N.CS.NH.NH2

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

La+++ gl diox/w 30°C 75% U K1=6.73 1988MKd (66506) 881

C9H11N3O3 HL CAS 58336-41-7 (6169)
N-(2-Hydroxy-3-methoxybenzylidene)semicarbazide; CH3O(OH)C6H3.CH:N.CO.NH.NH2

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

La+++ gl diox/w 30°C 75% U K1=8.13 1988MKd (66515) 882

C9H12N2O6 HL Uridine CAS 58-96-8 (828)
Uracil-1-beta-D-ribofuranoside;

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

La+++ gl KNO3 35°C 0.10M U M K1=4.12 1990RSc (66696) 883
K(LaA+L)=3.85
K(LaB+L)=3.68
K(LaC+L)=3.31

H2A=Iminodiethanoic acid, H3B=NTA, H4C=EDTA

La+++ gl KNO3 35°C 0.10M U M K1=4.10 1990RSe (66697) 884
K(LaL+Ala)=8.73
K(LaL+Phe)=8.48
K(LaL+Trp)=8.77

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
La+++	EMF	KNO3	25°C	0.10M	U		K1=12.05	1983KBd (66739)	885
Method: Hg-electrode									

C9H13N06			H3L				(3881)		
2,6-Dicarboxypiperidyl-N-ethanoic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	gl	KNO3	25°C	0.10M	U		K1=9.17 B2=15.34	1968TKe (66887)	886

C9H13N209P			H3L	UMP-5			CAS 58-97-9	(2948)	
Uridine-5'-monophosphoric acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	gl	KNO3	35°C	0.10M	U	M		1992RAd (66974)	887
K(La+HL)=3.59									
K(La+HL+Gly)=3.64									
K(La+HL+His)=8.35									
K(La+HL+histamine)=7.72									

C9H13N305			L	Cytidine			CAS 65-46-3	(2152)	
Cytidine, Cytosine-1-beta-D-ribofuranoside;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	gl	KNO3	35°C	0.10M	U	M	K1=2.90	1990RSc (67062)	888
K(La+HA+L)=7.01									
B(LaLB)=13.98									
B(LaLC)=18.93									
H2A=Iminodiethanoic acid, H3B=NTA, H4C=EDTA									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	gl	KNO3	35°C	0.10M	U	M	K1=2.30	1990RSe (67063)	889
K(LaL+Ala)=4.73									
K(LaL+Phe)=4.77									
K(LaL+Trp)=5.11									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	gl	KNO3	35°C	0.10M	U	M	K1=2.90	1986RMb (67064)	890
K(La+L+HGly)=8.27, K(La+L+HHis)=8.47, K(La+L+oxalate)=9.74									

C9H14N308P			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
La+++	gl	KNO3	25°C	0.10M	C	M	K1=4.72	2001AAb (67254)	891
*K(LaL)=-5.82									
K(2La(OH)L=La2(OH)2L2)=10.60									

La+++ gl KCl 25°C 1.0M U K1=14.3 1984KMa (68322) 897
K(La+HL)=10.2

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

La+++ gl alc/w 22°C 80% U K1=5.70 B2=10.92 1995MTa (68428) 898
K3=4.12

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

La+++ gl diox/w 25°C 50% C T H K1=7.45 B2=14.79 1992SAa (68476) 899
K3=6.48

At 35 C: K1=7.10, K2=6.55, K3=5.55; DH(K1)=-61.6 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

La+++ gl NaClO4 25°C 0.10M U K1=4.32 1994CRa (68519) 900
K(La+HL)=3.61

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

La+++ sp KCl 25°C 0.10M M I K1=3.89 1976PEa (68580) 901

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

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

La+++ gl KNO3 25°C 0.10M U K1=5.37 B2=10.20 1982LPC (68648) 902

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

La+++ gl NaClO4 30°C 0.10M U K1=2.43 B2=4.64 1969DNC (68712) 903

C10H7NO2 HL CAS 86-59-9 (873)
Quinoline-8-carboxylic acid;

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

La+++ gl NaClO4 30°C 0.10M U K1=2.43 1969Dnc (68763) 904

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

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

La+++ gl KCl 25°C 0.10M M K1=3.75 B2=7.23 1979LSb (68814) 905

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

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

La+++ gl oth/un 25°C 0.10M U K1=4.97 B2= 9.00 1989AIa (68847) 906
B3=12.50

Medium not stated.

La+++ sp KCl 25°C 0.10M C K1=3.94 1973PMb (68848) 907

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

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

La+++ gl oth/un 25°C 0.10M U K1=4.53 B2= 8.39 1989AIa (68887) 908
B3=11.58

Medium not stated.

La+++ gl KCl 25°C 0.10M U I K1=3.46 1967MAi (68888) 909
B3=9.9

K1=4.56(I=0),4.06(I=0.01); B3=10.8(I=0.01)

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

La+++ sp KCl 25°C 0.10M M K1=4.70 1978PPb (68947) 910

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

La+++ gl oth/un 25°C 0.10M U K1=5.03 B2=9.21 1990ATa (69017) 911
B3=12.77

La+++ gl KCl 25°C 0.10M U I K1=4.37 B2=7.83 1967MAi (69018) 912
B3=11.24

K1=6.19(I=0)

C10H7N5O5 HL CAS 102964-51-2 (6212)

5-(2'-Nitrophenylazo)barbituric acid;

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

La+++ gl diox/w 25°C 75% U K1=4.21 B2=8.04 1986MIa (69098) 913

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

La+++ gl alc/w 22°C 80% U K1=6.38 B2=11.75 1995MTa (69153) 914
K3=5.28

Medium: 80% v/v EtOH/H2O, 0.1 M NaClO4

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

La+++ sp non-aq 25°C 100% C T K1=2.51 2005SYa (69592) 915
In ethylacetate; At 50 C: K1=2.33

La+++ gl KNO3 25°C 0.10M U TIH K1=3.43 B2=6.35 1986NSa (69593) 916
B(LaAL)=11.17

H2A=phthalic acid. DH(LaAL)=-41.0 kJ mol⁻¹, DS=76.1 J K⁻¹ mol⁻¹

La+++ gl NaNO3 25°C 0.50M U K1=0.8 1979HJa (69594) 917

La+++ cal non-aq 25°C 100% U M 1972KKc (69595) 918

K(LaA3+L)=3.25

K(LaA3+2L)=5.50

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

C10H8N2O2S2 L (7069)

3-Benzamidiorhodanine; C6H5.CO.NH.C3H2NS2:0

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

La+++ gl alc/w 25°C 20% U T H K1=7.30 B2=12.93 1994BSd (69694) 919
2.90

Medium: 20% v/v EtOH/H2O, 0.1 M KCl. Also at 35 C, 45 C.

DH(K1)=-17 kJ mol⁻¹, DH(K2)=-12, DH(K3)=-10

C10H8N4O3 HL CAS 43168-60-1 (6209)

5-Phenylazobarbituric acid;

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

La+++ gl diox/w 25°C 75% U K1=4.51 B2=8.36 1986MIa (69732) 920

C10H8O2 H2L CAS 92-44-4 (1658)

2,3-Dihydroxynaphthalene;

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

La+++ gl NaClO4 20°C 0.10M U M 1973PAc (69772) 921

K(LaA+L)=5.54, H4A=EDTA

C10H8O5S H3L DHNSA (877)

2,3-Dihydroxynaphthalene-6-sulfonic acid;

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

La+++ gl NaNO3 25°C 0.10M U K1=9.87 B2=16.92 1984NHa (69851) 922

La+++ gl NaClO4 30°C 0.20M U M K1=8.31 1978MSl (69852) 923

K(La(edta)+L)=4.64

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

La+++ gl NaNO3 25°C 0.10M U K1=9.82 1990HWa (69957) 924

La+++ gl NaClO4 20°C 0.10M M T H K1=6.95 1978AKb (69958) 925

Data for 40 C. DH(K1)=-19.2 kJ mol⁻¹, DS(K1)=58 J K⁻¹ mol⁻¹.

C10H9NO2 HL CAS 57334-35-7 (3905)

2-Hydroxymethyl-8-hydroxyquinoline;

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

La+++ sp KCl 30°C 1.0M M K1=7.35 1996BTa (70119) 926

C10H9NO4S H2L CAS 29021-67-8 (3926)

2-Methyl-8-hydroxyquinoline-5-sulfonic acid;

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

La+++ gl NaClO4 30°C 0.10M U TI K1=4.64 B2=8.82 1988BCd (70199) 927

B3=12.05

in 42.5% MeOH-water: K1=5.92, B2=10.68, B3=14.51

51.8% EtOH-water: K1=6.25, B2=11.37, B3=15.02

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

La+++ sp alc/w 25°C 100% U 19890Kb (70349) 928
K1eff=3.53

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

La+++ sp diox/w 25°C 10% U 1973KSd (70363) 929
Medium: 10% dioxan, 0.1 M KNO3

C10H9O2Br HL CAS 4023-81-8 (1182)
4-Bromo-1-phenyl-1,3-butanedione; Br.C6H4.CO.CH2.CO.CH3

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

La+++ gl diox/w 30°C 75% U 1979MBc (70435) 930
K1=6.48 B2=11.88
K3=4.06

Data also for 4'-chloro- analogue

C10H9O2F HL CAS 29681-98-9 (307)
1-(4-Fluorophenyl)butane-1,3-dione; F.C6H4.CO.CH2.CO.CH3

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

La+++ gl diox/w 30°C 75% U 1979MBc (70449) 931
K1=6.61 B2=12.23
K3=4.16

C10H10N03Cl HL CAS 75813-79-5 (1962)
4-Chloro-N-hydroxyacetanilide; CH3.CO.CH2.CO.N(OH).C6H4.Cl

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

La+++ gl none 20°C 0.0 U 1979KSb (70509) 932
K1=7.21 B2=12.27
K3=4.93
B3=17.19

C10H10N4O2S HL Sulfadiazine CAS 68-35-9 (1885)
4-Amino-N-(2-pyrimidinyl)benzenesulfonamide; C4H3N2NHSO2C6H4NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	alc/w	25°C	50%	C	M		K1=5.70 B2=11.45 K(La(NTA)+L)=6.55	1993EEa (70613)	933

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

La+++	gl	NaNO3	25°C	0.10M	C	M		K(La(EDTA)+L)=2.00	1988SSg (70614)	934
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 C10H10O5 HL CAS 13522-48-0 (4722)
 3-Mercapto-1-phenylbut-2-en-1-one; C6H5.CO.CH:CH.C(SH).CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	mixed	30°C	75%	U			K1=3.42 B2=6.40 K3=2.70	1969DNb (70636)	935

Medium: 75% acetone, 0.1 M NaClO4

 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
La+++	gl	diox/w	30°C	75%	U			K1=6.65 B2=12.18 K3=4.06	1979MBc (70739)	936

La+++	gl	alc/w	25°C	80%	U			K1=7.02 B2=12.27 K3=3.36	1967DZa (70740)	937
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Medium: 80% MeOH, 0.1 M NaCl

La+++	gl	alc/w	24°C	80%	U			K1=7.02 B2=12.27 K3 = 3.36	1967DZb (70741)	938
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Medium: 80% v/v MeOH/H2O, 0.1 M NaCl

La+++	gl	mixed	30°C	67%	U			K1=6.24 B2=11.45 K3=4.76	1964DBb (70742)	939
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Medium: 67% acetone, 0.1 M NaClO4

La+++	dis	oth/un	?	0.10M	U			K1=5.2 B2=9.3 B3=12.1	1960STb (70743)	940
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La+++	gl	none	?	0.0	U			K1=6.33 B2=11.66 K3=5.12	1958DBa (70744)	941
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 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
La+++	gl	NaClO4	25°C	0.10M	M			K1=3.81 B2=7.30	1977HCb (70853)	942

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	diox/w	20°C	82%	U			K1=7.19 K3=5.02	B2=12.48 1979KSb (70940)	943

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	diox/w	30°C	50%	C	TIH		K1=4.38	B2= 8.14 1986SGc (71092)	944

Medium: 50% v/v dioxan/H2O, 0.10 M NaClO4. Data for 0.02-0.20 M NaClO4 and 30-50 C. DH(K1)=51.7 kJ mol-1, DS=254 J K-1 mol-1; DH(K2)=61.2, DS=274

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
La+++	gl	KNO3	25°C	0.10M	U			K1=7.80	B2=13.70 1964THa (71263)	945

C10H12N4O5 HL Inosine CAS 58-63-9 (2344)
Hypoxanthine-9-beta-D-ribofuranoside;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	KNO3	35°C	0.10M	U	M		K1=4.10	1987RRc (71389)	946

B(La(gly)L)=9.32
B(La(his)L)=10.11

C10H12N4O6 H2L Xanthosine CAS 5968-90-1 (1176)
3,9-Dihydro-9-ribofuranosyl-1H-purine-2,6-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	KNO3	35°C	0.10M	U	M		K(La+HA+HL)=5.00 K(La+HB+HL)=5.62 K(La+HL)=3.50	1987RRc (71489)	947

HA=glycine, HB=histidine.

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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La+++ gl diox/w 30°C 50% U M K1=7.46 B2=13.50 1980SGa (71588) 948
K(La(NTA)+L)=5.10

La+++ gl alc/w 24°C 80% U K1=7.88 B2=14.23 1968DZb (71589) 949
K3=5.0
K4=3.4

Medium: 80% MeOH, 0.1 M NaCl

La+++ sp alc/w ? 3% U K1=6.29 1967GDb (71590) 950

Medium: 3% EtOH, 0.2 M NaCl04

C10H1204 HL CAS 5936-18-9 (2743)

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

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

La+++ gl diox/w 15°C 50% C T H K1=6.89 B2=12.04 1987GBa (71654) 951

K1(35, 40, 50 C) = 6.55, 6.45, 6.41 respectively. DH(K1)=-32.13 kJ mol⁻¹

C10H1205 HL CAS 490-64-2 (8492)

2,4,5-Trimethoxybenzoic acid;

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

La+++ gl diox/w 25°C 76% M K1=7.30 1978PMa (71673) 952

Medium: 76% v/v dioxane/H2O, 0.10 M NaCl04.

C10H1205 HL CAS 570-02-5 (8493)

2,4,6-Trimethoxybenzoic acid;

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

La+++ gl diox/w 25°C 76% M K1=6.71 1978PMa (71680) 953

Medium: 76% v/v dioxane/H2O, 0.10 M NaCl04.

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

La+++ gl KNO3 25°C 0.10M C M K1=4.20 2001AAb (72457) 954

*K(LaL)=-5.52

K(2La(OH)L=La2(OH)2L2)=11.00

B(LaLA)=8.42

B(LaLB)=7.43

B(LaLC)=8.58, B(LaLD)=6.94. HA=MOPSO, HB=MES, HC=ACES and HD=HEPES.

La+++ gl R4N.X 25°C 0.10M C T K1=3.91 1991SMa (72458) 955

K(La+HL)=2.76

IUPAC evaluation

La+++ gl NaClO4 20°C 0.1M C K1=15.9 1993MDb (73894) 964
K(LaL+H)=2.6

Data also for other lanthanides using an unbuffered titration method

La+++ cal NaClO4 25°C 0.10M C H 1987YJa (73895) 965
DH(K1)=-11.6 kJ mol⁻¹, DS(K1)=252 J K⁻¹ mol⁻¹.

La+++ gl KCl 25°C 1.0M U K(LaL+H)=2.00 1984BKc (73896) 966

La+++ gl NaClO4 25°C 0.20M U K1=11.53 1984LSd (73897) 967

La+++ gl NaClO4 28°C 0.20M U K1=9.31 1982LSa (73898) 968

La+++ gl NaClO4 20°C 0.02M U M K(LaL+PO4)=2.2 1982MPd (73899) 969

La+++ gl oth/un 20°C 0.10M U K1=15.13 1979MOa (73900) 970

La+++ vlt KNO3 20°C 0.10M U K1=15.66 1978NLb (73901) 971

La+++ gl NaClO4 25°C 0.50M U K1=14.48 1977GGb (73902) 972

La+++ gl KCl 25°C 1.00M U K2=3.12 1976BKa (73903) 973
K(LaL+HL)=1.60
K(2LaL+L)=4.65

La+++ gl KCl 25°C 1.0M U K(LaL+H)=3.1 1976GMb (73904) 974

La+++ sp KCl 25°C 0.10M U K2=3.12 1975BKa (73905) 975
K(2LaL+L)=4.65
K(LaL+HL)=1.60

La+++ gl KNO3 30°C 0.10M U M K(LaL+IDA)=2.14 1975RTa (73906) 976
K(LaL+NTA)=3.27
K(LaL+HEDTA)=3.57

La+++ gl KCl 25°C 1.0M C K2=3.12 1974BKc (73907) 977
K(LaL+HL)=1.60
K(2LaL+L=La2L3)=4.65

La+++ gl KNO3 20°C 0.10M U M K(LaL+Citrate)=3.5 1974TDa (73908) 978

La+++ gl KNO3 25°C 0.10M U T M K(LaL+HA)=2.54 1973TRb (73909) 979
K(LaL+A)=3.90

(LaL+HA):K(2 C)=2.90, K(35 C)=2.61, K(45 C)=2.48, (LaL+A):K(2 C)=4.17
 K(35 C)=4.43, K(45 C)=3.70, H5A=tripolyphosphoric acid

 La+++ gl KNO3 25°C 0.10M U T M 1973TRb (73910) 980
 K(LaL+A)=4.5
 K(2 C)=4.4, K(35 C)=4.3, K(45 C)=4.2, H4A=adenosine triphosphate

 La+++ nmr oth/un ? 1.0M U K2=1.43 1972KTd (73911) 981
 K(LaL+HL)=1.31

 La+++ gl NaClO4 25°C 0.10M U K1=15.25 1970KSd (73912) 982
 K(La+HL)=7.22

 La+++ gl NaClO4 25°C 0.10M U M 1969AIb (73913) 983
 K(LaL+A)=5.72, H4A=tiron

 La+++ nmr oth/un 40°C 0.10M U 1969MGc (73914) 984
 K(La(OH)L(H2O)n-1+H) > 11.0
 K(LaL(H2O)n+H) < 4.0

 La+++ dis oth/un 25°C ? U K1=15.77 1969PJa (73915) 985
 Method: paper electrophoresis. Medium: pH=1.86

 La+++ sol oth/un 25°C 0.0 U M 1966KLa (73916) 986
 B(LaL(oxalate))=20.1

 La+++ oth KNO3 20°C 0.10M U K1=15.5 1965JMb (73917) 987
 Method: electrophoresis

 La+++ gl KNO3 20°C 0.10M U K1=15.5 1964ANa (73918) 988

 La+++ cal KNO3 20°C 0.10M U H 1963ANf (73919) 989
 DH(K1)=-11.7 kJ mol⁻¹, DS=255 J K⁻¹ mol⁻¹

 La+++ dis NaClO4 20°C 0.10M U T K1=15.3 1963STc (73920) 990

 La+++ ix KCl 25°C 0.10M U H K1=15.19 1959BDb (73921) 991
 DH(K1)=-3.3 kJ mol⁻¹, DS=280 J K⁻¹ mol⁻¹

 La+++ vlt oth/un 20°C 0.01M U K1=15.14 1955WSa (73922) 992

 La+++ gl KCl 20°C 0.10M U I T K1=15.13 1954SGa (73923) 993
 By polarography, 0.1 M KNO3, K1=15.50, K(LaL+H)=3.28

 La+++ gl KCl 20°C 0.10M U T K1=14.72 1953WSa (73924) 994

 La+++ gl KCl 20°C 0.10M U K1=15.30 1952VIa (73925) 995

 La+++ gl KCl 20°C 0.10M U T K1=15.40 1951SFa (73926) 996

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

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

La+++ gl KNO3 25°C 0.10M C M 1999BIa (74749) 997

K(LaL2+His)=4.98
K(LaL2+Pro)=4.13
K(LaL2+Asn)=3.68
K(LaL2+Gln)=3.25

K(LaL2+Asp)=7.95, K(LaL2+Glu)=6.84.

La+++ gl NaClO4 20°C 0.20M U T H K1=6.87 B2=10.37 1993VLa (74750) 998

K(La(nta)+L)=3.76
K(La(edta)+L)=3.61

Data for 30, 40 C. DH(K1)=12.4 kJ mol⁻¹, DS(K1)=174 J K⁻¹ mol⁻¹. DH(K2)=
12.4, DS(K2)=110; DH(La(nta)+L)=18.2, DS=134; DH(La(edta)+L)=13.4, DS=115.

La+++ gl R4N.X 25°C 0.10M C T K1=6.32 1991SMa (74751) 999

K(La+HL)=3.52

IUPAC evaluation

La+++ gl KCl 25°C 0.10M U K1=6.53 B2=10.26 1988SSd (74752)1000

K(La+HL)=4.43

La+++ kin oth/un 25°C 0.05M C K1=6.48 1983Mcc (74753)1001

Method: inhibition of the hexokinase reaction, pH 8.0 (0.05 M TAPS).

La+++ gl KNO3 35°C 0.10M U M 1972TRc (74754)1002

K(La(EDTA)+L)=4.3

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

La+++ gl oth/un 30°C 0.10M U K1=8.52 B2=15.85 1972DSe (74922)1003

C10H16O8P2 H4L (6907)

1,2-Diphosphinoethane-P,P,P'P'-tetraethanoic acid;
(HOOC.CH2)2P.CH2.CH2.P(CH2.COOH)2

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

La+++ gl NaClO4 25°C 0.10M C K1=4.84 1992PPb (74950)1004

B(LaHL)=9.70
B(LaH2L)=13.15

Additional method: competition with Zn, using Zn(Hg) electrode

La+++ gl NaClO4 25°C 0.10M C K1=4.84 1982PPc (74951)1005

B(LaHL)=9.70
B(LaH2L)=13.15

C10H17N2O10P H5L CAS 69219-70-1 (7961)

Bis{[bis(carboxymethyl)amino]methyl}phosphinic acid;

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

La+++ g1 NaCl 25°C 0.16M C K1=13.0 2001XRa (75024)1006
K(La+HL)=7.9
K(LaL+H)=4.14
B(LaHL)=17.14

C10H17N3O6S H3L Glutathione CAS 70-18-8 (333)

Glutamyl-cysteinyl-glycine;

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

La+++ g1 NaClO4 25°C 0.10M U TIH K1=6.450 2003GSb (75129)1007
Values for 0.05-0.2 M NaClO4, 15-45 C and 10-30% MeOH/H2O, 20% EtOH/H2O,
20% DMF/H2O. At I=0, K1=7.820. DH(K1)=-33.3 kJ mol⁻¹, DS(K1)=-38.

La+++ g1 NaClO4 37°C 0.15M U M 1976TWa (75130)1008
B(LaHL)=12.79
B(LaH2L)=19.95
B(LaH-1L)=-3.59
*K=-8.61

C10H18N2O4S H2L (6638)

1-Thia-4,7-diazacyclononane-N,N'-diethanoic acid;

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

La+++ g1 KNO3 25°C 0.10M C K1=6.02 1993WLa (75216)1009

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

La+++ g1 NaClO4 25°C 0.50M U K1=12.97 1977GGb (75429)1010

La+++ EMF KCl 25°C 1.0M U K2=3.62 1977GMa (75430)1011
K(LaL+HL)=2.02
K(LaL+H2L)=1.74
K(LaL+H4L)=3.58

Method: Pt/H2 electrode.

La+++ g1 NaClO4 20°C 0.10M U 1974PJa (75431)1012
K(LaL+A)=3.08

K(LaL+B)=3.22
HA=pentane-2,4-dione, B=1-phenylbutane-1,3-dione

La+++ gl oth/un 20°C ? U 1971MNa (75432)1013
K(LaL+L)=2.96

La+++ gl KNO3 25°C 0.10M U M 1963TLb (75433)1014
K(LaL+A)=3.22
K(LaL+B)=4.04
K(LaL+C)=3.90

H2A=iminodiethanoic acid, H2B=hydroxyethyliminodiethanoic acid,
H2C=diaminoethane-N,N'-diethanoic acid

La+++ EMF oth/un 20°C 0.10M U K1=13.82 1962PMa (75434)1015

La+++ gl KNO3 15°C 0.10M U T H K1=13.52 1961MFb (75435)1016
K1=13.49(20 C), 13.46(25 C), 13.40(30 C), 13.43(35 C), 13.39(40 C)
DH(K1)=-9.20 kJ mol⁻¹(25 C), DS=227 J K⁻¹ mol⁻¹

La+++ gl KNO3 25°C 0.10M U K1=13.22 1956SPa (75436)1017

C10H18O4 H2L Sebacic acid CAS 111-20-6 (3308)
Decanedioic acid; HOOC.(CH2)8.COOH

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

La+++ gl KNO3 25°C 0.20M U M 1990KMf (75601)1018
K(La(nta)+L)=5.94
K(La(hedta)+L)=5.83
K(La(cdta)+L)=5.64
K(La(dtpa)+L)=5.34

hedta is N-(hydroxyethyl)diaminoethane-N,N',N'-triethanoic acid.

La+++ gl oth/un 20°C 0.10M U 1960Wka (75602)1019
Kso=-25.18

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

La+++ gl KNO3 25°C 0.10M U T H K1=3.13 1981SKg (75692)1020
Data for 35 and 45 C. DH(K1)=8.03 kJ mol⁻¹, DS(K1)=87.4 J K⁻¹ mol⁻¹.

C10H20N2O4 H2L CAS 5578-84-7 (5914)
N,N-Dihydroxydecanediamide; HN(OH).CO.(CH2)8.CO.NH(OH)

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

La+++ gl NaNO3 25°C 0.10M C K1=10.33 1989EHa (75802)1021

La+++ gl KCl 25°C 0.10M C K1=16.0 1998BRa (76805)1030
 *K(LaL)=-8.2
 K(LaL+H)=7.1
 B(LaHL2)=34.4

 C11H7NO4 H2L CAS 122844-38-6 (8293)
 1-Hydroxy-4-nitroso-2-naphthalenecarboxylic acid;

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

La+++ gl alc/w 25°C 40% U K1=7.91 B2=14.94 1989AIa (76892)1031
 Medium: 40% v/v EtOH/H2O, 0.1 M electrolyte (not stated).

C11H7NO4 H2L CAS 32446-26-7 (8294)
 3-Hydroxy-4-nitroso-2-naphthalenecarboxylic acid;

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

La+++ gl alc/w 25°C 40% U K1=8.65 B2=15.10 1989AIa (76900)1032
 Medium: 40% v/v EtOH/H2O, 0.1 M electrolyte (not stated).

C11H8N6O8S2 H5L CAS 74385-48-1 (897)
 2-(1H-Tetrazol-5-ylazo)chromotropic acid;

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

La+++ sp NaClO4 25°C 0.10M C 1979PBc (76954)1033
 K(La+H2L=LaHL+H)=-2.60
 K(LaL+H)=8.05

C11H8O3 H2L CAS 86-48-6 (1129)
 1-Hydroxy-2-naphthoic acid;

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

La+++ gl KNO3 30°C 0.05M U I K1=8.32 B2=15.94 1976SSb (77012)1034

 La+++ gl diox/w 25°C 75% U K1=5.55 1975DJa (77013)1035

C11H8O3 L CAS 1133-72-8 (2614)
 2-Aceto-1,3-indandione;

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

La+++ gl diox/w 30°C 75% U T K1=4.12 B2=8.09 1984APa (77036)1036

 La+++ gl mixed 22°C 60% U K1=3.54 B2=6.70 1979JMa (77037)1037
 K3=2.78

Medium: 60% acetone/H2O

C11H8O3 H2L CAS 2083-08-1 (1131)
2-Hydroxy-1-naphthoic acid;

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

La+++ gl diox/w 25°C 75% U K1=6.00 1975DJa (77062)1038

C11H8O3 HL CAS 483-35-6 (3347)
2-Hydroxy-3-methyl-1,4-naphthoquinone;

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

La+++ gl diox/w 35°C 75% M I K1=4.24 B2=7.34 1986SSc (77075)1039

C11H8O3 H2L CAS 92-70-6 (1130)
2-Hydroxy-3-naphthoic acid (3-Hydroxy-2-naphthoic acid);

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

La+++ gl KNO3 20°C 0.10M U T H K1=8.51 B2=16.29 1977SKc (77124)1040
Further data at 30, 40 C. DH(B2)=-81.6 kJ mol⁻¹

La+++ gl diox/w 25°C 75% U K1=5.37 1975DJa (77125)1041

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

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

La+++ gl diox/w 35°C 50% U K1=3.23 B2=5.68 1971MAa (77180)1042
Medium: 50% dioxan, 0.01 M NaClO4

C11H8O4 HL CAS 6724-42-1 (6183)
8-Formyl-7-hydroxy-4-methyl-2H-1-benzopyran-2-one; CHO.C9H3O(:O)(CH3)(OH)

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

La+++ gl diox/w 30°C 50% U TI M K1=4.54 B2=7.99 1985ECa (77203)1043
K3=2.17
20 C: K1=4.87, K2=3.84, K3=2.47; 40C: K1=4.23, K2=3.08, K3=1.90

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

La+++ gl NaClO4 25°C 0.10M C K1=7.08 B2=12.14 1979LAB (77229)1044
K(La+HL)=1.46

C11H8O9S2 H4L CAS 67097-84-1 (1995)

1-Hydroxy-4,7-disulfo-2-naphthoic acid;

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      cal NaClO4 25°C 0.10M C  H   K1=7.08  B2=11.7  1986LLc (77282)1045
              K(La+HL)=2.01
DH(La+HL)=4.2 kJ mol-1, DS=52 J K-1 mol-1
*****
```

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

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl diox/w 35°C 50% U              1971MAa (77423)1046
              K(La+HL)=3.02
              K(La+2HL)=5.24
Medium: 50% dioxan, 0.01 M NaClO4
*****
```

C11H9N30 HL CAS 10335-29-2 (3937)
 2-(2'-Pyridylazo)phenol; C5H4N.N:N.C6H4.OH

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      sp alc/w 24°C 5% U              K1=5.67  1973BJb (77457)1047
Medium: 5% EtOH, 0.1 M NaClO4
*****
```

C11H9N302 H2L PAR CAS 1141-59-9 (636)
 4-(2'-Pyridylazo)-1,3-dihydroxybenzene; C5H4N.N:N.C6H3(OH)2

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      sp KNO3 25°C 0.10M C              K1=8.91  19830Hb (77555)1048
              K(La+HL)=3.18
-----
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```
La+++      sp KCl 20°C 0.10M U              1971EKa (77556)1049
              K(La+HL)=2.69
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```
La+++      sp NaClO4 20°C 0.10M U          K1=9.2  1967SNb (77557)1050
*****
C11H9N303 HL HNQS CAS 62331-38-8 (6194)
2-Hydroxy-1,4-naphthoquinone monosemicarbazone; C10H5(OH)(O):N.NH.CO.NH2
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl diox/w 35°C 75% U TI      K1=4.01  B2=7.37  1987SSb (77611)1051
At I=0.1 M. At 35 C, I=0.05, K1=4.71, K2=4.40; I=0.01, K1=5.12, K2=4.15,
At 40 C, I=0.1 M, K1=3.98, K2=3.40; at 45 C, I=0.1 M, K1=4.10, K2=2.17
*****
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C11H10N403 HL CAS 92265-24-2 (6211)
 5-(2'-Methylphenylazo)barbituric acid;

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

La+++ gl diox/w 25°C 75% U K1=4.00 B2=7.85 1986MIa (77731)1052

C11H10N4O4 HL CAS 92265-26-4 (6210)
5-(2'-Methoxyphenylazo)barbituric acid;

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

La+++ gl diox/w 25°C 75% U K1=4.19 B2=8.24 1986MIa (77745)1053

C11H11NO2 HL CAS 35385-27-4 (8689)
8-Hydroxy-(2-hydroxyethyl)quinoline;

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

La+++ sp KCl 30°C 1.0M M K1=5.18 1996BTa (77768)1054

C11H11NO6 H3L CAS 1147-65-5 (425)
N-(2'-Carboxyphenyl)iminodiethanoic acid; HOOC.C6H4.N(CH2.COOH)2

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

La+++ sp NaNO3 20°C 0.10M U K(?)=5.41 1961DSa (77828)1055

C11H11N3O2S HL Sulfapyridine CAS 144-83-2 (8356)
4-Amino-N-2-pyridinyl-benzenesulfonamide;

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

La+++ gl alc/w 25°C 50% C M K1=9.75 B2=18.07 1993EEa (77932)1056
K(La(NTa)+L)=8.25
Medium: 50% v/v EtOH/H2O, 0.10 M NaClO4.

C11H12N2O2 HL CAS 103314-23-4 (6182)
2-(N-2-Pyrrolidimino)benzoic acid; C4H7N:N.C6H4.COOH

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

La+++ gl NaClO4 25°C 0.10M U TIH B2=12.40 1986GSb (78019)1057
35 C: B2=12.50; 45 C: B2=12.80. DH(B2)=-36.3 kJ mol-1, DS=121 J K-1 mol-1

C11H12N2O2 HL Tryptophan CAS 73-22-3 (3)
2-Amino-3-(3-indolyl)propanoic acid; H2N.CH(CH2.C8H6N)COOH

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

La+++ gl KNO3 35°C 0.10M U K1=5.02 1990RSe (78212)1058

La+++ gl KCl 25°C 0.10M U T H K1=4.4 1976BFc (78213)1059
For 55C K1= 3.75

La+++ gl KCl 25°C 0.10M U K1=4.45 B2=8.55 1972BFe (78214)1060

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

La+++ gl oth/un 30°C 0.10M U B2=20.51 1985EEb (78322)1061
Medium: not stated. For 3'-sulfophenylhydrazo-, B2=20.64; for 2'-sulfo-
phenylhydrazo-, B2=23.34; for 4'-methyl-2'-sulfophenylhydrazo-, B2=22.26.

C11H12N4O2S HL Sulfamerazine CAS 127-79-7 (8431)
4-Amino-N-(4-methyl-2-pyrimidinyl)benzenesulfonamide;

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

La+++ gl alc/w 25°C 50% C K1=5.81 B2=10.57 1993EEa (78358)1062
K(La(nta)+L)=10.52
Medium: 50% v/v EtOH/H2O, 0.10 M NaClO4.

C11H12O2 HL CAS 4023-79-4 (305)
1-(4-Methylphenyl)butane-1,3-dione; CH3.C6H4.CO.CH2.CO.CH3

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

La+++ gl diox/w 30°C 75% U K1=6.80 B2=12.54 1979MBc (78373)1063
K3=4.13

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

La+++ gl mixed 25°C 75% U K1=7.49 B2=13.91 1971DRa (78401)1064
Medium: 75% acetone, 0.1 M NaClO4

C11H13NO3 H2L CAS 63467-38-9 (1961)
4-Methyl-N-hydroxyacetoacetanilide; CH3.CO.CH2.CO.N(OH).C6H4.CH3

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

La+++ gl diox/w 20°C 82% U K1=6.96 B2=12.37 1979KSb (78497)1065
K3=5.14

C11H13NO3 H2L CAS 67777-63-3 (8480)
N-[1-(2-Hydroxyphenyl)ethylidene]-beta-alanine;

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

La+++ gl NaClO4 25°C 0.10M U TI K1=6.97 B2=12.32 1978MSj (78526)1066
Also data for 30 and 35 C and 0.01 and 0.05 M NaClO4.

C11H13NO4 L CAS 15658-60-3 (4587)
Diethyl 2,6-pyridinedicarboxylate; Dipicolinic acid diethyl ester;

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

La+++ sp non-aq 20°C 100% C K1=6.8 B2=12.80 1997RPa (78534)1067
B3=16.3

Medium: acetonitrile.

C11H13NO4S HL CAS 58943-48-9 (1411)
N-Acetylacetylidene-orthanilic acid; HO3S.C6H4.N:C(CH3).CH2.CO.CH3

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

La+++ EMF NaClO4 25°C 0.10M U K1=16.80 1982MSc (78593)1068

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

La+++ gl KNO3 25°C 0.10M C K1=11.65 B2=19.67 1989YSa (78630)1069
K(La+HL)=4.95
K(La+2HL)=10.87

La+++ gl KNO3 20°C 0.10M U K1=12.14 B2=19.81 1983MSc (78631)1070

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

La+++ EMF oth/un ? ? U K(La+HL)=12.7 1975DTa (78664)1071

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

La+++ gl oth/un 25°C 0.0 U K(La+HL)=13.8 1970TTb (78679)1072

C11H13NO6 H4L CAS 31477-66-7 (4853)

2,6-Dihydroxybenzyliminodiethanoic acid; (HO)2.C6H3.CH2.N(CH2.COOH)2

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

La+++ EMF oth/un ? ? U 1975DTa (78693)1073
K(La+HL)=10.6

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

La+++ gl KNO3 25°C 0.10M U K1=5.72 B2=9.57 1964THa (78886)1074

C11H15NO5 HL CAS 1429-25-0 (2696)
3-Hydroxy-6-(hydroxymethyl)-2-(4-morpholinylmethyl)-4H-pyran-4-one;

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

La+++ sp KCl 25°C 0.10M M I 1986POa (79051)1075
B(LaHL)=11.02

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

La+++ gl KNO3 20°C 0.10M U K1=11.20 1981NSc (79302)1076

La+++ EMF KNO3 25°C 0.10M U K1=14.30 1980KBc (79303)1077

La+++ vlt KNO3 20°C 0.10M U K1=16.20 1978NLb (79304)1078

La+++ vlt KNO3 20°C 0.10M U K1=16.42 1964ICb (79305)1079

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

La+++ gl KNO3 25°C 0.10M U K1=8.52 1976GKd (79368)1080

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

La+++ cal KNO3 20°C 0.10M U H K1=11.23 1971AWa (79453)1081
*K(LaHL)=-4.67

DH=15.8 kJ mol⁻¹, DS=266.3 J K⁻¹ mol⁻¹

La+++ gl KNO3 20°C 0.10M U H 1964ANa (79454)1082
K(La+HL)=5.44
By calorimetry: DH(K1)=15.7 kJ mol⁻¹, DS=268 J K⁻¹ mol⁻¹

La+++ gl KNO3 20°C 0.10M U K1=11.23 1964LAa (79455)1083
K(LaL+H)=4.67

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

La+++ gl KNO3 25°C 0.10M M K1=11.61 1986PLc (79561)1084

La+++ sp KNO3 20°C 0.10M U K1=12.2 1967SMf (79562)1085

La+++ oth KNO3 20°C 0.10M U K1=12.5 1965JMb (79563)1086
Method: electrophoresis

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

La+++ gl KNO3 25°C 0.10M U K1=9.29 1976GKd (79599)1087

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

La+++ gl mixed 30°C 75% U K1=8.95 B2=16.44 1972DSd (79654)1088
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

La+++ gl mixed 30°C 75% U K1=10.31 B2=19.89 1972DSd (79665)1089
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

La+++ gl R4N.X 25°C 0.10M C K1=5.7 2001VSA (79675)1090
Medium: 0.10 M Me4NCl. Also data for N-ethyl-, N-phenyl-, N-NH2-,

N,N-dibenzyl- and N-CH₂OCH₂COOH- derivatives.

C₁₁H₂₂O₅ L 16-Crown-5 CAS 55477-28-8 (1592)
1,4,7,10,13-Pentaoxacyclohexadecane; cyclo(-(O.CH₂.CH₂)₅.CH₂.CH₂-)

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

La+++ cal non-aq 25°C 100% U H K₁=2.54 1993LLa (79858)1091
Medium: MeCN. DH(K₁)=-60.7 kJ mol⁻¹.

C₁₁H₂₆N₂O₆ L Bistris-propane CAS 64431-96-5 (7920)
1,3-Bis[tris(hydroxymethyl)methylamino]propane;

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

La+++ gl NaClO₄ 25°C 0.10M C K₁=2.30 2001GYb (79956)1092
K(2La+20H+2L)=18.11
K(2La+40H+2L)=28.96
K(2La+50H+2L)=33.62

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

La+++ gl alc/w 22°C 80% U K₁=6.27 B₂=11.17 1995MTa (80185)1093
K₃=4.70

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

La+++ sp non-aq 25°C 100% C H K₁=1.77 2002KNc (80472)1094
Medium: N,N-dimethylformamide, 0.20 M Et₄NClO₄.
By calorimetry: DH(K₁)=-13.8 kJ mol⁻¹.

La+++ dis non-aq 25°C 100% C HM K(LaA₃+L)=6.90 1998YHa (80473)1095

Method: solvent extraction from 0.10 M NaClO₄ into CHCl₃. HA is
1-(2-thienyl)-4,4,4-trifluoro-1,3-butanedione. DH(LaA₃+L)=13 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

La+++ gl alc/w 25°C 50% C T H K₁=3.76 B₂= 6.92 1997GSa (80587)1096
Medium: 50% v/v EtOH/H₂O, 0.20 M KCl. At 50 C, K₁=3.45, K₂=2.91.

DH(K1)=-23 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

La+++ gl alc/w 25°C 50% C T H K1=4.69 B2= 8.21 1997GSa (80674)1097
K3=2.65

Medium: 50% v/v EtOH/H2O, 0.20 M KCl. At 50 C, K1=4.31, K2=3.24,
K3=2.40. DH(K1)=-28 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

La+++ gl alc/w 25°C 50% C K1=6.47 B2=12.07 1997GSa (80684)1098

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

La+++ gl alc/w 25°C 50% C K1=6.05 B2=10.93 1997GSa (80742)1099

Medium: 50% v/v EtOH/H2O, 0.20 M KCl.

C12H10N6O4S H2L CAS 77327-19-6 (8343)
2-[4-Amino-3-(1,2,4-triazolylazo)]naphthol-4-sulphonic acid;

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

La+++ gl NaCl04 30°C 0.10M U T H K1=6.15 B2=11.25 1982Gmb (80783)1100

Data for 40 and 50 C. Also DH and DS values.

C12H11N3OS HL (6787)
2-Hydroxy-1-naphthaldehyde thiosemicarbazone;

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

La+++ gl diox/w 20°C 75% U I K1=6.60 B2=11.72 1992SSc (80890)1101

Medium: 75% v/v dioxan/H2O; 0.1 M NaCl04

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

La+++ gl diox/w 20°C 75% U I K1=7.096 B2=12.640 1992SSc (80919)1102

Medium: 75% v/v dioxan/H2O; 0.1 M NaClO4

C12H1104P HL CAS 838-85-7 (2133)
Diphenylphosphoric acid; (C6H5O)2P(O)OH

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

La+++ kin oth/un 25°C 0.02M U K1=1.77 1974GMc (80950)1103

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

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

La+++ sp NaClO4 25°C 0.50M U K1=1.776 1987MSa (80968)1104

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

La+++ gl alc/w 22°C 0.1M U K1=6.08 B2=11.44 2000TBb (81075)1105
K3=3.94

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

C12H12N4O2 HL AHMP CAS 62201-49-4 (7697)
4-(4-Acetophenyl)hydrazono-3-methyl-2-pyrazolin-5-one;

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

La+++ gl alc/w 25°C 50% U T H K1=6.63 B2=13.11 1999EEa (81127)1106

Medium: 50%(v/v) EtOH/H2O, 0.10 M KCl. DH(K1)=-39.8 kJ mol⁻¹,
DS(K1)=-6.5 J K⁻¹ mol⁻¹; DH(K2)=-39.8 kJ mol⁻¹, DS(K2)=-9.6 J K⁻¹ mol⁻¹.

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

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

La+++ sp NaClO4 25°C 0.50M U K1=1.885 1987MSa (81198)1107

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

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

La+++ gl NaNO3 25°C 0.10M U M 1988SSg (81370)1108
K(La(EDTA)+L)=1.47

C12H15N05 H3L (4930)

1-Hydroxy-4-methylphenyl-2-methyleneiminodiethanoic acid;

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

La+++ gl oth/un 25°C 0.0 U K1=12.95 1970TTb (81498)1109

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

La+++ dis R4N.X 25°C 0.12M C K1=2.39 1998SUa (81698)1110
Medium: 0.12 M Et4NBr.
Method:solvent extraction into cyclohexane/di(2-ethylhexyl)phosphoric acid

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

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

La+++ sp KCl 25°C 0.10M M I B(LaHL)=13.49 1986POa (81716)1111

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

La+++ gl KNO3 25°C 0.10M C K1=5.09 1988YSa (81814)1112

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

La+++ gl R4N.X 25°C 0.10M C K1=5.48 1988CCb (81838)1113

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

La+++ EMF KNO3 25°C 0.10M U K1=12.10 1985SGa (81869)1114

La+++ EMF KNO3 25°C 0.10M U K1=13.93 B2=17.93 1980SGb (81870)1115

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
La+++	vlt	KNO3	20°C	0.10M	U		K1=16.58	1968NLa (82027)	1116

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
La+++	gl	KNO3	20°C	0.10M	U		K1=6.81	1975DPa (82080)	1117

La+++	gl	KNO3	25°C	0.10M	U		K1=6.56	1973GBd (82081)	1118

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
La+++	vlt	KNO3	20°C	0.10M	U		K1=14.70	1976NKa (82136)	1119

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
La+++	gl	NaClO4	25°C	0.10M	U	IH	K1=10.53 B(La+HL)=4.89	1988RNa (82169)	1120
DH(K1)=-6.77 kJ mol ⁻¹ , DH(La+HL)=29.1, DS(K1)=179 J K ⁻¹ mol ⁻¹									

La+++	vlt	R4N.X	30°C	0.01M	C		K1=14.82	1981GMh (82170)	1121
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
La+++	gl	KNO3	20°C	0.10M	U	H	K(La+HL)=6.17	1964ANa (82226)	1122
By calorimetry: DH(K1)=7.9 kJ mol ⁻¹ , DS=202 J K ⁻¹ mol ⁻¹									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	gl	KNO3	20°C	0.10M	U		K1=9.13	1964LAa (82227)	1123

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
La+++	vlt	KNO3	20°C	0.10M	U		K1=16.68	1966NSb (82311)	1124

 La+++ oth KNO3 20°C 0.10M U K1=18.5 1965JMb (82312)1125
 Method: electrophoresis

 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

La+++ oth KNO3 20°C 0.10M U K1=15.5 1965JMb (82403)1126
 Method: electrophoresis

 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

La+++ gl KNO3 25°C 0.10M C K1=12.6 1985TPa (82464)1127

La+++ gl KNO3 20°C 0.10M U H K1=12.8 1964ANa (82465)1128
 By calorimetry: DH(K1)=-0.84 kJ mol⁻¹, DS=242 J K⁻¹ mol⁻¹

 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

La+++ gl KNO3 20°C 0.10M U H K1=16.6 1964ANa (82546)1129
 By calorimetry: DH(K1)=-14.0 kJ mol⁻¹, DS=270 J K⁻¹ mol⁻¹

La+++ EMF KNO3 20°C 0.10M U K1=16.00 1962MMc (82547)1130

 C12H20N2O10 H4L CAS 10258-50-1 (3993)
 (2,3-Dihydroxytetramethylenedinitrilo)tetraethanoic acid;

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

La+++ oth oth/un ? ? U B(La2L)=19.27 1967Lda (82589)1131

Method: high-frequency titration

 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

La+++ gl KNO3 20°C 0.10M C K1=15.46 1978NLa (82677)1132

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

 La+++ gl KNO3 20°C 0.10M U K1=9.84 1985LBc (82699)1133

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

 La+++ gl R4N.X 25°C 0.10M C K1=10.94 1998CCb (83086)1134

 La+++ gl KCl 25°C 0.10M C K1=16.6 1997HTa (83087)1135

C12H24O2 HL Lauric acid CAS 143-07-7 (2540)
 Dodecanoic acid, CH3.(CH2)10.COOH

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

 La+++ oth oth/un 20°C var U Kso=-20.28 1981HTc (83112)1136

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

 La+++ sp non-aq 25°C 100% C K1=2.22 2003ZRa (83442)1137
 Medium: DMSO. Method: competition with murexide.

 La+++ dis R4N.X 25°C 0.12M C K1=1.11 1998SUa (83443)1138
 Medium: 0.12 M Et4NBr.
 Method:solvent extraction into cyclohexane/di(2-ethylhexyl)phosphoric acid

 La+++ nmr alc/w RT 70% C K1=1.3 1996ASa (83444)1139
 Method: 1H NMR. Medium: 70% MeOH/H2O

 La+++ dis non-aq 25°C 100% U B(LaPL)=7.05 1993INa (83445)1140
 B(LaPL2)=8.66

K is the equilibrium constant for extraction of the metal picrate (P) into
 CH2Cl2. For extraction from D2O, B=7.52 and 9.14.

 La+++ cal non-aq 25°C 100% U IH K1=4.40 1993LLa (83446)1141
 Medium: MeCN. DH(K1)=-36.2 kJ mol⁻¹. In MeOH K1=3.29, DH=11.8

 La+++ dis non-aq 25°C 100% U B2=8.66 1990NIa (83447)1142
 B2=extraction eq.constant: M+3P+2(S)=ML2P3(S); solvent(S)=CH2Cl2, P=picrate

La+++ sp alc/w 25°C 100% U 1989OKb (83448)1143
K1eff=3.89

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

La+++ ISE alc/w 25°C 100% C K1=3.54 1986XJa (83449)1144

La+++ nmr non-aq 25°C 100% U K1=<1.23 1985BPa (83450)1145
Medium: DMF

La+++ ISE non-aq 25°C 100% C K1=8.75 1983ANb (83451)1146
The equilibration took 7-12 days. Medium: PC, 0.10 M Et4NClO4

La+++ oth alc/w 25°C 100% U K1=4.08 1980WJa (83452)1147
Method: fluorimetry in CH3OH

La+++ cal alc/w 25°C 100% U H K1=3.29 1977ILb (83453)1148
Medium: Methanol. DH=11.8 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

La+++ sp alc/w 25°C 100% C K1=5.70 2002NFa (83856)1149
Medium: 100% MeOH. Method: electrospray ionization mass spectrometry.

La+++ ISE non-aq 25°C 100% C K1=16.5 1986ALa (83857)1150
Medium: propylene carbonate, 0.1 M Et4NClO4

La+++ gl alc/w 25°C 100% C I K1=7.08 1983ANb (83858)1151
The equilibration took 7-12 days. Medium: MeOH, 0.05 M Et4NClO4
In propylene carbonate, 0.1 M Et4NClO4, K1=14.4

La+++ gl alc/w 25°C 95% C K1=6.18 1981ANa (83859)1152
Medium: 95% MeOH, 0.1 M Me4NCl

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

La+++ gl non-aq 25°C 100% C K1=5.30 1989BPa (84006)1153
Medium: anhydrous propylene carbonate, 0.1 M Et4NClO4

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

La+++ dis KNO3 ? 1.30M U 1961SKb (84121)1154

B3=0

C12H28N2O9P2 H4L (7242)
1,4,10-Trioxa-7,13-diazacyclopentadecane-7,13-diylldimethylenediphosphonic acid;

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

La+++ gl R4N.X 25°C 0.10M U K1=13.65 1996BJa (84158)1155
K(La+HL)=9.62
K(La+H2L)=4.85

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

La+++ gl NaNO3 25°C 0.20M C T H K1=5.70 1991KKa (84337)1156
At 15 C K1=5.61; at 35 C K1=5.78. DH=15.1 kJ mol-1, DS=154.7 J K-1 mol-1

La+++ gl NaCl 20°C 0.10M C K1=9.1 1988SJb (84338)1157

La+++ gl NaClO4 25°C 0.20M U K1=5.7 1980KKb (84339)1158

C12H32N4O12P4 H8L DOTPH CAS 91987-74-5 (229)
1,4,7,10-Tetraazacyclododecane-N,N',N'',N'''-tetramethylenephosphonic acid;

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

La+++ gl KNO3 25°C 1.0M U K1=25.0 1984KMb (84413)1159
K(La+HL)=19.3

C13H50F13S 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

La+++ gl alc/w 22°C 80% U K1=5.25 B2=9.87 1995MTa (84456)1160
K3=3.60

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

La+++ sp alc/w 25°C 50% U K1=9.04 1982HMa (84504)1161

C13H9FO2S HL CAS 43191-66-8 (6154)

1-(2'-Thienyl)-3"-fluoro-2"-hydroxyphenyl)-prop-1-one-2-ene;
C4H3S.CH:CH.CO.C6H3(OH)F

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

La+++ gl NaClO4 30°C 0.10M U K1=4.57 1989SHa (84516)1162

C13H9NOS HL CAS 3411-95-8 (1683)
2-(2-Hydroxyphenyl)benzothiazole;

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

La+++ gl diox/w 25°C 50% U K1=6.55 B2=11.85 1954CFa (84552)1163

C13H9N2O4Cl HL CAS 36016-30-5 (182)
N-(4-Chlorophenyl)-3-nitrobenzohydroxamic acid; O2N.C6H4.CO.N(C6H4Cl).OH

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

La+++ gl diox/w 35°C 50% A K1=7.01 B2=12.51 1977AKa (84603)1164
K3=4.46

C13H9N3OS L (6217)
Acenaphthenequinone Monothiosemicarbazone; C12H6O:N.NH.CS.NH2

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

La+++ gl diox/w 25°C 75% U TI K1=8.60 B2=16.02 1986SSd (84622)1165
Medium:0.1 M NaClO4. 30 C: K1=8.75, K2=7.84; 40 C: K1=8.28, K2=7.59; 50 C:
K1=8.20,K2=7.13; I=0.01 M: K1= 9.35,K2=8.80; I=0.05: K1=8.90,K2=8.37

C13H10N2O6S H2L MordentYellow10 CAS 21542-82-5 (1390)
5-(4'-Sulfophenylazo)salicylic acid; HO3S.C6H4.N:N.C6H3(OH).COOH

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

La+++ gl oth/un 20°C 0.10M M T H K1=8.7 1978MBe (84940)1166
Medium: 0.10 M KClO4. Data for 44 C. DH and DS values reported.

C13H11NOS H2L (7306)
2-(Salicylideneamino)thiophenol, Salicylaldehyde-2-mercaptoanil;
HO.C6H4.CH:N.C6H4.SH

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

La+++ gl alc/w 25°C 70% U K1=11.13 B2=21.27 1995IFa (85045)1167
Medium: 70% v/v EtOH/H2O, 0.10 M NaCl.

C13H11NO2 H2L CAS 78-75-2 (6258)
3-(Salicylideneamino)phenol; HO.C6H4.CH:N.C6H4.OH

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++     gl  alc/w  25°C  50%  U           K1=6.15  B2=10.25  1977DWa (85085)1168
*****
C13H11N02          HL                      CAS 304-88-1 (181)
N-Phenylbenzohydroxamic acid; C6H5.CO.N(C6H5).OH
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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La+++     gl  diox/w 35°C  50%  A           K1=10.30 B2=19.10  1977AKa (85159)1169
                               K3=7.76
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La+++     gl  diox/w 25°C  50%  U           K1=6.15  B2=11.04  1972GDb (85160)1170
Medium: 50% dioxan, 0.25 M NaClO4
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La+++     gl  mixed  25°C  75%  U           K1=7.28  B2=13.04  1969DSb (85161)1171
                               K3=4.74
Medium: 75% acetone, 0.1 M NaClO4
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*****
C13H11N05S          H2L                      CAS 23117-22-8 (6287)
N-Benzoyl-4-hydroxylaminobenzene sulfonic acid; C6H5.CO.N(OH).C6H4HSO3
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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La+++     gl  NaNO3  30°C  0.50M U          K1=4.53  B2=8.20   1976GMc (85222)1172
                               B3=10.73
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*****
C13H11NS          HL                      CAS 42152-36-3 (8401)
2-[(Phenylmethylene)amino]benzenethiol;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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La+++     gl  alc/w  25°C  70%  U           K1=8.42  B2=15.79  1995IFa (85230)1173
Medium: 70% v/v EtOH/H2O, 0.10 M NaCl. Also data for p-Cl, p-NMe2, p-OH,
p-OCH3, p-CH3, p-NO2 substituted benzaldehyde Schiff bases.
*****
C13H11N2O3F3          HL                      (5563)
3-(2-Acetylphenylhydrazone)-1,1,1-trifluoropentane-2,4-dione;
CF3.CO.C(CO.CH3):N.HN.C6H4.COCH3
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++     gl  diox/w 30°C  75%  U           K1=7.82  B2=14.07  1988ESb (85248)1174
*****
C13H12N2O          HL                      CAS 59129-92-9 (9080)
N-2-(5-Methylpyridyl)salicylalimine;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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La+++ gl alc/w 25°C 50% C T H K1=6.37 B2=10.43 1997GSa (85342)1175
K3=4.03

Medium: 50% v/v EtOH/H2O, 0.20 M KCl. At 50 C, K1=5.85, K2=4.02,
K3=3.73. DH(K1)=-36 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

La+++ gl oth/un 25°C 0.10M U K1=12.674 1987KSc (85361)1176

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

La+++ EMF alc/w 20°C 50% U K1=3.05 1971MAc (85414)1177

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

La+++ EMF alc/w 20°C 50% U K1=1.40 1971MAc (85464)1178

Medium: 50% EtOH, 0.1 M NaClO4

C13H14NO3P H2L CAS 19316-85-7 (1466)
2-Hydroxyphenyl-N-phenylaminomethylphosphinic acid;

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

La+++ gl NaClO4 20°C 0.10M U K1=6.40 1985SIb (85564)1179

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

La+++ gl diox/w 30°C 75% U K1=10.20 B2=18.83 1988ESb (85611)1180

C13H14N3O5P H2L CAS 80767-75-5 (1467)
2-Hydroxy-4-nitrophenyl-N-(2-pyridylmethyl)aminomethylphosphinic acid;

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

La+++ gl NaClO4 20°C 0.10M U K1=6.80 1985SIb (85642)1181

K(La+HL)=3.10

C13H14N3O5P H2L CAS 80767-76-6 (1468)
2-Hydroxy-4-nitrophenyl-N-(3-pyridylmethyl)aminemethylphosphinic acid;

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

La+++ gl NaClO4 20°C 0.10M U K1=6.90 1985SIb (85655)1182

C13H15NO6 H3L (4999)
2-Benzylnitriilotriethanoic acid;

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

La+++ oth oth/un 25°C 0.10M U K1=10.86 B2=17.76 1962HKa (85739)1183

C13H15N2O3P H2L CAS 80767-72-2 (1460)
2-Hydroxyphenyl-(N-2-pyridylmethylamino)methylphosphinic acid;

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

La+++ gl NaClO4 20°C 0.10M U K1=7.10 1985SIa (85782)1184

C13H15N2O3P H2L CAS 80767-73-3 (1461)
2-Hydroxyphenyl-(N-3-pyridylmethylamino)methylphosphinic acid;

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

La+++ gl NaClO4 20°C 0.10M U K1=6.85 1985SIa (85795)1185

C13H15N2O3P H2L CAS 80767-74-4 (1462)
2-Hydroxyphenyl-(N-4-pyridylmethylamino)methylphosphinic acid;

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

La+++ gl NaClO4 20°C 0.10M U K1=7.20 1985SIa (85808)1186

C13H15N2O4P H3L CAS 80767-78-8 (1463)
2-Hydroxyphenyl-(N-2-pyridylmethylamino)methylphosphonic acid;
C6H4(OH)CH(PO3H2).NH.CH2.C5H4N

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

La+++ gl NaClO4 20°C 0.10M U K1=10.72 1985SIa (85821)1187

C13H15N2O4P H3L CAS 85946-85-6 (1464)
2-Hydroxyphenyl-(N-3-pyridylmethylamino)methylphosphonic acid;
C6H4(OH)CH(PO3H2).NH.CH2.C5H4N

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

La+++ gl NaClO4 20°C 0.10M U K1=10.65 1985SIa (85834)1188

C13H15N2O4P H3L CAS 85946-86-7 (1465)

2-Hydroxyphenyl-(N-4-pyridylmethylamino)methylphosphonic acid;
C6H4(OH)CH(PO3H2).NH.CH2.C5H4N

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

La+++ gl NaClO4 20°C 0.10M U K1=10.95 1985SIa (85847)1189

C13H19NO3 H2L (2031)

2-(1-(2-Hydroxyphenyl)-ethylimine)-3-methylbutanoic acid;

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

La+++ gl NaClO4 25°C 0.10M U TIH K1=8.00 B2=13.75 1980SSc (86056)1190

C13H20N04P H3L (1471)

2-Hydroxyphenyl-N-(cyclohexylamino)methylphosphonic acid;
C6H4(OH)CH(PO3H2).NH.C6H11

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

La+++ gl NaClO4 20°C 0.10M U K1=9.90 1985SIb (86092)1191

C13H20N2O8 H4L CAS 123064-92-6 (7929)

trans-1,3-Cyclopentanediaminotetraethanoic acid;

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

La+++ gl KCl 25°C 1.0M U K1=10.83 1989CMb (86123)1192
K(La+H)=4.75

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

La+++ gl KNO3 25°C 0.10M C K1=8.96 1982PPd (86198)1193
K(La+HL)=6.09

C13H22N2O8 H4L CAS 1198-14-7 (5004)

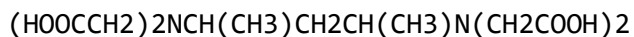
1,2-Diaminopentane-N,N,N',N'-tetraethanoic acid; (HOOCCH2)2NCH2CH(C3H7)N(CH2COOH)2

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

La+++ vlt KNO3 20°C 0.10M U K1=16.61 1974NLa (86229)1194

C13H22N2O8 H4L (7164)

2,4-Diaminopentane-N,N,N',N'-tetraethanoic acid;



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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  KNO3   20°C 0.10M U          K1=10.21      1981NSc (86257)1195
*****
C13H22N2O8          H4L                      (5003)
3-Methyl-1,2-diaminobutane-N,N,N',N'-tetraethanoic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      vlt KNO3   20°C 0.10M U          K1=16.41      1968NLb (86284)1196
*****
C13H22N2O9          H4L  DETAP                CAS 36829-96-6 (5602)
Bis(2-aminoethyl)ether-N,N,N'-triethanoic acid-N'-(3-propanoic acid);
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  KNO3   25°C 0.10M C          K1=13.31      1985PLa (86305)1197
                        K(La+HL)=8.36
*****
C13H26O5            L                      (6410)
15,15-Dimethyl-1,4,7,10,13-pentaoxacyclohexadecane;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      cal non-aq 25°C 100% C H    K1=2.23      1998LBc (86476)1198
Medium: acetonitrile. DH(K1)=-25.98 kJ mol-1, DS(K1)=-44.5 J K-1 mol-1.
*****
C14H8O4            H2L  Alizarin                CAS 72-48-0 (1058)
1,2-Dihydroxyanthraquinone;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  NaClO4 25°C 0.10M C M    K1=4.7      B2=11.55     1988SIb (86644)1199
Ternary complexes with eosin: B(LaL2A3)=10.44; rosebengal; B(LaL2A3)=12.83
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La+++      gl  oth/un 25°C 0.10M U          K1=11.64      1981EIA (86645)1200
*****
C14H8O7S          H3L  DASA                    CAS 83-61-4 (950)
1,2-Dihydroxyanthraquinone-3-sulfonic acid, Alizarin Red S;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  NaClO4 25°C 0.20M U M    K1=9.85      1987VSA (86738)1201
K(La(cdto)+L)=5.20, K(La(dtpa)+L)=4.55.
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La+++      gl  NaClO4 25°C 0.20M U M    K1=9.98      1984LSe (86739)1202
                        K(La(edta)+L)=7.81
                        B(La(edta)L)=19.44
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```

 C14H9NO3 HL CAS 116-85-8 (1020)
 1-Amino-4-hydroxyanthraquinone;

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

 La+++ sp oth/un 30°C ? U K1=5.21 1972JAa (86794)1203

C14H9N7O6 H3L (5044)
 1,5-Bis(2-hydroxy-4-nitrophenyl)-3-cyanoformazan;

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

 La+++ sp NaClO4 25°C 0.10M U B(LaH2L2)=46.4 1971BSf (86860)1204

C14H10NO2F HL CAS 87221-43-0 (6155)
 1-(2'-Pyridyl)-3-(3-fluoro-2-hydroxyphenyl)-prop-1-one-2-ene;
 C5H4N.CH:CH.CO.C6H3(OH)F

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

 La+++ gl NaClO4 30°C 0.10M U K1=4.16 1989SHa (86886)1205

C14H12NO2Br HL CAS 13664-21-6 (6243)
 N-(4-Tolyl)-4'-bromobenzohydroxamic acid; Br.C6H4.CO.N(C6H4.CH3).OH

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

 La+++ gl diox/w 25°C 50% U T H K1=9.00 B2=16.50 1983AGb (87047)1206
 K3=6.50

35 C: K1=8.50, K2=7.20, K3=6.50

 C14H12NO2Cl HL CAS 32939-57-4 (6242)
 N-(4-Tolyl)-4'-chlorobenzohydroxamic acid; Cl.C6H4.CO.N(C6H4.CH3).OH

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

 La+++ gl diox/w 25°C 50% U T H K1=9.05 B2=16.60 1983AGb (87073)1207
 K3=6.54

35 C: K1=8.55 K2=7.06, K3=6.05

 C14H12NO2F HL CAS 13664-15-8 (6241)
 N-(4-Tolyl)-4'-fluorobenzohydroxamic acid; F.C6H4.CO.N(C6H4.CH3).OH

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

 La+++ gl diox/w 25°C 50% U T H K1=9.35 B2=17.20 1983AGb (87082)1208
 K3=6.87

35 C: K1=8.86, K2=7.34, K3=6.36

C14H12N2O2 HL (6311)
4-Hydroxy-3-formyl-2'-methylazobenzene; (HO)(CHO)C6H3.N:N.C6H4.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	alc/w	28°C	60%	U			K1=5.06 B2=8.76 B3=12.13	1976WPb	(87176)1209

Data also for 4'-methyl analogue. K1=4.65, K2=3.60, B3=11.60

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
La+++	gl	diox/w	25°C	50%	U	I		K1=3.25 B2=5.85	1985ANa	(87217)1210

C14H12N2O4 HL CAS 29556-26-1 (6244)
N-(4-Tolyl)-4'-nitrobenzohydroxamic acid; O2N.C6H4.CO.N(C6H4.CH3).OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	diox/w	25°C	50%	U	T H		K1=8.70 B2=15.90 K3=6.20	1983AGb	(87243)1211

35 C: K1=8.20, K2=6.70, K3=5.70

C14H12N2O4 HL CAS 854-7-78-9 (183)
N-2-Tolyl-3-nitrobenzohydroxamic acid; O2N.C6H4.CO.N(C6H4.CH3).OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	diox/w	35°C	50%	A			K1=8.37 B2=15.23 K3=5.34	1977AKa	(87251)1212

C14H12N2O4 HL (179)
N-3-Tolyl-3-nitrobenzohydroxamic acid; O2N.C6H4.CO.N(C6H4.CH3).OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	diox/w	35°C	50%	A			K1=8.50 B2=15.50 K3=5.99	1977AKa	(87262)1213

C14H12N2O4 HL CAS 85407-74-5 (180)
N-4-Tolyl-2-nitrobenzohydroxamic acid; O2N.C6H4.CO.N(C6H4.CH3).OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	diox/w	35°C	50%	A			K1=8.75 B2=16.00 K3=6.62	1977AKa	(87275)1214

C14H12N2O4 HL (221)
N-4-Tolyl-3-nitrobenzohydroxamic acid; O2N.C6H4.CO.N(C6H4.CH3).OH

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

La+++ EMF diox/w 35°C 50% U K1=8.75 B2=16.00 1977AKa (87288)1215
K3=6.62

C14H13NO2 HL CAS 1503-92-0 (1817)
N-(4-Tolyl)benzohydroxamic acid; C6H5.CO.N(C6H4.CH3).OH

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

La+++ gl diox/w 25°C 50% U T H K1= 9.55 B2=17.61 1983AGb (87445)1216
K3=7.05

35 C: K1=9.49, K2=7.55, K3=6.98

C14H13NO2 HL CAS 889-29-2 (6259)
N-Salicylidene-3-methoxyaniline; HO.C6H4.CH:N.C6H4.OCH3

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

La+++ gl alc/w 25°C 50% U K1=3.75 B2=7.15 1977DWa (87528)1217

C14H13NO4S H2L (3660)
2-Aminobenzenesulfonic acid 2-hydroxyacetophenone Schiff base;
HSO3.C6H4.N:C(CH3).C6H4.OH

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

La+++ gl NaClO4 25°C 0.10M U T H K1=4.25 B2= 7.75 1978GKb (87577)1218
Data for 25-35 C and I=0.01-0.10 M. At I=0.0 M, DH(K1)=51.0 kJ mol⁻¹,
DS(K1)=320 J K⁻¹ mol⁻¹.

C14H14N2O2 HL (6168)
N-(2-Hydroxy-3-methoxybenzylidene)phenylhydrazine; C6H5.NH.N:CH.C6H3(OH)OCH3

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

La+++ gl diox/w 30°C 75% U K1=8.08 1988MKd (87656)1219

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

La+++ gl mixed 30°C 0.10M U T H K1=10.38 B2=19.02 1988TRb (87721)1220
Medium: 0.1 M KNO3 in 75% v/v isopropanol/water

C14H15O4P HL CAS 843-24-3 (2134)

Di(4-methylphenyl)phosphoric acid; (CH3C6H5)2P(O)OH

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      kin oth/un 25°C 0.02M U          K1=2.82      1974Gmc (87794)1221
*****
C14H16N03P      H2L                      CAS 25881-35-0 (1469)
Phenyl-N-(benzylamino)methylphosphonic acid; C6H5.CH(PO3H2).NH.CH2.C6H5
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl NaCl04 20°C 0.10M U          K1=8.60      1985SIb (87811)1222
*****
C14H16N04P      H3L                      CAS 61146-25-6 (1470)
2-Hydroxyphenyl-N-(benzylamino)methylphosphonic acid; C6H4(OH)CH(PO3H2).NH.CH2.C6H5
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl NaCl04 20°C 0.10M U          K1=9.60      1985SIb (87824)1223
*****
C14H16N202S      HL                      CAS 189231-67-2 (8475)
2-Thiophenylhydrazodimedone;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl diox/w 25°C 75% C T H      K1=13.13 B2=24.63 1997EIa (87870)1224
Medium: 75% v/v dioxane/H2O, 0.10 M KNO3. Data for 10-40 C. DH(K1)=-5.50
kJ mol-1, DS(K1)=-4.24 J K-1 mol-1; DH(K2)=-5.50, DS(K2)=-6.03.
*****
C14H16N203      H2L                      (8284)
5,5'-Dimethylcyclohexane-2-(2'-hydroxyphenyl)hydrazono-1,3-dione;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl mixed 30°C 0.10M U T H      K1=10.84 B2=19.88 1988TRb (87888)1225
Medium: 0.1 M KNO3 in 75% v/v isopropanol/water
*****
C14H16N208      H4L                      CAS 40774-59-2 (1901)
1,2-Diaminobenzene-N,N,N',N'-tetraethanoic acid; C6H4(N(CH2.COOH)2)2
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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La+++      gl NaCl04 25°C 1.00M C H      K1=11.39      1992YNa (87955)1226
By calorimetry: DH(K1)=11.7 kJ mol-1, DS=257 J K-1 mol-1
*****
C14H17N204P      H3L                      (1472)
2-Hydroxyphenyl-N-(2-(2'-pyridyl)ethylamino)methylphosphonic
acid;C6H4(OH)CH(PO3H2)NHCH2CH2C5H4N
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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La+++ gl NaClO4 20°C 0.10M U K1=10.85 1985SIb (88044)1227

C14H19N07 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

La+++ gl R4N.X 25°C 0.10M C K1=2.70 1990CBe (88149)1228

C14H2005 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

La+++ dis non-aq 25°C 100% U B2=7.71 1990NIa (88292)1229
B2=extraction eq.constant: M+3P+2(S)=ML2P3(S); solvent(S)=CH2Cl2, P=picrate

La+++ ISE R4N.X 25°C 0.10M C K1=2.13 1986XJa (88293)1230

C14H2008S 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

La+++ dis R4N.X 25°C 0.12M C K1=2.04 1998SUa (88394)1231
Medium: 0.12 M Et4NBr.
Method:solvent extraction into cyclohexane/di(2-ethylhexyl)phosphoric acid

C14H22N208 H4L cis-1,2-CDTA CAS 92761-75-6 (2846)
cis-1,2-Diaminocyclohexane-N,N,N',N'-tetraethanoic acid;

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

La+++ gl KCl 25°C 1.0M U K1=3.71 1987CMe (88431)1232
K(LaHL+H)=4.88
K(LaL+H)=7.62

C14H22N208 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

La+++ gl KCl 25°C 1.0M U K1=6.24 1987CMe (88444)1233
K(LaHL+H)=6.30
K(LaL+H)=8.75

C14H22N208 H4L cis-1,4-CDTA CAS 92681-25-9 (2848)
cis-1,4-Diaminocyclohexane-N,N,N',N'-tetraethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	KCl	25°C	1.0M	U			K1=7.13 K(LaHL+H)=6.76 K(LaL+H)=7.61	1987CMe (88458)	1234

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
La+++	gl	KCl	25°C	1.0M	U			K1=16.3 K(LuL+H)=2.4	1987CMe (88698)	1235
La+++	gl	KCl	25°C	1.00M	U			K1=16.3	1984MFa (88699)	1236
La+++	gl	KNO3	27°C	0.10M	U	M		K(La+L+HA)=12.72 K(LaL+HA)=5.88	1981KSe (88700)	1237
H2A=Citraconic acid										
La+++	gl	KNO3	27°C	0.10M	U	M		K(La+L+HA)=12.71 K(LaL+HA)=5.98	1981KSe (88701)	1238
H2A=Maleic acid										
La+++	gl	NaClO4	25°C	0.50M	U			K1=15.54	1977GGb (88702)	1239
La+++	gl	KNO3	30°C	0.10M	M	T HM		K(LaL+A)=2.62 K(LaL+D)=2.98 K(LaL+C)=3.07	1977RTa (88703)	1240
A=glycolate, C=malate, D=lactate. Also at 35 C										
La+++	gl	KNO3	30°C	0.10M	U	M		K(LaL+salicylate)=4.60 K(LaL+sulfosalicylate)=3.12 K(LaL+8-quinolinolate)=2.73	1975RTb (88704)	1241
La+++	cal	KNO3	20°C	0.10M	U	H		DH(K1)=6.7 kJ mol ⁻¹ , DS=346 J K ⁻¹ mol ⁻¹	1963ANb (88705)	1242
La+++	cal	KNO3	20°C	0.10M	U	H		K1=16.91 DH(K1)=6.7 kJ mol ⁻¹ , DS=347 J K ⁻¹ mol ⁻¹	1963ANF (88706)	1243
La+++	dis	NaClO4	20°C	0.10M	U			K1=16.75	1963STc (88707)	1244
Medium: KClO4										
La+++	EMF	KNO3	25°C	0.10M	U	T H		K1=16.35 DH(K1)=15.1 kJ mol ⁻¹ , DS=364 J K ⁻¹ mol ⁻¹ . At 20 C: K(LaL+H)=2.24	1962MHa (88708)	1245

La+++ vlt KNO3 20°C 0.10M U K1=16.26 1954SGa (88709)1246
K(LaL+H)=2.56

C14H22N2O8 H4L trans-1,3-CDTA CAS 92681-24-8 (2849)
trans-1,3-Diaminocyclohexane-N,N,N',N'-tetraethanoic acid;

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

La+++ gl KCl 25°C 1.0M U K1=7.02 1987CMe (88838)1247
K(LaHL+H)=5.55
K(LaL+H)=7.87

C14H22N2O8 H4L trans-1,4-CDTA CAS 92681-26-0 (2843)
trans-1,4-Diaminocyclohexane-N,N,N',N'-tetraethanoic acid;

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

La+++ gl KCl 25°C 1.0M U K1=7.3 1987CMe (88859)1248
K(LaHL+H)=5.8
K(LaL+H)=7.4

La+++ gl KCl 25°C 1.00M U K1=7.3 1984MFb (88860)1249

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

La+++ gl R4N.X 25°C 0.10M C K1=7.23 1988CCb (88882)1250

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

La+++ nmr none RT 0.0 U 2000CVa (89296)1251
Kout(LaA+TmL)=2.47

Medium: D2O. Method: 13C nmr. A: 1,4,7,10-tetrakis(2-hydroxypropyl)-
1,4,7,10-tetraazacyclododecane.

La+++ cal KNO3 25°C 0.10M C T 1988MIa (89297)1252
DH(K1)=-21.3 kJ mol⁻¹, DS=301.8 J mol⁻¹ K⁻¹. Also data for 283 and 313 K

La+++ cal NaClO4 25°C 0.10M C H 1987YJa (89298)1253
DH(K1)=-14.4 kJ mol⁻¹, DS(K1)=325 J K⁻¹ mol⁻¹.

La+++ cal NaClO4 25°C 0.50M U H 1977CGc (89299)1254
DH(K1)=-25.3 kJ mol⁻¹

La+++ gl NaClO4 25°C 0.50M U K1=18.23 1977GGb (89300)1255

La+++ gl KNO3 30°C 0.10M U K1=19.32 1976GAa (89301)1256

La+++ sp oth/un 20°C dil U K1=19.23 1969KAF (89302)1257

La+++ cal KNO3 27°C 0.10M U H 1968CLd (89303)1258
DH(K1)=15.0 kJ mol⁻¹, DS=226 J K⁻¹ mol⁻¹

La+++ cal KNO3 20°C 0.10M U T H 1965ANa (89304)1259
DH(K1)=-19.6 kJ mol⁻¹, DS=307 J K⁻¹ mol⁻¹

La+++ EMF KNO3 25°C 0.10M U H K1=19.48 1962MTc (89305)1260
DH(K1)=-23.8 kJ mol⁻¹, DS=293 J K⁻¹ mol⁻¹

La+++ EMF oth/un 25°C 0.10M U K1=19.1 1960HRa (89306)1261

La+++ gl oth/un 25°C 0.10M U K1=19.96 1959HCa (89307)1262

C14H23O2P HL CAS 64266-08-6 (2137)
Phenyl(2-ethylhexyl)phosphinic acid; (C6H5)(2-C2H5C6H12)P(O)OH

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

La+++ kin oth/un 25°C 0.02M U K1=3.55 1974GMc (89471)1263

C14H23O2P HL CAS 31066-81-6 (2136)
Phenyl(n-octyl)phosphinic acid; (C6H5)(C8H17)P(O)OH

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

La+++ kin oth/un 25°C 0.02M U K1=3.49 1974GMc (89474)1264

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

La+++ vlt KNO3 20°C 0.10M U K1=14.13 1969NDc (89512)1265

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

La+++ vlt KNO3 20°C 0.10M U K1=16.52 1974NLa (89532)1266

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

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

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

La+++ vlt KCl ? 0.10M U K1=11.35 1968VLa (90116)1285

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

La+++ gl R4N.X 25°C 0.10M M K1=10.11 1986COB (90194)1286

C14H26N2O8 H2L (6658)
1,4,10,13-Tetraoxa-7,16-diaza-2,3-dicarboxycyclooctadecane;

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

La+++ gl R4N.X 25°C 0.10M U K1=5.5 1990AFa (90223)1287
B(LaHL)=13.2
B(La(OH)L)=10.1

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

La+++ ISE non-aq 25°C 100% C K1=15.1 1986ALa (90385)1288
Medium: propylene carbonate, 0.1 M Et4NC104

La+++ ISE non-aq 25°C 100% C I K1=12.86 1985CKa (90386)1289
Medium: propylenecarbonate

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

La+++ gl R4N.X 25°C 0.10M C K1=6.62 1988CCc (90482)1290

C14H28O2 HL Myristic acid CAS 544-63-8 (2543)
Tetradecanoic acid; CH3(CH2)12.COOH

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

La+++ oth oth/un 20°C var U Kso=-22.8 1981HTc (90509)1291

C14H28O7 L 21-Crown-7 CAS 33089-36-0 (2264)

1,4,7,10,13,16,19-Heptaoxacycloheneicosane;

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  non-aq 25°C 100% C      K1=7.61      1989BPa (90527)1292
Medium: anhydrous propylene carbonate, 0.1 M Et4NClO4
*****
C14H3007      L      CAS 1072-40-8 (2499)
2,5,8,11,14,17,20-Heptaoxaheneicosane; CH3.O.(CH2.CH2.O)6.CH3
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  non-aq 25°C 100% C      K1=6.68      1989BPa (90697)1293
Medium: anhydrous propylene carbonate, 0.1 M Et4NClO4
*****
C14H32N2O4      L      CAS 102-60-3 (2678)
Tetra(2-hydroxypropyl)-N,N,N',N'-diaminoethane; (-CH2.N(CH2.CH(OH).CH3)2)2
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  NaNO3 25°C 0.10M U      K1=2.90      1986HBc (90746)1294
*****
C14H32N2O10P2      H4L      CAS 81963-60-2 (7240)
1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-diyldimethylenediphosphonic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  R4N.X 25°C 0.10M U      K1=12.90      1996BJa (90766)1295
                        K(La+HL)=9.10
                        K(La+H2L)=4.96
Medium: 0.1 M Me4NCl
*****
C14H34N4O6P2      H4L      CAS 200952-02-9 (7644)
1,4,7,10-Tetraazacyclododecane-1,7-bis(methanephosphonic acid monoethyl ester);
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  KCl 25°C 0.10M C      K1=8.16      1998BRa (90844)1296
*****
C15H11N04      HL      CAS 1776-18-7 (955)
3-Phenyl-1-(2'-hydroxy-5'-nitrophenyl)-2-propen-1-one;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  alc/w 35°C 70% U      K1=5.91 B2=11.63 1982SLb (91078)1297
*****
C15H11N3O      HL      (5108)
2-(2'-Pyridylazo)-1-hydroxynaphthalene;
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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La+++ sp alc/w 24°C 40% U K1=7.12 1973BJb (91257)1298
Medium: 40% EtOH, 0.1 M NaClO4

C15H11N3O2 L CAS 74378-23-7 (2745)
Phenanthrenequinone monosemicarbazone; C14H8(:O)(:N.NH.CO.NH2)

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

La+++ gl diox/w 25°C 75% C TIH K1=6.59 B2=13.13 1989SVa (91306)1299
DH(K1)=-40.0 kJ mol-1

C15H11O2Br HL CAS 1218-20-0 (954)
3-Phenyl-1-(2'-hydroxy-5'-bromophenyl)-2-propen-1-one;

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

La+++ gl alc/w 35°C 70% U K1=6.82 1982SLb (91371)1300

C15H11O2Cl HL CAS 1218-24-2 (953)
3-Phenyl-1-(2'-hydroxy-5'-chlorophenyl)-2-propen-1-one;

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

La+++ gl alc/w 35°C 70% U K1=6.37 B2=12.55 1982SLb (91391)1301

La+++ gl alc/w 35°C 70% U K1=6.37 B2=12.55 1980SLb (91392)1302

C15H12OS HL (1261)
mono-Thiodibenzoylmethane; C6H5.CO.CH2.CS.C6H5

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

La+++ gl NaClO4 30°C 0.05M U K1=6.98 B2=13.26 1979VMa (91494)1303
K3=5.76

C15H12O2 HL CAS 1214-47-7 (951)
3-Phenyl-1-(2'-hydroxyphenyl)-2-propen-1-one, 2'-hydroxychalkone;
C6H5.CH:CH.CO.C6H4.OH

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

La+++ gl alc/w 35°C 70% U K1=7.45 B2=14.68 1982SLb (91585)1304
Medium: 70% EtOH, 0.1 M KNO3

La+++ gl alc/w 35°C 70% U K1=7.45 B2=14.68 1980SLb (91586)1305

C15H13NO2 HL CAS 7369-44-0 (4066)
N-3-Diphenylpropenohydroxamic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	dis	oth/un	RT	0.05M	C				1993ATa (91638)	1306
Method: extraction from 0.05 M triethanolamine buffer into chloroform. Analysis by spectrophotometry. $K(\text{La}+3\text{HL}(\text{org})=\text{LaL3}(\text{org})+3\text{H})=-18.30$										

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
La+++	gl	diox/w	30°C	75%	M			K1=6.65	2000ANa (91692)	1307
Medium: 75% v/v dioxan/H2O, 0.10 M NaClO4. Data for an extensive series of 4'-substituted phenylimino derivatives.										

C15H14O3S		H2L						(6191)		
1-(2-Hydroxy-3,5-dimethylphenyl)-3-(2-thiophene)-propan-1,3-dione; C4H3S.CO.CH2.CO.C6H2(OH)(CH3)2										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	diox/w	30°C	50%	U				1987DDc (91785)	1308
K(La+HL)=6.99 K(LaHL+HL)=6.25										

C15H14O3S		H2L						CAS 57051-65-7	(6190)	
1-(2-Hydroxy-4,5-dimethylphenyl)-3-(2-thiophene)-propan-1,3-dione; C4H3S.CO.CH2.CO.C6H2(OH)(CH3)2										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	diox/w	30°C	50%	U				1987DDc (91791)	1309
K(La+HL)=7.10 K(LaHL+HL)=6.23										

C15H14O4		H2L						CAS 60403-51-2	(2361)	
1-(2-Furyl)-3-(2-hydroxy-3,4-dimethylphenyl)-propan-1,3-dione; C4H3O.CO.CH2.CO.C6H2(OH)(CH3)2										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	diox/w	30°C	50%	U				1987DDc (91797)	1310
K(La+HL)=6.65 K(LaHL+HL)=5.00										
Medium: 0.1 M NaClO4 in 50% dioxan										

C15H14O4		H2L						CAS 60403-52-3	(6186)	
1-(2-Furyl)-3-(2-hydroxy-3,5-dimethylphenyl)-propan-1,3-dione; C4H3O.CO.CH2.CH2.C6H2(OH)(CH3)2										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	diox/w	30°C	50%	U				1987DDc (91803)	1311
K(La+HL)=6.50										

C15H14O4		H2L						CAS 60403-54-5	(6187)	
1-(2-Furyl)-3-(2-hydroxy-3,6-dimethylphenyl)-propan-1,3-dione; C4H3O.CO.CH2.CH2.C6H2(OH)(CH3)2										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	diox/w	30°C	50%	U				1987DDc (91809)	1312
K(La+HL)=7.30										
K(LaHL+HL)=5.84										

C15H15NO2		HL						(1167)		
N-(4-Tolyl)-4'-tolylhydroxamic acid; CH3.C6H4.CO.N(C6H4.CH3)OH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	diox/w	25°C	50%	U T H			K1=9.80 B2=18.10 K3=7.20	1983AGb (91843)	1313
35 C: K1=9.30, K2=7.80, K3=6.70										

C15H15NO3		HL						(6240)		
N-4-Tolyl-4'-methoxybenzohydroxamic acid; CH3O.C6H4.CO.N(C6H4.CH3).OH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	diox/w	25°C	50%	U T H			K1=9.85 B2=18.20 K3=7.34	1983AGb (91865)	1314
35 C: K1=9.36, K2=7.86, K3=6.86										

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
La+++	gl	alc/w	20°C	75%	U T H			K1=9.12 B2=14.38	1993RAa (92027)	1315
Medium: 75% v/v MeOH/H2O; 0.10 M KNO3										

La+++	gl	mixed	30°C	0.10M	U T H			K1=11.14 B2=20.50	1988TRb (92028)	1316
Medium: 0.1 M KNO3 in 75% v/v isopropanol/water										

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	KNO3	25°C	0.10M	C			K1=10.81	1978MPb (92153)	1317

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
La+++	sp	non-aq	25°C	100%	M			K1=7.4 B2=14.80 B3=21.0	1997RPb (92285)	1318

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
La+++	EMF	KCl	?	0.10M	U			K1=15.0	1966VLa (92374)	1319

La+++	vlt	oth/un	?	?	U			K1=16.69	1966VLa (92375)	1320
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C15H25N3O10 H5L (6100)
Diethylenetriamine-N,N,N'',N''-tetraethanoic acid-N''-propanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	KNO3	25°C	0.10M	C			K1=17.39 K(La+HL)=11.38	1989SPa (92395)	1321

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
La+++	gl	KCl	25°C	0.10M	C			K1=17.62	2000SBb (92433)	1322

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
La+++	gl	KCl	25°C	0.10M	C			K1=16.43	2000SBb (92448)	1323

C15H33N06 L CAS 70384-51-9 (838)
Tris(3,6-dioxaheptyl)amine; (CH3.CH2.O.CH2.CH2.O.CH2.)3N

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	ISE	non-aq	25°C	100%	C			K1=9.0 B2=16.3	1986ALa (92567)	1324

Medium: propylene carbonate, 0.1 M Et4NClO4

C15H36N3O9P3 H3L (6749)

1,4,7-Triazacyclononane-N,N'N''-tris(methylenephosphonate monoethyl ester)

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  R4N.X  25°C 0.10M C          K1=8.7          1992LRa (92613)1325
*****
C16H9N2OBr3      HL          CAS 84317-74-8 (5169)
1-(2,4,6-Tribromophenylazo)-2-hydroxynaphthalene;
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      kin oth/un 25°C 0.02M U          K1=4.42          1972GSe (92656)1326
*****
C16H11N2O8ClS2      H4L Solochrome FN CAS 25747-11-9 (8527)
6-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-5-hydroxy-1-naphthalenesulfonic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  oth/un 20°C 0.10M M T H      K1=12.4          1978MBe (92778)1327
Medium: 0.10 M KClO4. Data for 44 C. DH and DS values reported.
*****
C16H11N3O10S2      H4L Chromotrope 2B CAS 548-80-1 (896)
2-((4-Nitrophenyl)azo)chromotropic acid;
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      sp  oth/un 25°C   ?  U          K1eff=4.9 (pH 6.0)
*****
C16H12N2O          HL          CAS 5603-14-5 (9083)
2-[(Quinolyl)methylene]amino]phenol;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  alc/w  25°C 50% C          K1=5.89 B2=10.63 1997GSa (92927)1329
Medium: 50% v/v EtOH/H2O, 0.20 M KCl.
*****
C16H12N2O4S        H2L          CAS 13964-82-4 (3475)
1-(4-Sulfophenylazo)-2-hydroxynaphthalene;
-----
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      sp  oth/un 25°C dil U          B2=7.52          1969SPd (93000)1330
*****
C16H12N2O11S3      H5L          CAS 548-81-2 (5180)
2-(4'-Sulfophenylazo)chromotropic acid,
2-(4-sulfophenylazo)-1,8-dihydroxyaphthalene-3,6-diHSO3
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
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La+++ gl oth/un 25°C 0.10M U K1=7.23 B2=11.45 1985AAa (93097)1331
Data also for 12 other 4-substituted phenyl analogues

C16H12N2S L CAS 31230-95-2 (9085)
2-(2-Benzothiazoliny)quinoline;

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

La+++ gl alc/w 25°C 50% C K1=5.61 B2=10.14 1997GSa (93106)1332
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

La+++ gl NaCl 25°C 0.10M U K1=9.65 B2=15.18 1997IHa (93116)1333
B3=19.62

Also data for the 4'-bromo-, 4'-fluoro-, 4'-nitro-, 4'-methoxy-, 4'-di-
methylamino-, 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

La+++ gl diox/w 30°C 75% M K1=5.76 1987ESa (93131)1334

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

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

La+++ sp KCl 22°C 0.10M U 1978KYa (93197)1335
K(La+H2L)=3.35
K(LaHL+H)=4.40
K(La+HL)=6.72

La+++ gl NaCl04 30°C 0.10M U 1976NDa (93198)1336
K(La+H2L=LaH2L)=5.30
K(LaHL+H)=7.89
K(LaL+H)=10.75

La+++ sp oth/un 25°C ? U 1963SDg (93199)1337
K(?)=10.1

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

La+++ sp oth/un 20°C 0.10M U 1971SSd (93259)1338
K(La+H2L)=8.64

La+++ sp oth/un 20°C ? U 1965BUa (93260)1339
B(LaH2L)=28.8

C16H14N2O5 H2L (7017)
4-Hydroxy-1-carboxy-7-dimethylaminophenoxaz-3-one methyl ester;

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

La+++ sp alc/w 25°C 10% U I 1979KRb (93441)1340
B3=19.55
Medium: 10% w/w EtOH/H2O, 0.1 M NaClO4. In 30%: B3=18.85

C16H14O2 HL CAS 1775-98-0 (952)
3-Phenyl-1-(2'-hydroxy-5'-methylphenyl)-2-propen-1-one;

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

La+++ gl alc/w 35°C 70% U K1=7.60 B2=14.55 1982SLb (93531)1341
Medium: 70% EtOH, 0.1 M KNO3

C16H14O3 HL CAS 3327-24-0 (956)
3-(4''-Methoxyphenyl)-1-(2'-hydroxyphenyl)-2-propen-1-one;

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

La+++ gl alc/w 35°C 70% U K1=7.29 B2=14.12 1982SLb (93569)1342

La+++ gl alc/w 35°C 70% U K1=7.29 B2=14.12 1980SLb (93570)1343

C16H14O4 HL BHMA (5929)
omega-Benzoyl-2-hydroxy-4-methoxy-3-methylacetophenone;

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

La+++ gl alc/w 30°C 25% M K1=5.51 B2=9.92 1987DGb (93582)1344
Medium: 25% v/v EtOH/H2O

C16H15N07 H4L (4082)
N-(3-Carboxy-2-hydroxynaphthyl-1-ylmethyl)iminodiethanoic acid;

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

La+++ sp NaClO4 20°C 0.10M U K1=12.8 1968BWA (93633)1345

C16H15N5O7S2 H2L Cefixime CAS 79350-37-1 (8532)
5-Thia-1-azabicyclo[4,2,0]oct-2-ene-2-carboxylic acid;

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

La+++ con non-aq 25°C 100% C K1=4.92 B2= 7.08 2003GNa (93652)1346
Medium: DMSO.

C16H17N3O4S HL Cephalexin CAS 15686-71-2 (7748)
7-(2-Aminophenylacetyl-amino)-3-methyl-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic ac.

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

La+++ gl KNO3 25°C 0.10M C K1=5.57 2000GFb (93759)1347

C16H17N3O5S H2L Cephadroxil CAS 50370-12-2 (8403)
7-[[Amino(4-hydroxyphenyl)acetyl]amino]-3-methyl-8-oxo-5-thia-1-azabicyclooct-2-ene-2-carboxylic;

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

La+++ gl KNO3 25°C 0.10M C K1=5.87 2000GFb (93765)1348

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

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

La+++ gl diox/w 30°C 75% U K1=8.37 B2=15.15 1988ESb (93780)1349

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

La+++ gl NaClO4 25°C 0.10M U K1=6.41 B2= 9.12 1997MAB (93860)1351
B(LaHL)=13.78

Also data for the N,N'-diethyl, isopropyl, butyl and isobutyl derivatives.

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

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

La+++ gl diox/w 25°C 50% U K1=5.0 B2= 9.12 1997MAB (93860)1351
Medium: 50% v/v dioxan/H2O, 0.10 M NaClO4. For the 1,4-phenylenediamine derivative, K1=5.75, K2=4.00.

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	diox/w	25°C	50%	U			K1=4.35 B2= 7.71	1997MAb (93867)	1352

Medium: 50% v/v dioxan/H2O, 0.10 M NaClO4. For the 1,4-phenylenediamine derivative, K1=4.80, K2=3.75.

 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
La+++	vlt	KNO3	20°C	0.10M	U			K1=15.49	1969NDb (94041)	1353

 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
La+++	dis	non-aq	25°C	100%	U				1993INa (94250)	1354

B(La+3P+2L)=7.45
 By solvent extraction into dichloromethane. B is the extraction constant
 La(aq)+picrate(aq)+L(org)=LaL2P3(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
La+++	gl	R4N.X	25°C	0.10M	C			K1=3.06	1990CBe (94260)	1355

 C16H23NO8 L CAS 53408-96-1 (1765)
 2,3-(4'-Nitrobenzo)-1,4,7,10,13,16-hexaoxacyclooctadeca-2-ene;
 4'-Nitrobenzo-18-crown-6

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	ISE	R4N.X	25°C	0.10M	C			K1=2.43	1986XJa (94268)	1356

 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
La+++	dis	R4N.X	25°C	0.12M	C			K1=1.88	1998SUa (94479)	1357

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

La+++ gl R4N.X 25°C 0.10M C K1=8.46 1988CCb (94571)1358

C16H26N2O12 H4L (6659)
1,4,10,13-Tetraoxa-7,16-diaza-2,3,11,12-tetracarboxycyclooctadecane;

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

La+++ gl R4N.X 25°C 0.10M U K1=9.3 1990AFa (94589)1359
B(LaHL)=17.0

C16H26N2O12 H4L CAS 130190-52-2 (6660)
1,4,10,13-Tetraoxa-7,16-diaza-2,3,7,16-tetracarboxycyclooctadecane;

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

La+++ gl R4N.X 25°C 0.10M U K1=13.5 1990AFa (94603)1360
B(LaHL)=19.4

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

La+++ sp KCl 25°C 0.08M U K1=9.7 1994FCa (94671)1361

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

La+++ sp KCl 25°C 0.08M U K1=13.6 1994FCa (94686)1362

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

La+++ gl KNO3 20°C 0.10M U K1=10.78 1969NDc (94714)1363

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

La+++ vlt KNO3 20°C 0.10M U K1=14.12 1969NDc (94740)1364

C16H28N2O8 H4L (5138)
1,2-Diaminoethane-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

La+++ vlt KNO3 20°C 0.10M U K1=16.47 1979MBd (94766)1365

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

La+++ nmr none RT 0.0 U Kout(LaA+TmL)=1.81 2000CVa (94909)1366
Medium: D2O. Method: 13C nmr. A: 1,4,7,10-tetrakis(2-hydroxypropyl)-
1,4,7,10-tetraazacyclododecane.

La+++ gl NaCl 37°C 1.0M C K1=20.7 1994TBb (94910)1367
Method: Competitive reaction with Ce3+ ion.

La+++ EMF KCl 25°C 0.10M C K1=21.7 1991CMB (94911)1368
K(LaL+H)=2.5

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

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

La+++ gl NaClO4 25°C 0.10M C H K1=14.55 1993RCa (94999)1369
DH(K1)=-17.3 kJ mol-1, DS(K1)=221 J K-1 mol-1

C16H30N2O8 H2L CAS 72912-01-7 (1568)
1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-N,N'-diethanoic acid;

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

La+++ gl NaNO3 25°C 0.10M U K1=12.47 1988HSb (95044)1370

La+++ gl R4N.X 25°C 0.10M U K1=12.21 1983CRb (95045)1371

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

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

La+++ gl NaCl 25°C 0.16M C K1=13.82 2002SSa (95087)1372
K(La+HL)=9.89
K(La+H2L)=6.03

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

La+++ cal non-aq 25°C 100% C H K1=11.39 1990NRa (95227)1373
Medium: MeCN. DH(K1)=-18.6 kJ mol⁻¹, DS=-10.3 J K⁻¹ mol⁻¹.
In PC: DH(K1)=-18.4, DS=23.4

La+++ gl R4N.X 25°C 0.25M C K1=6.59 1981BBE (95228)1374
Medium: Me4NCl

C16H32N8O4 L CAS 157599-02-5 (8676)
1,4,7,10-Tetraazacyclododecane-1,4,7,10-tetraacetamide;

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

La+++ gl NaNO3 25°C 0.10M C K1=10.35 1995MHa (95377)1375
K(LaL+OH)=6.06

C16H32O7 L (6411)
15-(2,5-Dioxaheptyl)-15-methyl-1,4,7,10,13-pentaoxacyclohexadecane;

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

La+++ cal non-aq 25°C 100% U H K1=3.76 1993LLa (95386)1376
Medium: MeCN. DH(K1)=-29.2 kJ mol⁻¹.

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

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

La+++ kin oth/un 25°C 0.02M U K1=3.93 1974GMc (95501)1377

C16H35O4P HL CAS 3115-39-7 (2131)
Dioctylphosphoric acid; (C8H17O)2P(O)OH

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

La+++ kin oth/un 25°C 0.02M U K1=4.27 1974GMc (95518)1378

C17H12N3O3Cl HL (6197)
8-Formyl-7-hydroxy-4-methyl-2H-[1]-benzopyran-2-one-4-chloroanil;
Cl.C6H4.N:CH.C9H3O(OH)(CH3)(:O)

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

La+++ gl diox/w 30°C 70% U K1=4.56 B2=8.07 1987ECa (95691)1379
B3=10.61

C17H12N2O5 HL (6198)
8-Formyl-7-hydroxy-4-methyl-2H-[1]-benzopyran-2-one-4-nitroanil;
NO2.C6H4.N:CH.C9H3O(OH)(CH3)(:O)

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

La+++ gl diox/w 30°C 70% U K1=4.41 B2=7.79 1987ECa (95708)1380
B3=10.28

C17H12O4 H2L CAS 60430-57-8 (6189)
1-(2-Furyl)-3-(2-naphthol)-propan-1,3-dione; C4H3O.CO.CH2.CO.C10H6.OH

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

La+++ gl diox/w 30°C 50% U 1987DDc (95733)1381
K(La+HL)=6.87
K(LaHL+HL)=5.09

C17H13NO3 HL CAS 98399-88-3 (6195)
8-Formyl-7-hydroxy-4-methyl-2H-[1]-benzopyran-2-one-anil;
C6H5.N:CH.C9H3O(CH3)(OH)(:O)

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

La+++ gl diox/w 30°C 70% U K1=5.19 B2=9.31 1987ECa (95739)1382
B3=12.00

C17H13N4O3 HL (5927)
1-Phenyl-3-methyl-4-(2'-carboxyphenylhydrazo)-5-pyrazolone;

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

La+++ gl diox/w 30°C 75% M K1=15.34 B2=26.40 1987ESa (95768)1383

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

La+++ dis non-aq 20°C 100% C H 2003JLb (95889)1384
Extraction from 1.0 M NaCl into ligand phase. K(LaCl3+L(o)+0.5(i-Bu3PS)(o)
LaCl2(H-1L)(i-Bu3PS)0.5(o)+HCl)=-2.33. K(La+4L(o)=La(H-1L)3L(o)+3H)=-5.17

La+++ gl NaNO3 20°C 0.10M U M 1981GCa (95890)1385
B(LaL3(TBP)2)=22.36
B(LaL3(TBPoxide)4)=30.4

TBP=tributyl phosphate, TBPO=tributyl phosphine oxide

C17H14N2O5S H3L Calmagite CAS 3147-14-6 (2875)
1-(1-Hydroxy-4-methyl-2-phenylazo)-2-naphthol-4-sulfonic acid;

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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La+++     gl  NaClO4 25°C 0.10M M          K1=14.60 B2=22.10 1978MPd (95929)1386
                                         K3=6.07

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C17H15N4O2          L          CAS 97671-53-9 (5926)
1-Phenyl-3-methyl-4-(2'-methoxyphenylhydrazo)-5-pyrazolone;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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La+++     gl  diox/w 30°C 75% M          K1=7.63  B2=14.46 1987ESa (96009)1387
*****
C17H16N2O3S2        L          CAS 127335-83-5 (6849)
Sulfafurazole thiophene-2-aldehyde Schiff base; C4H3S.CH:N.C6H4.SO2.NH.C4HO(CH3)2
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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La+++     gl  oth/un 25°C 0.10M U T      K1=4.87          1990TSa (96040)1388
30 C: K=4.70, 35 C: K=4.50
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C17H16O4          H2L          CAS 58134-82-0 (6193)
Benzoyl-2-hydroxy-4-methoxy-3-methylacetophenone;
C6H5.CO.CH2.CO.C6H2(OH)(OCH3)(CH3)
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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La+++     gl  alc/w 30°C 75% U T H      K1=6.64  B2=13.34 1987DGd (96152)1389
20 C:K1=6.56, K2=5.47; 40 C:K1=6.94, K2=6.08; 50 C:K1=7.22, K2=6.27
DH(K1)=-29 kJ mol-1, DS=34 J K-1 mol-1
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C17H18O4          H2L          (6188)
1-(2-Furyl)-3-(2-hydroxy-3,4-diethylphenyl)-propan-1,3-dione;
C4H3O.CO.CH2.CO.C6H2(OH)(C2H5)2
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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La+++     gl  diox/w 30°C 50% U          K(La+HL)=6.19 1987DDc (96244)1390
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C17H23N4O4BrS      H2L          (1594)
2-(5-Bromo-2-pyridylazo)-5-(N-propyl-3-sulfopropylamino)phenol;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++     sp  NaNO3 25°C 0.10M C          K1=7.22          19880Ha (96421)1391
                                         K(La+HL)=2.38
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C17H27N4O4          L          CAS 71089-11-7 (7945)
13-Phenylmethyl-1,4,7,10-tetraoxa-13-azacyclopentadecane;

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

La+++ cal non-aq 25°C 100% C H 1993LLb (96535)1392

K(LaNO3+L)=4.55

Medium: acetonitrile. DH(LaNO3+L)=-51.71 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

La+++ gl KNO3 25°C 0.10M U K1=7.58 1984TPa (96573)1393

K(La+HL)=5.11

C17H30N4O8 H4L TRITA CAS 60239-20-5 (1018)

1,4,7,10-Tetraazacyclotridecane-1,4,7,10-tetraethanoic acid;

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

La+++ gl KCl 25°C 0.10M C K1=17.02 1991CMb (96652)1394

K(LaL+H)=3.8

C18H13N5O3S4 HL CAS 683787-43-1 (9097)

4-[(4-Oxo-3-phenyl-2-thioxo-5-thiazolidinyl)azo]-N-2-thiazolyl-benzenesulfonamide;

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

La+++ gl alc/w 25°C 30% U T H K1=7.40 B2=11.90 2003EEa (96904)1395

Medium: 30% v/v EtOH/H2O, 0.10 M KCl. Data for 25-45 C. DH(K1)=37 kJ mol⁻¹

DS=264 J K⁻¹ mol⁻¹. DH(K2)=52, DS=261. Protonation constants not reported.

C18H15N03 HL (6196)

8-Formyl-7-hydroxy-4-methyl-2H-[1]-benzopyran-2-one 4-methylanil;

CH3.C6H4.N:CH.C9H3O(OH)(CH3)(O)

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

La+++ gl diox/w 30°C 70% U K1=5.98 B2=10.97 1987ECa (96995)1396

B3=14.60

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

La+++ gl diox/w 30°C 75% U K1=9.33 B2=17.00 1988ESb (97173)1397

C18H18N4 L CAS 16858-01-8 (1528)

Tris(2-pyridylmethyl)amine; (C5H4NCH2)3N

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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La+++      nmr KCl    25°C  1.0M C   H   K1=1.99      2004BRa (97263)1398
Method: 1H nmr measurements in D2O. DH(K1)=-17 kJ mol-1,
DS(K1)=-21 J mol-1K-1
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La+++      nmr non-aq RT 100% U           K2=1.0      2000WMa (97264)1399
Method: 1H nmr. Medium: C5D5N.
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C18H20N2O6      H4L      EHPG      CAS 10328-28-6 (429)
N,N'-Ethylene-bis-(2-(2'-hydroxyphenyl))glycine; (HOOCCH(C6H4OH)NHCH2.)2
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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La+++      EMF KNO3   25°C  0.10M C T H   K1=16.66    1985HWb (97434)1400
                        K(LaL+H)=7.62
Method: Hg (and glass) electrode, using Hg(II) as competitive indicator
ion. Data for 10-35 C. DH(K1)=-47.1 kJ mol-1, DS(K1)=161 J K-1 mol-1.
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C18H22N4O4      H2L      CAS 2444-14-6 (3502)
N,N'-Bis(2-pyridylmethyl)diaminoethane-N,N'-diethanoic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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La+++      gl  NaCl    25°C  0.16M C           K1=10.81    1997Cma (97546)1401
                        K(La+L=LaL(OH)+H)=0.06
                        K(LaL(OH)+H)=10.75
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C18H24N2O2      H2L      CAS 58015-12-6 (5245)
N,N'-Bis(2-hydroxy-5-methylphenylmethylene)ethylenediamine;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      EMF oth/un ?      ? U           K1=19.4     1975DTa (97585)1402
                        K(La+H2L)=8.8
*****
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C18H24N6O9      H3L      BAMTPH      CAS 87834-24-0 (5915)
N,N',N''-Tris(3-(hydroxyamino)-3-oxopropyl)-1,3,5-benzenetricarboxamide;
C6H3(CONHCH2CH2CONHOH)3
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
La+++      gl  NaNO3   25°C  0.10M C           K1=14.42    1989EHa (97621)1403
*****
C18H25N3O8      H4L      BEATA      CAS 87732-99-8 (5600)
N,N-Bis(2-aminoethyl)aniline-N',N',N'',N''-tetraethanoic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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 La+++ gl KNO3 25°C 0.10M C K1=13.10 1985TPa (97655)1404

 C18H26N6 L (6628)
 3,6,14,17,23,24-Hexaazatricyclo[17.3.1.1]tetracos-1(23),8,10,12(24),19,21-hexaene;

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

La+++ gl KCl 25°C 0.10M M K1=7.4 1996MBb (97715)1405

La+++ gl KCl 25°C 0.20M C K1=7.4 1992RMa (97716)1406

 C18H28O5 L CAS 15196-73-3 (2359)
 2,3-(4'-Dimethylethylbenzo)-1,4,7,10,13-pentaoxacyclopentadeca-2-ene;

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

La+++ gl non-aq 25°C 100% U K1=3.26 B2=5.91 1982MDa (97807)1407
 Medium: propylene carbonate

C18H29N04 L CAS 207603-17-6 (9000)
 7-(Phenylmethyl)-1,4,10,13-tetraoxa-7-azacyclohexadecane;

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

La+++ cal non-aq 25°C 100% C H K1=2.52 1998LBc (97878)1408
 Medium: acetonitrile. DH(K1)=-43.84 kJ mol⁻¹, DS(K1)=-98.8 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

La+++ gl R4N.X 25°C 0.10M C K1=8.35 1988CCb (97911)1409

 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

La+++ nmr none RT 0.0 U 2000CVa (98057)1410
 Kout(2LaA+TmL)=4.41
 Medium: D2O. Method: 13C nmr. A: 1,4,7,10-tetrakis(2-hydroxypropyl)-
 1,4,7,10-tetraazacyclododecane.

La+++ gl KNO3 25°C 0.10M C K1=24.444 1998AKa (98058)1411
 K(LaL+H)=3.158
 K(LaHL+H)=2.27
 K(LaL+La)=3.81
 K(La2L+H)=1.88

 La+++ EMF KNO3 25°C 0.10M C T H K1=22.55 1987HCa (98059)1412
 K(LaL+H)=4.74
 K(LaHL+H)=2.49

Method: Hg electrode; competitive reaction with Hg(II).
 Data for 15-35 C. At 25 C, DH(K1)=-116 kJ mol⁻¹, DS(K1)=43 J K⁻¹ mol⁻¹.

La+++ vlt R4N.X 30°C 0.01M C K1=19.52 1981GMh (98060)1413
 Method: polarography, using Cd as indicator ion. Medium: 0.01 M Et4NBr.

La+++ vlt NaClO4 25°C 0.40M C K1=22.83 1978MNb (98061)1414
 Medium: 0.40 M NaClO4, pH 4.80. Method: polarography, using Cd as
 indicator ion.

La+++ gl KNO3 30°C 0.10M U K1=19.52 1976GAa (98062)1415

La+++ EMF KNO3 25°C 0.10M U K1=22.30 1970HAa (98063)1416
 By ion-selective electrode (Hg): K1=22.22
 By glass electrode: K(LaL+H)=3.30, B(La2L)=3.40

La+++ gl KNO3 25°C 0.10M U M K1=16.7 1969YMa (98064)1417
 K(LaL+H)=3.51
 K(LaHL+H)=3.11
 B(La2L)=19.3
 K(La2L+2A)=7.3

H2A=8-hydroxyquinoline-5-sulfonic acid

La+++ gl KNO3 25°C 0.10M U K1=23.1 1965BMF (98065)1418
 K(2La+L)=26.9

 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
La+++	gl	KCl	25°C	0.10M	C			K1=11.60 K(LaL+H)=6.05	1991CMb (98211)	1419

La+++ gl NaNO3 25°C 0.20M C T H K1=12.74 1991KKa (98212)1420
 At 15 C K1=12.60; at 35 C K1=12.87. DH=22.6 kJ mol⁻¹, DS=317.8 J K⁻¹ mol⁻¹

 C18H34N2O8 H2L CAS 68670-15-5 (5851)
 1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-di-(3-propanoic acid);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	R4N.X	25°C	0.10M	C			K1=6.18	1988CCc (98339)	1421

 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

La+++ cal non-aq 25°C 100% C H K1=15.06 2003DCa (98622)1422
Method: competitive titration calorimetry of AgL+. Medium: acetonitrile.
DH(K1)=-132.8 kJ mol⁻¹, DS(K1)=-157 J K⁻¹ mol⁻¹.

La+++ oth non-aq 25°C 100% C H K1=10.81 1990NRa (98623)1423
Medium: MeCN. DH(K1)=-18.7 kJ mol⁻¹, DS=-13.3 J K⁻¹ mol⁻¹.
In PC: DH(K1)=-18.5, DS=11.5

La+++ ISE non-aq 25°C 100% C K1=16.1 1986ALa (98624)1424
Medium: propylene carbonate, 0.1 M Et4NClO4

La+++ ISE non-aq 25°C 100% U H K1=12.91 1984GBa (98625)1425
Extrap.from higher T. 0.1 M (Et)4NH4ClO4. DH=-54.5 kJ mol⁻¹;DS=64 J K⁻¹ m⁻¹.
In propylene carbonate.

La+++ gl alc/w 25°C 100% C I K1=8.28 1983ANb (98626)1426
The equilibration took 7-12 days. Medium: MeOH, 0.05 M Et4NClO4
In propylene carbonate, 0.1 M Et4NClO4, K1=18.6

La+++ gl alc/w 25°C 95% C K1=9.4 1981ANa (98627)1427
Medium: 95% MeOH, 0.1 M Me4NCl

La+++ gl R4N.X 25°C 0.25M C K1=6.45 1981BBe (98628)1428
Medium: Me4NCl

C18H38N2O6 L (5802)
7,16-Di(2-hydroxypropyl)-1,4,10,13-tetraoxa-7,16-diazacyclooctadecane;

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

La+++ gl NaNO3 25°C 0.10M U K1=3.24 1986HBc (98852)1429

C18H40N2O10P2 H2L (7241)
1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-diylldimethylenediphosphonic acid
bis(Et-ester);

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

La+++ gl R4N.X 25°C 0.10M U K1=7.60 1996BJa (98894)1430
Medium: 0.1 M Me4NCl

C19H14N6O3S3 HL CAS 364325-73-5 (9096)
4-[(4-Oxo-3-phenyl-2-thioxo-5-thiazolidinyl)azo]-N-2-pyrimidinyl-benzenesulfonamide
;

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

La+++ gl alc/w 25°C 30% U T H K1=8.18 B2=13.38 2003EEa (99069)1431
Medium: 30% v/v EtOH/H2O, 0.10 M KCl. Data for 25-45 C. DH(K1)=43 kJ mol⁻¹
DS=300 J K⁻¹ mol⁻¹. DH(K2)=35, DS=216. Protonation constants not reported.

C19H1407S H4L Pyrocatechol Vi CAS 369596-29-2 (709)

Pyrocatechol Violet,

3-[3,4-Dihydroxyphenyl-3-hydroxy-4-oxo-2,5-cyclohexadien-1-ylidenemethyl-b.;

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

La+++ gl NaClO4 30°C 0.20M U M K1=7.81 1978MSk (99110)1432
K(La(nta)+L)=5.16

C19H15N08 H4L Alizarin Comp. CAS 3952-78-1 (671)

(3,4-Dihydroxy-2-anthraquinonyl-methyl)iminodiethanoic acid;

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

La+++ ISE KNO3 25°C 0.10M C HM 1988YHa (99134)1433
K(2La+2H2L=La2L2+4H)=0.28
K(2La+2H2L=La2HL2+3H)=5.58
K(2La+2H2L+F=La2HL2F+3H)=9.70, K(2La+2H2L+F=La2H2L2F+2H)=14.17

La+++ sp diox/w 20°C 20% C 1987ZJa (99135)1434
K22=14.70

La+++ con oth/un 25°C 0.10M U K1=4.20 B2=8.49 1981Eic (99136)1435

La+++ sp KNO3 RT 0.10M C M 1971LKb (99137)1436
Keff=4.56
K(2LaL+2F)=13.80

Medium: 0.10 M KNO3, pH 4.5 (acetate buffer).

C19H15N5O4S3 HL CAS 403480-96-6 (9095)

N-(5-Methyl-3-isoxazolyl)-4-[(4-oxo-3-phenyl-2-thioxo-5-thiazolidinyl)azo]-benzenesulfonamide;

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

La+++ gl alc/w 25°C 30% U T H K1=7.50 B2=11.30 2003EEa (99147)1437
Medium: 30% v/v EtOH/H2O, 0.10 M KCl. Data for 25-45 C. DH(K1)=44 kJ mol⁻¹
DS=290 J K⁻¹ mol⁻¹. DH(K2)=55, DS=256. Protonation constants not reported.

C19H16N4O L LAMI (5930)

2-(2'-Lepidylazo)-N-methylisatin

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

La+++ gl diox/w 30°C 75% M I K1=9.11 B2=17.39 1987DGc (99165)1438
Medium: 75% v/v dioxan/H2O, 0.15 M NaClO4

C19H17N3O4S2 HL Cephaloridine CAS 50-59-9 (8404)
7-[a-(2-Thienyl)acetamido]-3-(1-pyridylmethyl)-3-cephem-4-carboxylic acid betaine;

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

La+++ gl KNO3 25°C 0.10M C K1=8.55 2000GFb (99192)1439

C19H31NO5 L CAS 63281-62-9 (7946)

16-Phenylmethyl-1,4,7,10,13-pentaoxa-16-azacyclooctadecane;

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

La+++ cal non-aq 25°C 100% C H 1993LLb (99445)1440

K(LaNO3+L)=3.77

Medium: acetonitrile. DH(LaNO3+L)=-91.71 kJ mol⁻¹.

C20H13N3O7S H3L Eriochrome Bl T CAS 1787-61-7 (997)

1-(1-Hydroxy-2-naphthylazo)-6-nitro-2-naphthol-4-sulfonic acid;

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

La+++ gl NaClO4 30°C 0.10M U M K1=9.41 B2=16.95 1987SOa (99569)1441

K(LaA+L)=7.85

K(LaB+L)=7.44

H2A=hydroxyethyliminodiethanoic acid, H3B=nitriilotriethanoic acid

La+++ gl oth/un 20°C 0.10M M T H K1=10.6 1978MBe (99570)1442

Medium: 0.10 M KClO4. Data for 44 C. DH and DS values reported.

La+++ gl NaClO4 25°C 0.10M M K1=8.80 B2=14.05 1978MPd (99571)1443

K3=4.30

C20H14N2O5S H3L Solochrome 6B CAS 3564-14-5 (3507)

1-(1-Hydroxy-2-naphthylazo)-2-naphthol-4-sulfonic acid, Mordant Black3, Eriochrome blue-black B;

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

La+++ gl alc/w 30°C 50% C M K1=9.80 B2=17.70 1994SOa (99654)1444

K(LaA+L)=8.20

K(La(nta)+L)=7.61

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

H2A is hydroxyethyliminodiethanoic acid.

La+++ gl NaClO4 30°C 0.10M U T H K1=11.25 1991NNb (99655)1445

Also data for 40 and 50 C. DH and DS values.

La+++ gl oth/un 20°C 0.10M M T H K1=10.7 1978MBe (99656)1446

Medium: 0.10 M KClO4. Data for 44 C. DH and DS values reported.

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

La+++ sp non-aq 25°C 100% C K1=2.01 2003ZRa (100155)1454
Medium: DMSO. Method: competition with murexide.

La+++ con non-aq 25°C 100% C TIH K1=2.01 2001RKa (100156)1455
Medium: DMF. Data for 15-55 C. Also data for 25-75% mol% DMF/AN.
DH(K1)=-26 kJ mol⁻¹, DS(K1)=-126 J K⁻¹ mol⁻¹.

La+++ cal non-aq 25°C 100% C H K1=3.32 1998LHa (100157)1456
Medium: acetonitrile. DH(K1)=16.07 kJ mol⁻¹.

La+++ gl oth/un 25°C 0.0 U H K1=5.54 1991HJa (100158)1457

La+++ sol none 25°C 0.0 U I K1=0.0 1975SNa (100159)1458

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

La+++ dis R4N.X 25°C 0.12M C K1=2.07 1998SUa (100282)1459
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

La+++ gl NaNO3 25°C 0.20M C T H K1=13.57 1991KKa (100541)1460
At 15 C K1=13.55;at 35 C K1=13.59. DH=2.9 kJ mol⁻¹, DS=271.8 J K⁻¹ mol⁻¹

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

La+++ sp KCl 25°C 0.08M U K1=14.5 1994FCa (100559)1461

C20H36O6 L DiCy-18-crown-6 CAS 16069-36-6 (1653)
2,3:11,12-Dicyclohexyl-1,4,7,10,13,16-hexaoxacyclooctadecane;

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

La+++ sp non-aq 25°C 100% C K1=2.03 2003ZRa (100662)1462
Medium: DMSO. Method: competition with murexide.

C20H37N5O10 H3L MEA CAS 129009-83-2 (7322)
N,N'-Bis(2-methoxyethylcarbonylmethyl)diethylenetriamine;

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

La+++ gl NaCl04 25°C 0.10M C H K1=14.25 1997ICa (100735)1463
DH(K1)=-23.1 kJ mol⁻¹, DS=195 J K⁻¹ mol⁻¹

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

La+++ kin oth/un 25°C 0.02M U K1=3.47 1974GMc (100908)1464

C21H17N2O5As H2L ArsenoBDMPH (5931)
2-Arsonodibenzoylmethanephenylhydrazone; C6H5.CO.C(CO.C6H5):N.NH.C6H4.AsO3H2

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

La+++ gl alc/w 27°C 40% U K1=12.78 B2=17.08 1990M0c (101080)1465
Medium: 40% v/v EtOH/H2O, 0.1 M NaCl04

C21H17N5 L (7365)
2,6-Bis(1-methylbenzimidazol-2-yl)pyridine

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

La+++ sp non-aq 20°C 100% U K1=8.9 B2=16.80 1997PBa (101089)1466
K3=6.5

Medium: CH3CN

C21H18N6O3S3 HL CAS 364325-74-6 (9094)
N-(4,6-Dimethyl-2-pyrimidinyl)-4-[(4-oxo-3-phenyl-2-thioxo-5-thiazolidinyl)azo]-benzenesulfonamid

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

La+++ gl alc/w 25°C 30% U T H K1=7.82 B2=12.47 2003EEa (101121)1467
Medium: 30% v/v EtOH/H2O, 0.10 M KCl. Data for 25-45 C. DH(K1)=35 kJ mol⁻¹
DS=266 J K⁻¹ mol⁻¹. DH(K2)=35, DS=206. Protonation constants not reported.

C21H18N6O5S3 HL CAS 412024-79-4 (9093)
N-(5,6-Dimethoxy-4-pyrimidinyl)-4-[(4-oxo-3-phenyl-2-thioxo-5-thiazolidinyl)azo]-benzenesulfonami

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

La+++ gl alc/w 25°C 30% U T H K1=8.21 B2=14.52 2003EEa (101125)1468

Medium: 30% v/v EtOH/H₂O, 0.10 M KCl. Data for 25-45 C. DH(K1)=32 kJ mol⁻¹
DS=264 J K⁻¹ mol⁻¹. DH(K2)=40, DS=254. Protonation constants not reported.

C22H14O9 H5L CAS 4431-00-9 (3513)

Aurintricarboxylic acid;

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

La+++ sp oth/un 25°C ? U 1966MSc (101502)1469

K(La+HL)=4.3

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

La+++ sp NaCl04 25°C 0.1M U 1975MBa (101546)1470

K(La+H4L)=10.08

Room temperature

La+++ sp oth/un ? ? U K1=13.21 1971SSi (101547)1471

C22H17N2O11AsS2 H6L MonoarsenazoIII CAS 14044-84-9 (4157)

2-(2'-Arsenophenylazo)-7-(phenyl)chromotropic acid;

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

La+++ sp oth/un 20°C ? U 1965BUa (101563)1472

B(LaH2L2)=50.8

C22H17N4O14ClP2S2 H8L ClPhosphonazo 3 CAS 1914-99-4 (2577)

2,7-Bis((4-chloro-2-phosphophenyl)azo)chromotropic acid;

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

La+++ sp NaCl04 25°C 1.00M U K1=9.47 1977MNa (101579)1473

C22H17N4O14ClP2S2 H8L CAS 86253-02-3 (4159)

2-(4'-Chloro-2'-phosphophenylazo)-7-(2''-phosphophenylazo)chromotropic acid;

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

La+++ sp KNO3 25°C 0.20M U 1967BMc (101585)1474

B(LaH10L2)=104.4

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

La+++ sp oth/un rt 0.10M C 2004LLa (101630)1475
K1eff=4.33
B2eff=9.40
B(2,2)eff=13.60

Method: spectral deconvolution. Medium: 0.1 M chloroacetate buffer, pH 3.5

La+++ sp NaClO4 25°C 0.10M U 1975NMa (101631)1476
K(La+H5L)=7.85

La+++ sp oth/un 20°C ? U 1972SSi (101632)1477
K(La+H4L)=14.87

La+++ sp NaNO3 20°C 0.20M U 1964BUc (101633)1478
B(La2H8L2)=83.5
B(La2H4L)=42.5

La+++ sp NaNO3 20°C 0.20M U 1963BUa (101634)1479
B(La2L2)=81.2

C22H18N4O14P2S2 H8L Phosphonazo III CAS 16017-11-1 (4158)
2,7-Bis(2'-phosphonophenylazo)chromotropic acid;

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

La+++ sp KNO3 25°C 0.20M U 1967BMc (101669)1480
B(LaH10L2)=104.8

C22H19N3O4S HL CAS 84819-63-6 (8347)
N-(3,4-DiMe-5-isoxazoly1)-4-[[2-hydroxy-1-naphthalenyl)methylene]amino]benzenesulf
onamide;

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

La+++ gl NaClO4 25°C 0.10M U K1=7.45 B2=11.97 1982MBa (101687)1481

C22H20O13 H5L Carminic acid CAS 1260-17-9 (714)
Carminic acid;

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

La+++ sp oth/un ? 0.10M U 1970PLc (101703)1482
K(LaOH+2H3L)=15.19

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

La+++ EMF KNO3 25°C 0.10M C T H K1=10.75 1990HLA (101899)1483

K(LaL+H)=3.48

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

Data for 15-35 C. DH(K1)=-33.0 kJ mol⁻¹, DS(K1)=95.0 J K⁻¹ mol⁻¹.

C22H26N4O10 H4L BAPTA (7230)

1,2-Bis(o-aminophenoxy)ethane-N,N',N'-tetraethanoic acid;

((HOOCCH2)2NCH(OC6H4NH2)2

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

La+++ gl R4N.X 25°C 0.10M C K1=10.7 1993YTa (101979)1484

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

La+++ dis R4N.X 25°C 0.12M C K1=2.20 1998SUa (102078)1485

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

La+++ gl NaClO4 25°C 0.10M U K1=6.65 2001WZa (102115)1486

B(LaHL)=14.44

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

La+++ sp non-aq 25°C 100% C K1=7.4 B2=14.00 2001MSa (102247)1487

B3=19.0

Medium: acetonitrile, 0.10 M Et4NClO4

C22H37N5O14 H7L CAS 3234-59-1 (2425)

Tetraethylenepentamineheptaethanoic acid;

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

La+++ vlt R4N.X 30°C 0.01M C K1=19.10 1981GMh (102332)1488

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

La+++ gl KNO3 30°C 0.10M U K1=19.10 1976GAa (102333)1489

La+++ gl KNO3 25°C 0.10M U K1=19.10 1968MIc (102334)1490
K(La+HL)=13.12
B(LaH-1L)=4.97

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

La+++ gl KNO3 40°C 0.50M U T K1=18.22 1995BIa (102357)1491
K(LaL+H)=3.77

Also data for 80 C.

C22H41N5O10 H3L MMEA CAS 192631-00-8 (7323)
N,N'-Bis(methyl-2-methoxyethylcarbomylmethyl)diethylenetriamine;

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

La+++ gl NaClO4 25°C 0.10M C H K1=16.57 1997ICa (102393)1492
DH(K1)=-29.6 kJ mol⁻¹, DS=218

C23H16O9Cl2S H4L Chrome azuro1 S CAS 1667-99-8 (711)
Chromazuro1 S;

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

La+++ sp oth/un ? ? U M 1973GAb (102562)1493
K(LaOH+3phen+H3L)=7.87

La+++ sp oth/un 25°C ? U 1967SSi (102563)1494
K1eff=4.8 (pH 6.0)

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

La+++ gl diox/w 30°C 75% U K1=9.45 B2=16.67 1988ESb (102596)1495

C23H23NO5 L CAS 218619-58-0 (7808)
Dibenzo-pyridino-18-crown-6;

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

La+++ sp non-aq 25°C 100% C K1=1.94 2003ZRa (102660)1496
Medium: DMSO. Method: competition with murexide.

C23H24N4O2 L Trichachnine CAS 1251-85-0 (2606)

4,4'-Diantipyrilmethane,
4,4'-phenylmethylen-bis-(1,2-dihydro-1,5-dimethyl-2-phenylpyrazol-3-one

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

La+++ sp diox/w 25°C 100% U K1=4.12 1995KMa (102676)1497

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

La+++ cal oth/un 25°C 0.01M C H K1=3.45 2004LWa (102868)1498
Medium: 0.01 M HCl. DH(K1)=7.2 kJ mol⁻¹, DS(K1)=89.9 J K⁻¹ mol⁻¹.

C24H18N4O18As2S2 10L CAS 2604-69-5 (4164)
2,7-Bis(2'-arsono-5'-carboxyphenylazo)chromotropic acid;
H

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

La+++ sp KNO3 20°C 0.20M U B(LaH12L2)=96.0 1965BMd (102875)1499

C24H29N3O12S3 H6L (7355)
1,2,3-Tris((2-hydroxy-5-sulfobenzyl)amino)propane;

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

La+++ gl NaCl 25°C 0.16M C K1=11.33 1998LCa (103019)1500
K(LaL+H)=7.14

C24H30N4O4 H2L CAS 289667-46-5 (7939)
N,N'-[1,10-Phenanthroline-2,9-diylbis(methylene)]bis-valine;

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

La+++ gl NaNO3 25°C 0.10M C K1=9.50 2000WZa (103030)1501
B(LaHL)=18.40
B(LaH2L)=22.80

C24H32O14S2 H2L CAS 204931-03-3 (7822)
2,3:11,12-Dibenzo-1,4,7,10,13,16,19,22-octaoxacyclotetracos-2,14-diene-4',4''-disul
fonic acid;

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

La+++ dis R4N.X 25°C 0.12M C K1=2.36 1998SUa (103194)1502
Medium: 0.12 M Et4NBr.

Method:solvent extraction into cyclohexane/di(2-ethylhexyl)phosphoric acid

C24H36N4O4 L Py-2-18-aneN2O4 CAS 103837-13-4 (8062)
7,16-Bis(2-pyridinylmethyl)-1,4,10,13-tetraoxa-7,16-diazacyclooctadecane;

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

La+++ gl KNO3 25°C 0.10M C K1=3.53 1986DSa (103265)1503

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

La+++ sp non-aq 25°C 100% C K1=7.4 B2=13.90 2001MSa (103316)1504
B3=19.0

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

La+++ gl NaNO3 25°C 0.20M C T H K1=19.11 1991KKa (103379)1505
K(La+H2L)=15.82

Also 15 C and 35 C. DH(K1)=-17.15 kJ mol⁻¹, DS(K1)=309.5 J K⁻¹ mol⁻¹

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

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

La+++ gl NaClO4 25°C 0.10M C H K1=16.78 1997ICa (103444)1506
DH(K1)=-30.0 kJ mol⁻¹, DS=220

C24H46N2O6 L (6567)
7,16-Bis(trans-2-hydroxycyclohexyl)-1,4,10,13-tetraoxa-7,16-diazocyclooctadecane;

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

La+++ gl NaNO3 25°C 0.10M C K1=4.08 1991DCa (103454)1507
K(LaL+OH)=5.97

C25H27N9O8S2 H2L CAS 62893-19-0 (8405)
Cefoperazone;

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

La+++ gl KNO3 25°C 0.10M C K1=7.01 2000GFb (103658)1508

 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

 La+++ gl KNO3 25°C 0.5M C K1=3.39 1993YNa (103731)1509

C25H48N6O8 H3L Desferrioxamine CAS 70-51-9 (2488)
 Desferrioxamine B; NH2.((CH2)5.NOH.CO.C2H4.CO.NH)2.(CH2)5.NOH.CO.CH3

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

 La+++ gl NaNO3 20°C 0.1M U 1963AEa (103818)1510
 K(La+HL)=10.89
 K(La+H2L)=7.61
 K(La+H3L)=4.60

 C26H23N5O2 HL (5918)
 Hippuric monohydrazone-3-hydrazino-4-benzyl-6-phenylpyridazine;

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

 La+++ gl diox/w 30°C 75% U K1=10.97 B2=21.19 1985RSb (103882)1511

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

 La+++ gl R4N.X 25°C 0.10M C K1=11.89 1993YTa (103965)1512

C26H32N4O14 H4L CAS 372109-77-8 (8980)
 9,20-Dihydroxy-10,21-dioxo-23,24-dioxa-3,6,14,17-tetraazatricyclohexatetracosatetraenotetraethanoic:

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

 La+++ gl NaCl 25°C 0.16M M K1=15.8 2001SKe (104048)1513
 K(LaL+H)=9.6
 K(LaHL+H)=9.41
 K(La+H2L)=7.62
 K(La+H3L)=6.26

K(La+H4L)=3.83, K(La+H5L)=3.42, K(La+H6L)=3.4, K(La+H7L)=3.0,
 K(La+HL)=11.4.

 C26H33N3O12S3 H6L (7354)
 1,1,1-Tris(((2-hydroxy-5-sulfobenzyl)amino)methyl)ethane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	gl	NaCl	25°C	0.16M	C		K1=9.17	1998LCa (104066)	1514

C26H34N6O8		H4L					CAS 132709-65-0	(8941)	
3,6,14,17,23,24-Hexaazatricyclo[2.3.1.1.0.0]dotriaconta-10,12,14,16,17-tetraacetate;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	gl	KCl	25°C	0.10M	M		K1=22.1	1996MBb (104095)	1515
Method: competitive titration with arsenazo-III.									

C26H38N6		L					CAS 180684-75-7	(7295)	
1,8,14,17,24,31-Hexaazatricyclo[2.3.1.1.0.0]dotriaconta-10,12,14,16,28,31-tetraacetate;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	gl	KNO3	25°C	0.20M	C		K1=2.1	1996FJa (104206)	1516

C27H24N4O		L			BAHP		(1023)		
Benzoylacetone-mono-hydrazone-3-hydrazone-4-benzyl-6-phenylpyridazine;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	gl	diox/w	30°C	75%	U		K1=7.64	1983RSa (104386)	1517

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
La+++	sp	non-aq	25°C	100%	C		K1=7.8 K2=13.80 K3=3.8	2002MRc (104422)	1518
Medium: acetonitrile, 0.10 M Et4NClO4. By 1H nmr, K1=8.0, K2=6.0, K3=3.8.									

C27H29NO11		L			Adriamycin		CAS 25316-40-9	(2407)	
Doxorubicin;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	sp	oth/un	25°C	0.02M	U T H		K1=3.85	1985LSa (104459)	1519
Medium: 0.02M pH 7.6 buffer									

C27H36N4O6		H6L					CAS 222626-11-1	(8885)	
Tris((2,3-dihydroxybenzylamino)ethyl)amine;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
La+++	gl	NaClO4	25°C	0.10M	C			2002BDc (104558)	1520

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

La+++ gl KCl 40°C 0.50M M K1=8.12 1997BZa (104825)1527

C28H40O6 L CAS 29471-17-8 (1262)
2,3:11,12-Bis(4'-tert-butylbenzo)-1,4,7,10,13,16-hexaoxacyclooctadecane;

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

La+++ gl non-aq 25°C 100% U K1=5.14 1980MDb (104843)1528
Medium: Propylene carbonate.

Medium: propylene carbonate

C28H40O10 L DiBz-30-crown10 CAS 104946-67-0 (1776)
2,3:17,18-Dibenzo-1,4,7,10,13,16,19,22,25,28-decaoxacyclotriaconta-2,17-diene;

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

La+++ ISE non-aq 25°C 100% U K1=4.29 1982MDa (104891)1529
Medium: propylene carbonate

C28H52N4O10 H5L CAS 137203-80-6 (8096)
1-N-Dodecyltriethylenetetramine-N,N',N'',N''',N''''-pentaethanoic acid;

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

La+++ gl alc/w 25°C 50% C K1=14.4 2001SYb (104989)1530
K(LaL+H)=5.2

Medium: 50% EtOH/H2O, 0.10 M KNO3.

C31H24N4O HL CAS 88700-85-0 (1409)
1,2-Diphenyl-1,2-ethanedione-3-(4-benzyl-6-phenyl)-pyridaziny1 hydrazone;

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

La+++ gl diox/w 30°C 75% U I K1=8.19 1983RRa (105405)1531
In 75% MeOH: K1=6.55; 75% DMF: 5.52

C31H32N2O13S H6L Xylenol orange CAS 63721-85-5 (432)
5,5'-Bis-N,N-bis(carboxymethyl)aminomethyl-4'-hydroxy-3,3'-dimethylfuchstone-2''-sulfonic acid;

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

La+++ sp NaCl04 20°C 0.20M U K(La+HL)=11.67 1966KSd (105477)1532

La+++ sp oth/un 25°C ? U 1962TOa (105478)1533
K(?)=5.8

Acetate buffer

C32H28N8O10S2 H4L Diantipyrylazo CAS 14918-39-9 (5368)
2,7-Bis(antipyrynylphenylazo)chromotropic acid;

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

La+++ sp KNO3 ? 0.20M U 1968BBa (105571)1534
K(?)=81.5

C32H34N4O2 L CAS 163892-66-8 (7329)
1-Phenyl-1,1-di(2,3-dimethyl-1-phenyl-3-pyrazolyl-5-one)butane;
C6H5C(C3H7)((C2N2(O)(CH3)2(C6H5))2

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

La+++ sp diox/w 25°C 100% C 1997KMa (105632)1535
K(La(NO3)3+L)=4.23

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

La+++ nmr KCl 25°C 1.0M C H K1=1.99 2004BRa (105970)1536
Method: 1H nmr measurements in D2O. DH(K1)=15.5 kJ mol-1
DS(K1)=90 J mol-1K-1

C36H32O12 H4L CAS 154160-91-5 (4354)
25,26,27,28-Tetrakis((hydroxycarbonyl)methoxy)calix[4]arene;

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

La+++ gl non-aq 25°C 100% C K1=26.00 1998GVa (106224)1537
B(La2L)=33.98
B(LaHL)=33.59
B(LaH2L)=37.83
B(LaH-1L)=13.89

Medium: methanol, 0.01 M Et4NClO4. B(La2H-2L)=14.56.

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

La+++ cal oth/un 25°C 0.01M C H K1=3.73 2004LWa (106228)1538

Medium: 0.01 M HCl. DH(K1)=5.1 kJ mol⁻¹, DS(K1)=88.9 J K⁻¹ mol⁻¹.

C36H48O6 L CAS 76543-12-9 (7372)

p-tert-Butyloxacalix[3]arene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	nmr	non-aq	25°C	100%	U				1997HDa (106389)	1539

Keff(LaA3+H3L=LaL+3H+3A)=-25.6

Medium: DMSO; 0.2 M triethylamine, pH 9.0. A=triflate.

For p-chlorooxacalix[3]arene, Keff(LaA3+H3L=LaL+3H+3A)=-23.56

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
La+++	dis	non-aq	25°C	100%	U				1993INa (106423)	1540

B(La+3P+2L)=8.83

By solvent extraction into dichloromethane. B is the extraction constant

La(aq)+picrate(aq)+L(org)=LaL2P3(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
La+++	gl	R4N.X	25°C	0.10M	U	T H		K1=3.85	1999FBa (106466)	1541

Medium: 0.1 M Me4NCl. K1=3.91 at 29 C, K1=4.05 at 37 C.

DH(K1)=28.5 kJ mol⁻¹, DS(K1)=169 J K⁻¹ mol⁻¹.

La+++	gl	NaCl	25°C	0.10M	U	I		K1=3.98	1999FBa (106467)	1542
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In 0.1 M Me4NCl, K1=3.85.

C37H33N5O4 L (7366)

2,6-Bis(1-(3,5-dimethoxybenzyl)benzimidazol-2-yl)pyridine

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	gl	non-aq	25°C	100%	C			K2=5.0 K3=2.2	1997PBa (106549)	1543

Medium: CH3CN; 0.1 M Et4NClO4

C37H44N2O13S H6L MeThymol Blue (428)

3,3'-Bis(N,N-di(carboxymethyl)aminomethyl)thymolsulfonephthalein;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
La+++	oth	oth/un	RT	0.10M	U			K1=4.57	1995ETa (106608)	1544

Method: flow injection analysis with spectrophotometric detection. pH 6.20,

acetate buffer

La+++ gl NaClO4 30°C 0.10M U 1980NAb (106609)1545
K(La+H3L)=4.00
K(La+H2L)=6.04
K(LaH2L+H)=5.11

Also data for LaHnL(OH) species

La+++ sp KCl 20°C 0.40M U 1967MFd (106610)1546
K(La+H4L=LaH2L+2H)=-5.85
K(2La+H4L=La2H2L+2H)=-6.20

La+++ sp NaNO3 ? 0.20M U 1963BAa (106611)1547
B(La2L2)=35.8
B(La2L2(OH)2)=23.2

C42H70O35 L b-Cyclodextrin CAS 7585-39-9 (7611)
Cycloheptaamylose;

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

La+++ gl R4N.X 25°C 0.10M U T K1=3.77 1999FBa (106991)1548
Medium: 0.1 M Me4NCl. K1=3.82 at 29 C, K1=3.97 at 37 C.
DH(K1)=29 kJ mol⁻¹, DS(K1)=169 J K⁻¹ mol⁻¹.

C45H66N10O6 L CAS 362613-35-2 (7912)
Tris[3-(6-diethylcarbamoylpyridine-2-carboxamide)propyl]amine;

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

La+++ sp non-aq 25°C 100% C I K1=6.4 2001RDa (107231)1549
K(La+HL)=6.4
Medium: CH3CN. In 95% v/v CH3CN/H2O, K1=6.4, K(La+HL)=4.3.

C47H46N6O4 L (7367)
2,6-Bis(1-(3,5-dimethoxybenzyl)benzimidazol-2-yl)-4-(4-diethylamino)phenylpyridine
;

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

La+++ gl non-aq 25°C 100% C K3=4.8 1997PBa (107317)1550

Medium: CH3CN; 0.1 M Et4NClO4

C48H54N6O8 L CAS 449738-94-7 (8791)
1,7-Dioxo-4,10-diazacyclododecane-4,10-bis[methylene-8-(1,3,3-trimethyl-6-nitro-spirobenzopyran)]

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

La+++ sp alc/w 25°C 100% C K1=9.17 2002NFa (107383)1551
Medium: 100% MeOH. Method: electrospray ionization mass spectrometry.

C48H80O40 L g-Cyclodextrin CAS 17465-86-0 (7612)

Cyclooctaamylose;

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

La+++ gl R4N.X 25°C 0.10M U T H K1=3.77 1999FBa (107429)1552

Medium :0.1 M Me4NCl. K1=3.82 at 29 C, K1=3.97 at 37 C.

DH(K1)=29 kJ mol⁻¹, DS(K1)=169 J K⁻¹ mol⁻¹.

C52H62N6O10 ; L CAS 190781-91-0 (8792)

1,4,10,13-Tetraoxa-7,16-diazacyclododecane-7,16-bis[methylene-8-(trimethyl-6-nitro-spirobenzopyra

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

La+++ sp alc/w 25°C 100% C K1=11.4 2002NFa (107479)1553

Medium: 100% MeOH. Method: electrospray ionization mass spectrometry.

C52H64O12 H4L R-Bu-Calixarene CAS 113215-72-8 (6704)

5,11,17,23-Tetra-(t-butyl)-25,26,27,28-tetrakis[(hydroxycarbonyl)methoxy]calix[4]ar
ene;

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

La+++ gl non-aq 25°C 100% C K1=28.27 1998GVa (107490)1554

B(La2L)=34.79

B(LaHL)=34.84

B(LaH2L)=38.76

B(LaH-1L)=15.10

Medium: methanol, 0.01 M Et4NClO4. B(La2H-2L)=14.82; B(La2HL)=39.47.

C52H69NO7 L CAS 178626-47-6 (8569)

5,11,17,23-Tetra-t-butyl-25-(diethylcarbamoyl)methoxy-27-carboxymethoxy-26,28-dihyd
roxycalix[4]ar

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

La+++ sp non-aq 25°C 100% C K1=6.32 2002BBc (107514)1555

Method: uv/vis spectroscopy. Medium: DMSO. Also data for the 25-methoxy-ethyl(carbamoylmethoxy)- and 25-di-(n-hexyl-carbamoyl)methoxy- derivatives

C56H70N2O14 H4L CAS 219810-30-7 (4270)

5,11,17,23-Tet(tBu)-25,27-[carboxylmethylcarbamoylmethoxy]-26,28-[carboxylmethoxy]c
alix[4]arene;

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

La+++ gl non-aq 25°C 100% C K1=21.19 1998GVa (107591)1556
B(La2L)=31.06
B(LaHL)=32.07
B(LaH2L)=37.75
B(La2HL)=37.52

Medium: methanol, 0.01 M Et4NClO4. B(La2H-L2)=11.64.

C60H76N4O16 H4L CAS 214361-27-0 (4274)
5,11,17,23-Tetra(t-Bu)-25,26,27,28-tetrakis{[(carboxyl)methylcarbonyl]methoxy}calix
x[4]arene;

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

La+++ gl non-aq 25°C 100% C K1=21.0 1998GVa (107646)1557
B(La2L)=29.9
B(LaHL)=32.66
B(LaH2L)=37.81
B(LaH-1L)=7.1

Medium: methanol, 0.01 M Et4NClO4. B(La2H-2L)=9.0; B(La2HL)=38.5

C96H144O24 L CAS 169888-22-6 (7534)
C-Undecylcalix[4]resorcinarene octa-alpha-(methyl ethanoate);

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

La+++ dis non-aq 25°C 100% U K=6.98 1995FDa (107966)1558

Medium: CDCl3. Method: by H2O/CDCl3 extraction of picrate salt.

K: MA(org)+L(org)=MLA(org) where A=picrate.

C120H192O24 L CAS 175349-58-3 (7495)
C-Undecylcalix[4]resorcinarene octa-alpha-(tert-butyl ethanoate);

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

La+++ dis non-aq 25°C 100% U K=6.98 1995FDa (108009)1559

Medium: CDCl3. Method: by H2O/CDCl3 extraction of picrate salt.

K: MA(org)+L(org)=MLA(org) where A=picrate.

C120H200N8O16 L CAS 169888-21-5 (7490)
C-Undecylcalix[4]resorcinarene octa-alpha-(N,N-diethyl acetamide);

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

La+++ dis non-aq 25°C 100% U K=11.11 1995FDa (108020)1560

Medium: CDCl3. Method: by H2O/CDCl3 extraction of picrate salt.

K: MA(org)+L(org)=MLA(org) where A=picrate.

Polymer HL Bleomycin (2324)
Bleomycin A2, B2 etc.

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

La+++ sp oth/un 25°C ? U 1980LPb (108091)1561
K1eff=2.32 pH 6.8

Method: fluorescence

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EXPLANATORY NOTES

DATA Flags are :-

T Data at other TEMPERATURES
 I Data with various BACKGROUNDS
 H Data for THERMOCHEMICAL quantities
 M Data for TERNARY Complexes

EVALUATION Flags are :-

T or IUP=T signifies EVALUATION RATING = Tentative by IUPAC

END