

START Experiments recorded for

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Software version = 5.81 Data version = 4.62

Experiment list contains 495 experiments for

(no ligands specified)

Metal : Ga+++

(no references specified)

(no experimental details specified)

e- HL Electron (442)

Electron;

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

Ga+++ EMF oth/un 135°C U 1969APa (505) 1
K(Ga + 2Ga(l)=3Ga+)=13.4

Medium: (Na,K,Al)Cl

Ga+++ oth oth/un 20°C 0.06M U T 1968KEa (506) 2
K(Ga+2Ga(s)=3Ga+)= -11.7

Medium: 0.06M GaCl3. K=-10.1(30 C), -9.5(45 C), -9.0(60 C), K=-10.0?(90 C)

Ga+++ EMF none 25°C 0.0 M 1967VLc (507) 3
K(Ga+3e=Ga(s))=-67.25, -1326 mV

Ga+++ EMF none 25°C 0.0 U 1963COc (508) 4
K=-64.2(-1261 mV)

K: Ga(OH)4+3e=Ga(s)+4OH. K(Ga+2e=Ga(I))=<-13.5(-400 mV)

Ga+++ EMF oth/un 24°C var U 1961EGa (509) 5
K=-64.2(-1261 mV)

Medium: NaOH. K:(Ga(OH)4+3e=Ga(s)+4OH. Plus uncertain values up to 80 C

Ga+++ EMF none 25°C 0.0 U T H 1953SNb (510) 6
K(Ga+3e=Ga(s))=-28.4(-560 mV)

DH(K)=211.3 kJ mol-1, DS=164 J K-1 mol-1(25 C). K=-30.9(20 C, -599 mV),
-27.8(28 C, -553 mV)

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

Bromide;

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

Ga+++ cal non-aq 25°C 100% C K1=1.97 1996TSa (1939) 7
B4=9.55

Medium: N,N-Dimethylformamide, 0.20 M Et4NClO4.

DH(K1)=19 kJ mol-1, DH(B4)=119.7 kJ mol-1.

Ga+++ nmr non-aq 25°C 100% U M 1974BTc (1940) 8
K(2GaXL=GaX2L+GaL)=-0.04

K(2GaX2L2=GaX3L+GaXL3)=-0.15

K(2GaX3L=GaX4+GaX2L2)=-0.08

Medium: MeCN. Method: nmr. X=Cl or I; values near statistical

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-----
Ga+++      dis NaClO4 20C 0.69M U      K1=-0.10      1967MAAd (1941)  9
Medium: HClO4; or K1=-0.24, B2=-0.5
-----
Ga+++      oth NaClO4 80C 7.50M U TIH      1962NPb (1942) 10
                                     B4=-3.0
Method: Raman spectra. 50-95 C. DH(B4)=47.7 kJ mol-1, DS=77 J K-1 mol-1(80 C)
In 14.9 M HClO4 B4=-3.5, DH(B4)=34, DS=32 (80 C). At 25 C: B4=-4.3
*****
C6N6Fe----      H4L      (2191)
Hexacyanoferrate (II); Fe(II)(CN)6----
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      sol oth/un 25C var U      1956TGb (3568) 11
                                     Kso=-33.82
*****
Cl-      HL      Chloride      CAS 7647-01-0 (50)
Chloride;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      cal non-aq 25C 100% C      K1=7      1996TSa (4917) 12
                                     B4=28
Medium: N,N-Dimethylformamide, 0.20 M Et4NClO4.
DH(K1)=11 kJ mol-1, DH(B4)=57.0 kJ mol-1
-----
Ga+++      ISE non-aq 300C 100% U      1985BAa (4918) 13
                                     K4=6.02
Medium: fused KCl/AlCl3
-----
Ga+++      ix NaCl 25C var U      K1=-0.64 B2=-2.18 1974MId (4919)
14      B3=-3.90
      B4=-5.74
Medium: HCl
-----
Ga+++      dis non-aq 25C 100% U      1972GOc (4920) 15
                                     K(GaL4+H)=1.9
Medium: nitrobenzene
-----
Ga+++      oth oth/un ? var U      1971SCc (4921) 16
                                     K3=-2.0
      K4=-1.7
Method: ionophoresis
-----
Ga+++      dis NaClO4 20C 0.69M U      K1=0.01      1967MAAd (4922) 17
-----
Ga+++      ix none 25C 0.0 U      K1=-0.6 B2=-2.3 1958MAb (4923)
18      K3=-2.2
      K4=-1.3
*****
F-      HL      Fluoride      CAS 7644-39-3 (201)

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++ 19	ISE	KN03	25°C	0.10M	C	M	K1=4.49 B2=7.99	1987YHa	(6903)
K(GaA+F)= 3.37(H3A=NTA), 3.15(H3A=HEDTA), 2.3(H4A=EDTA), 2.1(H4A=CDTA)									
Ga+++	gl	KN03	25°C	0.50M	M		K'=-1.72	1985TZb	(6904) 20
K'=K(Ga(OH)4+HL=Ga(OH)2L+OH+H2O). No mixed S-Al-OH complexes									
Ga+++	nmr	oth/un	?	var	U		K(Ga+GaF2=2GaF)=0.40 K(GaF+GaF3=2GaF2)=0.64 K(GaF2+GaF4=2GaF3)=0.57	1974BPc	(6905) 21
Medium: (H,NH4)F. Method: nmr									
Ga+++	oth	NaClO4	25°C	1.0M	U		K1=3.33 K(Ga+HF)=1.79	1974MGa	(6906) 22
Medium: (Na,H)ClO4. Method: current-voltage studies									
Ga+++	EMF	NaClO4	25°C	1.0M	U	H	K(Ga+HF=GaF+H)=1.43 K(GaF+HF=GaF2+H)=0.83	1971WTa	(6907) 23
Method: quinhydrone electrode. By calorimetry: DH(K1)=10.5 kJ mol-1, DS=119 J K-1 mol-1									
Ga+++	EMF	NaClO4	25°C	0.50M	U	H		1967AHa	(6908) 24
DH(K1)=7.5 kJ mol-1, DS=108.7 J K-1 mol-1. At I=0 corr: DH(K1)=7.9, DS=142									
Ga+++	EMF	NaClO4	25°C	0.50M	U	I	K(Ga+HF=GaF+H)=1.55 K(GaF+HF=GaF2+H)=0.57 K(GaF2+HF=GaF3+H)=-0.47	1964PCa	(6909) 25
At I=0 corr: K1=5.86									
Ga+++ pH 2.7	sp	none	20°C	0.0	U		K1=4.5	1960KLa	(6910) 26
Ga+++	sp	oth/un	?	var	U		K1=4.5	1959BSg	(6911) 27
Ga+++	EMF	NaClO4	25°C	0.50M	U	T H	K(Ga+HF=GaF+H)=1.54 K(GaF+HF=GaF2+H)=0.60 K(GaF2+HF=GaF3+H)=-0.44	1955YAa	(6912) 28
At 5 C: *K1=1.63, *K2=0.76, *K3=0.00. 50 C: *K1=1.50, *K2=0.60, *K3=-0.70 DH(*K1)=-5.4 kJ mol-1,DS=39 J K-1 mol-1; DH(*K2)=-6,DS=6; DH(*K3)=-23,DS=-85									
Ga+++	sp	NaClO4	25°C	0.50M	U		K1=5.02 K(Ga+HF=GaF+H)=2.08	1952WTa	(6913) 29

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

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      con non-aq 140C 100%  U                      1967BNc (8027) 30
                                         K(GaI3+I2=I+GaI4)=-1.89

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Medium: liquid I2

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Ga+++      dis NaClO4 20C 0.69M U          K1=-0.24      1967MAAd (8028) 31
Medium:HClO4. Alternatively K1=-0.41, B2=-0.6
*****
MoO4--      H2L      Molybdate          (443)

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Molybdate;

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      EMF NaClO4 25C 1.00M U                      1971ROa (8732) 32
                                         K(Ga+6H+6MoO4)=48

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

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      gl  R4N.X  25C 5.00M U          K1=4.1        1985MMa (9158) 33

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*****
NO2-        HL      Nitrite          CAS 7782-77-6 (635)
Nitrite;

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      gl  NaClO4 25C 1.00M U          K1=2.1        1990EAa (9372) 34

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

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      gl  NaClO4 25C 1.00M C  H      K1=3.48      1982AVb (10228) 35
DH1=-23 kJ mol-1

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*****
OH-         HL      Hydroxide          (57)
Hydroxide;

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      gl  NaCl   25C 0.60M C                      2002COa (11485) 36

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*K1=-4.02
*B(13,32)=-67.14

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Ga+++      sol none  25C  dil  C T H                      1998DCa (11486) 37

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*Kso(Ga(OH)3=17.4

Self medium, 0.01-0.07 M. Values extraoplated from data for 40-150 C.
At 40 C, *Kso=16.1. DH(*Kso)=-136.45 kJ mol-1, DS=-124.0 J K-1 mol-1.

Ga+++ EMF NaCl 25°C 0.0 C TIH 1998UOa (11487) 38
 *K1=-2.88
 Method: Pt/H₂ electrode. Data for 25-100 C. DH(*K1)=38.2 kJ mol⁻¹,
 DS(*K1)=73 J K⁻¹ mol⁻¹. In 1.0 M NaCl, *K1=-3.78.

Ga+++ sol none 25°C 0.0 M T 1997BDb (11488) 39
 *K1=-2.85
 *B2=-7.28
 *B3=-11.94
 *B4=-15.66
 Calculated from solubility data for alpha-GaOOH at 150-250 C in 0.025 M NaCl.

Ga+++ sol none 25°C 0.0 M T 1997BDb (11489) 40
 *Kso(GaOOH)=1.50
 K(GaOOH(s)+H=Ga(OH)₂)=-5.78
 K(GaOOH(s)+H₂O=Ga(OH)₃)=-10.44
 Calculated from solubility data for alpha-GaOOH at 150-250 C in 0.025 M NaCl. K(GaOOH(s)+2H=Ga(OH)+H₂O)=-1.35 (*Ks₂)

Ga+++ sol none 25°C 0.0 M T 1997DPb (11490) 41
 Calculated from solubility of alpha-GaOOH in dilute buffer solutions at 25-250 C. K(GaOOH(s)+2H₂O=Ga(OH)₄+H)=-14.14. At 50C, K=-13.33.

Ga+++ sol NaCl 100°C 0.0 C I 1997UOa (11491) 42
 Ks(GaOOH+3H)=-0.60.

Ga+++ gl NaClO₄ 25°C 0.10M C I 1992PSb (11492) 43
 *K1=-3.11
 *B(5,15)=-35.83
 Data for 0.01-1.0 M NaNO₃ and NaClO₄. In 0.10 M NaNO₃, *K1=-2.94,
 *B(5,15)=-35.51.

Ga+++ nmr oth/un 25°C var C 1989AKc (11493) 44
 *K1=-2.6
 Method: 71Ga nmr. Medium: 0.3 or 1.0 M HClO₄, 0.008-0.09 M Ga(ClO₄)₃.

Ga+++ gl KCl 25°C 1.00M C 1989BHa (11494) 45
 *B3=-11.63
 *B4=-17.5

Ga+++ gl KNO₃ 25°C 0.10M C I 1989BRa (11495) 46
 *K1=-3.16
 *B2=-7.07
 Also data at 0.5 M (-3.73; -7.15), 1.0 M (-3.92; -7.79), and
 1.5 M (-4.02; -7.73)

Ga+++ gl NaClO₄ 25°C 0.50M C TI 1985CTa (11496) 47
 *K1=-3.69
 *K2=-3.74
 At T=10 C, *K1=-4.17, *K2=-4.04. At 25 C, I=0.1 M *K1=-4.17, *K2=-3.50;
 I=1.5 M *K1=-4.15, *K2=-2.82

Ga+++ sp NaClO₄ 25°C 0.50M U T H 1984YIa (11497) 48

*K1=-2.89

At 45 C: *K1=-2.52; 15 C: -3.01

Ga+++ sp NaClO4 25°C 0.10M U I K1=11.13 B2=21.46 1973BNc (11498) 49

B3=30.93

K1=11.52, B2=22.33, B3=32.31(I=0.3); K1=11.70, B2=22.80, B3=33.36(I=0.5);
K1=12.22, B2=24.13, B3=35.85(I=1)

Ga+++ EMF NaClO4 ? 1.00M U 1973GOa (11499) 50

*K1=-3.56

Ga+++ gl NaClO4 50°C 1.00M U 1971GIb (11500) 51

*Kso(GaOOH(s)+3H=Ga+2H2O)=4.29

Method: also Tyndallometry, nephelometry

Ga+++ kin oth/un 25°C U 1970HRb (11501) 52

*K1=-4.2

Ga+++ kin NaClO4 25°C 0.50M U 1970Ea (11502) 53

K(2GaOH=Ga2(OH)2)=1.70

Ga+++ gl NaClO4 25°C 0.30M U 1970PTc (11503) 54

*K1=-5.45

*B(2,2)=-8.33

*K1: Me2Ga + H2O=Me2GaOH + H. *B(2,2): 2Me2Ga + 2H2O=(Me2Ga)2(OH)2 + 2H

Ga+++ gl NaClO4 50°C 1.00M U TI 1969CTa (11504) 55

*Ks(Ga(OH)3(s)+3H=Ga+3H2O)=3.7

*Kso=2.8(75 C). In dilute soln. *Kso=3.2(50 C), 2.2(75 C)

Ga+++ gl NaClO4 60°C 3.00M U 1969GAa (11505) 56

K=-1.7-11.55n

K: (3n+1)Ga + 8nH2O=Ga(Ga3(OH)8)n + 8nH

Ga+++ sp oth/un 25°C 0.10M U 1968NAd (11506) 57

*K1=-2.9

*K2=-3.7

*K3=-4.4

Ga+++ gl NaClO4 25°C 0.30M U 1968TSb (11507) 58

*K1(Me2Ga) < -5.38

*K2(Me2Ga) < -8.82

Ga+++ sol NaClO4 60°C 3.00M U 1967GSe (11508) 59

*Kso(alpha-GaOOH(s)+3H)=3.66

Ga+++ gl KCl 25°C 3.00M U 1967HCa (11509) 60

B(40,100)=-213

Ga+++ ISE none 25°C 0.0 U 1967VLc (11510) 61

B4=38.7

Ga+++ dis NaCl 20°C 1.00M U 1965AKc (11511) 62

*K3=-2.12

*K3=-1.05

$$*K_s(\text{Ga}(\text{OH})_3 + 2\text{H} = \text{Ga}(\text{OH}) + 2\text{H}) = 0.3$$
$$K_4 = 7.15$$

*K_{so}=2.23 (Ga203)

$$K_{so}(\text{Ga}(\text{OH})_3) = -34.0$$
$$*K_s(\text{Ga}(\text{OH})_3 + \text{OH} = \text{Ga}(\text{OH})_4) = -15$$

*K1 (Ga+H2O=GaOH+H)=-2.92

*K1=-3.4

$$K_{so}(\text{Ga}(\text{OH})_3) = -36.5$$
$$*K_s(\text{Ga}(\text{OH})_3 + \text{OH}) = -10.59$$
$$*K(\text{Ga}(\text{OH})_5 + \text{H}_2\text{O} = \text{Ga}(\text{OH})_6) = -11.7$$

Phosphate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	con	oth/un	25°C	0.06M	U		K(Ga+H ₂ PO ₄)=3.07	1978RPa (13196)	74

Ga+++	ix	NaClO ₄	25°C	1.00M	U		K(Ga+HL)=7.26 K(Ga+H ₂ L)=1.48	1975MGa (13197)	75
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Ga+++	ix	R ₄ N.X	?	0.20M	U		K(2Ga+H ₂ L=Ga ₂ HL+2H)=-1.10	1974FGc (13198)	76
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Ga+++	sol	NaClO ₄	25°C	1.0M	U		K _{so} =-21.0	1964TCc (13199)	77
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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
Ga+++	sp	NaNO ₃	20°C	0.10M	U	I	K(Ga+HL)=10.23	1971BSm (13592)	78

K(Ga+HL)=12.23(I=0)

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
Ga+++	sp	oth/un	20°C	0.10M	U	I	K ₁ =16.7 K(Ga+2H ₂ L)=9.95 K(Ga+HL)=9.53 K(Ga+2HL)=18.36	1971SBe (13860)	79

At I=0 corr: K₁=19.00, K(Ga+H₂L)=12.35, K(Ga+2H₂L)=20.24

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	cal	non-aq	25°C	100%	C	IH	K ₁ =3.7 B ₂ = 6.70	1996TSa (15010)	80

K₃=2.3
K₄=1.6
Medium: N,N-Dimethylformamide, 0.20 M Et₄NClO₄. Also data at 0.4 M Et₄NClO₄
DH(K₁)=6.7 kJ mol⁻¹, DH(K₂)=5.0, DH(K₃)=3.2, DH(K₄)=0.7.

Ga+++	sp	non-aq	25°C	100%	U	IH	K ₁ =3.50	1986PGa (15011)	81
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Medium: DMSO. DH=11.1 kJ mol⁻¹; DS=104 J K⁻¹ mol⁻¹

Ga+++	sp	NaClO ₄	25°C	0.50M	U		K ₁ =1.32	1985CTa (15012)	82
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Ga+++	vlt	NaClO ₄	20°C	6.00M	U		K ₁ =1.48 B ₂ =2.72	1985KBa (15013)	
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B3=2.67

 Ga+++ vlt NaClO4 25°C 0.26M U I K1=1.54 1974TMb (15014) 84
 K1=1.35(I=0.56), 1.21(I=0.76), 1.33(I=1.06), 1.43(I=2.06)
 In 1 M HClO4, K1=1.60(I=0.26), 1.37(I=0.56), 1.36(I=2.06). I=0, K1=2.3

Ga+++ sp oth/un 30°C 0.0 U T K1=2.15 1968DDa (15015) 85
 Medium: 0 corr. Using ISE: K1=2.26(35 C)

Ga+++ sp NaClO4 20°C 0.60M U K1=1.18 1964KSe (15016) 86

 SO4-- H2L Sulfate CAS 7664-93-9 (15)
 Sulfate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	kin	NaClO4	25°C	0.10M	U		K1=1.94 K(GaOH+SO4)=1.11	1977PSa (16211)	87

Ga+++	ix	NaClO4	20°C	1.0M	U		K1=1.1	1974SCa (16212)	88
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Ga+++	kin	oth/un	25°C	dil	U		K1=3.2 K1out=3.11 K1in=-0.5	1971KKa (16213)	89
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Ga+++ cal none 25°C 0.0 U H K1=2.77 B2=5.06 1969IEa (16214) 90
 DH(K1)=19.7 kJ mol⁻¹, DS=118.7 J K⁻¹ mol⁻¹, DH(K2)=-7.2, DS=20.1

Ga+++ sp oth/un 30°C 0.0 U K1=2.99 1962NAc (16215) 91

 CH4O L Methyl alcohol CAS 67-56-1 (597)
 Methanol; CH3.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	EMF	alc/w	20°C	100%	U		K(Ga+H-1L)=10.2	1964GUa (17880)	92

Method: H electrode. Medium: MeOH, 1.0 M Me4NCl

 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
Ga+++	gl	NaClO4	20°C	0.10M	U		K1=9.20	1985SAa (18904)	93
Ga+++	sp	NaClO4	20°C	1.00M	U	M	K(Ga(NTA)+L)=4.38	1977ZKa (18905)	94

Ga+++ vlt NaClO4 25°C 1.00M U K1=7.06 1972MGf (18906) 95
 Method : amperometry

Ga+++ dis NaClO4 20°C 0.10M U 1963STc (18907) 96
B3=17.98

Ga+++ gl KNO3 32°C 1.0M U 1957DSa (18908) 97
K3=4.55

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

Ga+++ gl NaCl 25°C 0.60M C 2002COa (19971) 98
K(Ga+HL=GaL+H)=-2.08
K(2Ga+HL+2H2O=Ga2(OH)2L+3H)=-5.65.

Ga+++ gl NaClO4 20°C 0.10M U K1=3.68 1985SAa (19972) 99

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

Ga+++ gl KNO3 25°C 0.50M M K1=11.20 B2=22.34 1984TZa (20321)
100
B3=29.67
B4=31.91

Ga+++ gl NaClO4 25°C 0.02M U T K1=11.75 B2=22.83 1976AMd (20322)
101
K3=7.18

At 45 C, K1=11.48, K2=10.74, K3=7.48

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

Ga+++ gl NaClO4 25°C 0.02M U T K1=3.39 B2=6.53 1976AMd (20543)
102
2.67

At 45 C, K1=3.45, K2=3.20, K3=2.98

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

Ga+++ gl NaClO4 20°C 0.10M U K1=9.71 1985SAa (21557) 103

Ga+++ gl KNO3 35°C 0.10M U M 1980KHb (21558) 104
B(GaL(tripolyphosphate))=7.96

Ga+++ gl NaClO4 25°C 3.0M U K1=9.60 1975BHb (21559) 105
K(Ga+HL)=2.11

Ga+++ EMF KNO3 22C 0.10M U K1=9.33 1968ZKb (21560) 106

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

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

Ga+++ gl KCl 25C 0.20M C K1=9.51 B2=18.42 1995FKa (21812) 107

B3=26.21

C2H7NS HL CAS 60-23-1 (588)
2-Aminoethanethiol; H2N.CH2.CH2.SH

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

Ga+++ gl KCl 25C 0.10M C K1=14.82 1995LMA (22491) 108
B(GaHL)=18.49

Ga+++ dis NaClO4 20C 1.00M U 1985MKc (22492) 109

K(Ga+H2L)=1.90

K(Ga+HL)=5.50

Extraction by bis(2-ethylhexyl)phosphoric acid and TTA

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

Ga+++ gl NaNO3 25C 0.10M U K1=12.72 1991DMb (23161) 110

K(GaL+OH)=6.70

K(GaH-1L+OH=GaH-2L)=6.33

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

Ga+++ gl KNO3 25C 0.10M U K1=18.52 1980MMd (23373) 111

K(GaL+H)=3.04

*K(GaL)=-5.00

Ga+++ sp oth/un 20C dil U K1=19.50 1971CAf (23374) 112

K(Ga+HL)=11.43

K(Ga+H2L)=5.69

C2H16N5O4Co HL (231)
Pentaammineoxalatocobalt(III); Co(NH3)5(HC2O4)

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

Ga+++ sp NaClO4 28C 0.30M U K1=2.68 1974NDa (23474) 113

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
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Galaxy: Ga+++ vlt NaCl04 25C 0.20M C T H K1=7.00 B2=12.46 1984MAb (24458)
114

Also data for 35 and 45 C. DH and DS values reported.

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Ga+++      gl  oth/un 35♦C      ?  U      1958DBb (24459) 115
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$$K3=2.67$$

B3=13.67

C3H6N02C1 HL (8169)

3-Chloroalanine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++ gl KN03 25°C 0.10M C K1=4.51 B2= 8.39 1981TMe (24760)
116

B3=10.34

Also data for the schiff based formed with pyridoxal.

C3H6O2S	H2L	Thiolactic acid	CAS 79-42-5	(366)
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2-Mercaptopropanoic acid; $\text{CH}_3\text{CH}(\text{SH})\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++ gl NaClO4 25°C 0.02M U T K1=11.60 B2=6.47 1976AMd (25144)
117

At 45 C, K1=12.02, K2=11.48, K3=7.25

C3H6O3	HL	L-Lactic acid	CAS 79-33-4	(82)
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L-2-Hydroxypropanoic acid; $\text{CH}_3\text{CH}(\text{OH})\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++ gl NaCl04 20C 0.10M U K1=4.33 1985SAa (25446) 118

Ga+++ gl NaClO4 25°C 0.02M U T K1=3.28 B2=6.37 1976AMd (25447)
119

K3=2.92

At 45 C, K1=3.51, K2=3.26, K3=2.97

C3H7NO2	HL	Alanine	CAS 56-41-7	(86)
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2-Aminopropanoic acid; $\text{H}_2\text{N}.\text{CH}(\text{CH}_3).\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	gl	KN03	35C	0.10M	U	M	1980KHb	(26178)	120
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$$B(\text{GaL}(\text{tripolyphosphate}))=8.94$$

C3H7NO2S	H2L	Cysteine	CAS 52-90-4	(96)
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2-Amino-3-mercaptopropanoic acid; $\text{H}_2\text{N}.\text{CH}(\text{CH}_2.\text{SH})\text{COOH}$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ga+++	gl	NaClO4	25°C	3.0M	C		K1=16.1 K(Ga+H2L)=2.4 K(Ga+HL)=8.3	1976BHb (26781)	121
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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
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Ga+++	gl	NaClO4	25°C	3.0M	C		K1=9.0 K(Ga+HL)=1.8	1976BHb (27134)	122
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C3H8NO5P H3L 3-Phosphono-Ala CAS 20263-06-3 (1509)
2-Amino-3-phosphonatopropanoic acid; (H2O3P)CH2.CH(NH2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ga+++	gl	KCl	25°C	1.00M	C	M	K1=14.55 K(InL+H)=2.52	1985SMd (27351)	123
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ternary complexes with pyridoxal-5'-phosphoric acid

C3H8NO5P H3L CAS 23052-80-4 (1508)
3-Amino-3-phosphonatopropanoic acid; (H2O3P)(NH2)CH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ga+++	gl	KCl	25°C	1.00M	C		K1=13.37 K(GaL+H)=2.91	1989MSb (27362)	124
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C3H8NO6P H3L Phosphoserine CAS 17885-08-4 (1865)
Serine dihydrogenphosphate, O-Phosphoserine; NH2.CH(CH2.OPO3H2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ga+++	gl	KNO3	25°C	0.10M	C		K1=6.18 B2= 9.87	1981TMe (27469)	125
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C3H9NS HL CAS 462-47-5 (1566)
3-Aminopropane-1-thiol; H2N.CH2.CH2.CH2.SH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ga+++	dis	NaClO4	20°C	1.00M	U			1985MKc (27953)	126
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K(Ga+H2L)=2.90
K(Ga+HL)=7.20

Extraction by bis(2-ethylhexyl)phosphoric acid and TTA

C3H11NO6P2 H4L (6772)
(Dimethylamino)-N-methylenediphosphonic acid; (CH3)2N.CH(PO3H2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ga+++ gl NaNO3 24C 0.20M C K1=25.8 B2=33.7 1993BRa (28411)
127

K(GaL+H)=1.5
K(GaHL+H)=1.5
K(GaH2L2+H)=5.4
K(GaH3L2+H)=4.0

K(GaH4L2+H)=2.0, K(GaH5L2+H)=2.0

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

Ga+++ gl NaClO4 25C 0.02M U T K1=13.08 B2=20.60 1976AMd (30333)
128

At 45 C, K1=14.41, K2=8.52

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

Ga+++ gl NaClO4 25C 0.02M U T K1=5.87 B2=9.94 1976AMd (30631)
129

K3=3.04

At 45 C, K1=6.19, K2=4.36, K3=2.96

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

Ga+++ gl NaClO4 20C 0.10M U 1985SAa (31256) 130
B(GaH-1L)=4.10
K(Ga+H-1L)=18.50

Ga+++ dis NaClO4 25C 1.00M U K1=5.55 B2=9.33 1975KLb (31257)
131

K(Ga+2HL)=5.23

Ga+++ oth oth/un 25C 1.00M U K1=4.93 1972GMc (31258) 132
K(Ga+HL)=2.44
K(Ga+H2L)=1.23

Method is amperometry

Ga+++ EMF oth/un 25C 1.00M U K1=4.93 1972GMc (31259) 133
K(Ga+HL)=2.45

Ga+++ dis NaClO4 20C 0.10M U B2=9.76 1963STc (31260) 134

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
Ga+++	gl	KNO3	35°C	0.10M	U	M			1980KHb (31857)	135
B(GaHL(tripolyphosphate))=8.31										

Ga+++	gl	NaClO4	25°C	0.02M	U	T		K1=3.28 B2=6.18	1976AMd (31858)	136
K3=2.84										

At 45 C, K1=3.55, K2=3.23, K3=3.03 (ligand may be HL, not L ?)

Ga+++	EMF	KNO3	22°C	0.10M	U			K1=11.17	1968ZKb (31859)	137

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
Ga+++	sp	oth/un	25°C	0.10M	U			K1=12.76	1997YSa (32259)	138
Ga+++	gl	NaClO4	20°C	0.10M	U			K1=10.60	1985SAa (32260)	139
Ga+++	gl	KNO3	25°C	0.10M	C			K1=12.76	1976HMD (32261)	140
K(GaL(OH)+H)=3.5										

C4H8NO2Cl		HL						(8170)		
3-Chloro-2-aminobutanoic acid;										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	gl	KNO3	25°C	0.10M	C			K1=4.89 B2= 9.00	1981TMe (32469)	141

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
Ga+++	EMF	KNO3	22°C	0.10M	U			K1=11.17	1968ZKb (32699)	142

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
Ga+++	gl	KNO3	35°C	0.10M	U	M			1980KHb (33025)	143
B(GaHL(tripolyphosphate))=3.91										
Ga+++	EMF	KNO3	22°C	0.10M	U			K1=7.57	1968ZKb (33026)	144

C4H8N2O4		H2L						(6369)		
N(1)-Hydroxyasparagine, aspartyl-beta-hydroxamic acid; H2N.CH(CH2.CO.NHOH).COOH										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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1,1,1,5,5,5-Hexafluoropentane-2,4-dione; F3C.CO.CH2.CO.CF3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	nmr	non-aq	25°C	100%	U	H			1964PCa (35926)	152
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Method:NMR, medium:CHCl3. DG(trans-GaL3=cis-GaL3)=3.9 kJ mol⁻¹, DH=2, DS=-8

C5H5NO2	HL								CAS 13161-30-3	(5582)
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1-Hydroxypyridin-2(1H)-one, 2-Hydroxypyridine 1-oxide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	gl	KCl	25°C	0.10M	U			K1=9.12 B2=16.72	1993LMc (36755)	153
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C5H5NO3	H2L								CAS 99110-85-7	(2195)
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1,4-Dihydroxy-2-pyridinone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	gl	KCl	25°C	0.10M	C			B2=22.48 B3=25.96 B(GaHL)=17.7 B(GaH2L)=29.00 B(GaH2L2)=34.25	1992CMc (36844)	154
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B(GaHL3)=29.53

C5H8O2	HL	Acetylacetone							CAS 123-54-6	(164)
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Pentane-2,4-dione; CH3.CO.CH2.CO.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	vlt	diox/w	25°C	5%	C	T	H	K1=9.87 B2=18.23	1984MAb (37976)	155
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Medium: 5% dioxane/H2O, 0.20 M NaClO4. Also data for 35 and 45 C.
DH and DS values reported.

Ga+++	gl	oth/un	30°C	0.0	U			K1=9.5 B2=17.90	1955IFa (37977)	156
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K3=5.7

C5H9NO2	HL	Proline							CAS 147-85-3	(44)
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Pyrrolidine-2-carboxylic acid; C4H8N.CO2H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	gl	KNO3	35°C	0.10M	U	M			1980KHb (38615)	157
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B(GaL(tripolyphosphate))=8.53

C5H9NO3	HL	Hydroxyproline							CAS 51-35-4	(416)
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4-Hydroxy-2-pyrrolidinecarboxylic acid; C4H7N(OH)(COOH)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	gl	KNO3	35°C	0.10M	U	M			1980KHb (38732)	158
B(GaL(tripolyphosphate))=7.55										

C5H9NO4		H2L		Glutamic acid		CAS	56-86-0	(22)		
2-Aminopentanedioic acid; H2N.CH(CH2.CH2.COOH)COOH										

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

Ga+++	gl	KNO3	35°C	0.10M	U	M			1980KHb (39084)	159
B(GaHL(tripolyphosphate))=7.99										

Ga+++	gl	NaClO4	25°C	3.0M	C			K1=11.30	1976BHb (39085)	160
K(Ga+HL)=4.30										
K(Ga+H2L)=2.30										

Ga+++	EMF	KNO3	22°C	0.10M	U			K1=11.15	1968ZKb (39086)	161

C5H10N07P		H4L		PMIDA		CAS	5994-61-6	(2433)		
N-(Phosphonomethyl)iminodiethanoic acid; H2O3P.CH2.N(CH2.COOH)2										

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

Ga+++	gl	KNO3	25°C	0.10M	U			K1=19.50	1980MMd (39675)	162
K(GaL+H)=3.10										
*K(GaL)=-5.95										

C5H10N2O4		HL				CAS	1955-67-5	(6736)		
2-Aminopentanoic-5-hydroxamic acid; H00C.CH(NH2).CH2.CH2.CO.NOH										

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

Ga+++	gl	KCl	25°C	0.20M	C			B2=24.2	1995FKa (40080)	163
B(GaHL)=18.5										
B(GaH2L2)=35.0										
B(GaHL2)=30.8										

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

Ga+++	gl	KNO3	35°C	0.10M	U	M			1980KHb (40708)	164
B(GaL(tripolyphosphate))=7.96										

Ga+++	gl	KNO3	22°C	0.10M	U			K1=9.02	1968ZKb (40709)	165

C5H11NO2S		HL		Methionine		CAS	63-68-3	(42)		
2-Amino-4-(methylthio)butanoic acid; H2N.CH(CH2.CH2.S.CH3)COOH										

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

Ga+++	gl	NaClO4	25°C	3.0M	C			K1=8.9	1976BHb (41095)	166
K(Ga+HL)=1.8										

C6H5NC12 L Dichloroaniline CAS 608-27-5 (762)
2,3-Dichloroaniline; H2N.C6H3(Cl)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	sp	diox/w	25	100%	U				1976BSa (42343)	167
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K(GaCl3+L)=0.73

C6H5NC12 L Dichloroaniline CAS 554-00-7 (761)
2,4-Dichloroaniline; H2N.C6H3(Cl)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	sp	diox/w	25	100%	U				1976BSa (42348)	168
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K(GaCl3+L)=1.08

C6H5NC12 L Dichloroaniline CAS 95-76-1 (759)
3,4-Dichloroaniline; H2N.C6H3(Cl)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	sp	diox/w	25	100%	U T H				1976BSa (42353)	169
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K(GaCl3+L)=2.33

At 10 - 50 C. DH = -22.5 kJ mol-1; DS = -31.3 J K-1 mol-1.

C6H5NC12 L Dichloroaniline CAS 626-43-7 (760)
3,5-Dichloroaniline; H2N.C6H3(Cl)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	sp	diox/w	25	100%	U T H				1976BSa (42357)	170
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K(GaCl3+L)=1.69

At 10-50 C. DH = -21.7 kJ mol-1; DS = -40.9 J K-1 mol-1.

C6H5NO3 H2L CAS 609-71-2 (5910)
2-Hydroxypyridine-3-carboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	gl	NaCl	25	0.16M	C				1998S0b (42723)	171
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K(Ga+HL)=6.78

K(Ga+2HL)=12.43

K(Ga+3HL)=16.20

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
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Ga+++	gl	NaCl	25	0.16M	C				1998S0b (42750)	172
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K(Ga+HL)=7.04

K(Ga+2HL)=13.09

K(Ga+3HL)=17.74

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
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Ga+++	sp	NaClO4	25	0.10M	C				2000MAa (42806)	173
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K(Ga+H2L=GaL+2H)=-1.47

Medium: LiClO4.

C6H5N2O2Cl L CAS 635-22-3 (763)
3-Nitro-4-chloroaniline; H2N.C6H3(Cl)(NO2)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	sp	diox/w	25	100%	U T H				1976BSa (42978)	174
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K(GaCl3+L)=1.42

At 10 - 50 C. DH = -21.3 kJ mol-1; DS = -44.3 J K-1 mol-1.

C6H6NBr L 3-Bromoaniline CAS 591-19-5 (758)
3-Bromoaniline; H2N.C6H4.Br

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	sp	diox/w	25	100%	U T H				1976BSa (43176)	175
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K(GaCl3+L)=2.85

At 10 - 50 C. DH = -27.6 kJ mol-1; DS = -38.4 J K-1 mol-1.

C6H6N2O2 L m-Nitroaniline CAS 99-09-2 (464)
3-Nitroaminobenzene; H2N.C6H4.NO2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	sp	diox/w	25	100%	U T H				1976BSa (43388)	176
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K(GaCl3+L)=2.01

At 10 - 50 C. DH = -24.6 kJ mol-1; DS = -44.3 J K-1 mol-1.

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
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Ga+++	gl	KN03	22	0.10M	U			K1=18.88	1968ZKb (43760)	177
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Ga+++	vlt	KCl	?	0.10M	U				1966ZKa (43761)	178
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K(Ga+2H2L=GaL2+4H)=4.84 (?)

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
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Ga+++	gl	NaClO4	25	0.20M	U T			K1=16.86 B2=31.14	1981AMa (43959)	179
-------	----	--------	----	-------	-----	--	--	----------------------	-----------------	-----

K3=6.05

$$n(\text{catalyst}) = \text{catalyst} / \text{catalyst wt} = 1.0000 \text{ g} / 0.0001 \text{ g} = 10,000$$

RS 1075

8- _____ \ _____ / _____

$$= \text{float}(j) = 0 \text{ if } j \in \text{int}(j) = \text{float}(j) = \text{admones},$$

[illegible]

$$= \sqrt{(x_{\text{max}} - x_{\text{min}})^2 + (y_{\text{max}} - y_{\text{min}})^2} = 0.789$$

| 0 0 |

Ga+++ gl NaNO3 25°C 0.10M U K1=8.40 B2=15.98 1991DMb (45355)
188

K3=4.86

C6H8O7 H3L Citric acid CAS 77-92-9 (95)
2-Hydroxypropane-1,2,3-tricarboxylic acid; H00CCH2.CH(OH)(COOH).CH2COOH

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

Ga+++ gl NaClO4 20°C 0.10M U 1985SAa (46114) 189
B(GaH-1L)=6.07
K(Ga+H-1L)=22.07

Ga+++ gl KNO3 25°C 0.10M C K1=10.02 1976HMD (46115) 190
K(GaL(OH)+H)=2.9

Ga+++ EMF NaClO4 25°C 1.0M C K1=7.96 1975KBc (46116) 191
K(Ga+OH+L)=9.21

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

Ga+++ gl KNO3 25°C 0.10M C K1=16.20 1976HMD (46825) 192
K(GaL(OH)+H)=4.27
K(GaL(OH)2+H)=7.64

Ga+++ sp oth/un 20°C ? U K1=17.7 1969CAd (46826) 193

Ga+++ vlt KNO3 22°C 0.10M U T K1=13.95 1968ZKb (46827) 194

Ga+++ EMF NaClO4 20°C 0.10M U T K1=13.6 1967BAc (46828) 195

Ga+++ dis NaClO4 20°C 0.10M U B2=25.81 1963STc (46829) 196

C6H11NO5 H2L HIMDA CAS 93-62-9 (192)
N-(2-Hydroxyethyl)iminodiethanoic acid; H0.CH2.CH2.N(CH2.COOH)2

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

Ga+++ gl KNO3 25°C 0.10M C K1=11.33 1976HMD (48733) 197
K(GaL(OH)+H)=3.25
K(GaL(OH)2+H)=5.48

C6H12N2O4 H2L EDDA CAS 5657-17-0 (119)
1,2-Diaminoethane-N,N'-diethanoic acid; H00C.CH2.NH.CH2.CH2.NH.CH2.COOH

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

Ga+++ gl KNO3 25°C 0.10M C K1=18.15 1976HMD (49240) 198
K(GaL(OH)+H)=4.70
K(GaL(OH)2+H)=7.6

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*****
C6H12N2O4          H2L      N,N-EDDA          CAS 5835-29-0  (2333)
1,2-Diaminoethane-N,N-diethanoic acid; H2N.CH2.CH2.N(CH2.COOH)2
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      gl  KNO3    25°C 0.10M C          K1=16.75      1976HMD (49302) 199
                                     K(GaL(OH)+H)=3.96
                                     K(GaL(OH)2+H)=7.6
*****
C6H12O7            HL      Gluconic acid      CAS 526-95-4  (904)
D-Gluconic acid, 2,3,4,5,6-Pentahydroxyhexanoic acid; HO.CH2(CHOH)4.COOH
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      gl  NaNO3    25°C 0.10M C          1995EOa (49718) 200
                                     B(GaH-2L)=-2.83
                                     B(GaH-3L)=-8.94
                                     B(GaH-4L)=-16.45
*****
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
-----
Ga+++      gl  NaClO4  25°C 3.0M U          K1=9.60      1975BHb (49902) 201
                                     K(Ga+HL)=2.04
*****
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
-----
Ga+++      gl  NaNO3    25°C 0.10M U          B2=13.75     1991DMb (50364) 202
                                     B(GaH-2L)=22.52
                                     B(GaH-4L2)=23.4
*****
C6H15N3O2            HL      DTMA            CAS 55682-20-7 (2334)
N,N-Bis(2-aminoethyl)glycine; (H2N.CH2.CH2)2N.CH2.COOH
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      gl  KNO3     25°C 0.10M C          1976HMD (51438) 203
                                     K(GaLOH+H)=2.6
                                     K(GaHL+H)=4.51
*****
C6H15N3O3            L              (6613)
1,3,5-Triamino-1,3,5-trideoxy-cis-inositol,5-Amino-5-deoxy-streptamine;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      gl  KCl      25°C 0.10M C          K1=16.5      B2=25.7     1993HGa (51451)
204
                                     B(GaHL)=19.4

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$$*K(\text{GaH-3L2}) = -9.5, \quad *K(\text{GaH-4L2}) = -11.6$$

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

$$*K(\text{GaL}) = -10.06.$$

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

Also data for 35 and 45 C. DH and DS values reported.

C7H5NO5 H2L Nitrosalicylic CAS 96-97-9 (148)
2-Hydroxy-5-nitrobenzoic acid; HO.C6H3(NO2).COOH

Ga+++ sp oth/un 25C 0.10M U 1980PSa (53050) 211

C7H5O3Cl H2L CAS 321-14-2 (1113)
5-Chlorosalicylic acid; Cl.C6H3(OH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K	values	Reference	ExptNo
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Ga+++ sp NaClO4 25♦C 0.20M C T 1982CSb (53344) 212
 $K(\text{Ga}+\text{HL}=\text{GaL}+\text{H})=0.77$
 $K(\text{Ga}+\text{HL})=1.72$

C7H6O2S H2L Thiosalicylic CAS 147-93-3 (236)
 2-Mercaptobenzoic acid; HS.C6H4.COOH

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

Ga+++ gl alc/w 25♦C 50% M K1=10.3 B2=20.92 1984TZa (53906) 213

C7H6O3 H2L Salicylic acid CAS 69-72-7 (14)
 2-Hydroxybenzoic acid, Salicylic acid; H0.C6H4.COOH

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

Ga+++ gl NaClO4 20♦C 0.10M U K1=16.10 1985SAa (54219) 214

Ga+++ vlt NaClO4 25♦C 0.20M C T H 1984MAb (54220) 215

$K(\text{Ga}+\text{HL})=3.16$

$K(\text{GaHL}+\text{HL})=3.00$

Also data for 35 and 45 C. DH and DS values reported.

 Ga+++ sp NaClO4 25♦C 0.20M C T 1982CSb (54221) 216

$K(\text{Ga}+\text{HL}=\text{GaL}+\text{H})=0.73$

$K(\text{Ga}+\text{HL})=1.98$

 Ga+++ kin NaClO4 25♦C 0.10M U 1977PSa (54222) 217

$K(\text{Ga}+\text{HL})=0.72$

$K(\text{Ga}(\text{OH})+\text{H2L}=\text{GaL}+\text{H})=-0.5$

$K(\text{Ga}(\text{OH})+\text{HL}=\text{GaL})=0.3$

$K(\text{Ga}(\text{OH})_2+\text{H2L}=\text{GaL})=-0.5$

 Ga+++ sp NaClO4 30♦C 0.20M U I 1963DNa (54223) 218

$K(\text{Ga}+\text{HL}=\text{GaL}+\text{H})=0.47$

$K=1.04(I=0.02), 0.74(I=0.05), 0.62(I=0.1)$. Recalculated values. At $I=0.05$ M:

$K=0.62, 0.69(29\text{ C}), 0.80(40\text{ C})$. DH=15.5 kJ mol⁻¹, DS=38 J K⁻¹ mol⁻¹

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

Ga+++ gl NaClO4 25♦C 0.20M U T K1=9.59 B2=17.89 1981AMa (54528) 219

K3=7.31

Temp range 25-45. K1 at 45 C = 9.14; K2 at 45 C = 8.18

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

Ga+++ gl NaClO4 25°C 0.20M U T K1=10.40 B2=17.96 1981AMa (54675)
220

K3=6.45

Temp range 25-45. K1 at 45 C =10.79; K2 at 45 C = 7.76

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

Ga+++ gl NaClO4 25°C 0.20M U T K1=18.43 B2=30.17 1981AMa (54752)
221

K3=7.59

Temp range 25-45. K1 at 45 C =19.66; K2 at 45 C =12.36

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

Ga+++ ix NaCl 20°C 1.0M C K1=11.73 1989DOa (55004) 222
K(Ga+HL)=2.28

Ga+++ gl NaClO4 20°C 0.10M U K1=12.70 1985SAa (55005) 223

Ga+++ gl KNO3 25°C 0.10M U K1=12.50 B2=22.50 1980LMb (55006)
224

Ga+++ gl NaNO3 25°C 0.20M U K1=12.55 B2=22.70 1968ASa (55007)
225

Ga+++ sp NaClO4 29°C 0.20M U IH 1963NAa (55008) 226
K(Ga+HL=GaL+H)=0.98

K=1.61(I=0.02),1.48(I=0.05),1.20(I=0.10). Recalculated values. In 0.05 M
NaClO4: K=1.32(20 C),1.39(29 C),1.52(40 C). DH=17.8 kJ mol⁻¹

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

Ga+++ vlt NaClO4 25°C 0.20M C T K1=4.03 1984MAb (55225) 227
Also data for 35 and 45 C.

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

Ga+++ gl NaClO4 25°C 3.0M U K1=9.2 B2=18.00 1977BHa (55501)
228

B3=25.3

Additional method: spectrophotometry.

C7H7NS	L	Thiobenzamide	CAS 2227-79-4	(1660)
Thiobenzamide; C6H5.CS.NH2				

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++ sp non-aq 25°C 100% U 1977SWa (55704) 229
K(GaCl3+L)=2.32

Medium: Et20

C7H8N2O2 L CAS 99-52-5 (470)
2-Methyl-4-nitro-aminobenzene; CH₃.C₆H₃(NO₂).NH₂

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++ sp diox/w 25°C 100% U T H 1976BSa (55881) 230
K(GaCl3+L)=1.27

At 10 - 50 C. $\Delta H = -15.9 \text{ kJ mol}^{-1}$; $\Delta S = -28.8 \text{ kJ mol}^{-1}$.

C7H8N2O2 L CAS 119-32-4 (467)
3-Nitro-4-methylaminobenzene; CH3.C6H3(NO2).NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++ sp diox/w 25°C 100% U T H 1976BSa (55904) 231
K(GaCl3+L)=2.45

At 10 -50 C. $\Delta H = -20.9 \text{ kJ mol}^{-1}$; $\Delta S = -23.4 \text{ J K}^{-1} \text{ mol}^{-1}$.

C7H9NO2	HL	CAS 30652-11-0 (2458)
3-Hydroxy-1,2-dimethylpyridin-4(1H)-one; (OH)(CH3)(O:)C5H2N.CH3		

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++ gl KN03 25°C 0.10M C K1=13.17 B2=25.43 2004SGc (56435)
232 B3=35.76

Ga+++ gl KCl 25°C 0.10M C K1=13.17 B2=25.43 1994MRa (56436)
233
K3=10.33

Ga+++ gl KCl 25°C 0.10M C K1=13.17 B2=25.43 1992CMb (56437)
234
K3=10.33

Ga+++ gl NaCl 25°C 0.15M M K1=17.07 B2=29.26 1990CLa (56438)
235
B3=38.42

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
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Ga+++ dis non-aq 25°C 100% C 1999YSa (58623) 236

$$K(\text{Ga}+3\text{HL}=\text{GaL3}(\text{org})+3\text{H})=0.12$$

Medium: toluene. Method: distribution between 0.10 M NaClO4 and toluene.

K: $\text{Ga}(\text{aq})+3\text{HL}(\text{org})=\text{GaL3}(\text{org})+3\text{H}(\text{aq})$

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

Ga+++ EMF KNO3 22°C 0.10M U K1=5.15 1968ZKb (58970) 237

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

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

Ga+++ vlt NaClO4 25°C 0.20M C T K1=3.49 B2= 6.69 1984MAb (59832) 238

Also data for 35 and 45 C.

C8H9NO2 L CAS 1849-49-6 (5907)
5'-Deoxypyridoxal

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

Ga+++ gl KCl 25°C 1.00M C K1=8.54 1989MSb (60247) 239

C8H9NO3 HL Pyridoxal CAS 65-22-5 (110)
3-Hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinecarboxaldehyde;

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

Ga+++ gl KNO3 25°C 0.10M C K1=2.67 1981TMe (60427) 240

C8H10NO6P H3L Codecarboxylase CAS 41468-25-1 (2555)
Pyridoxal-5-phosphoric acid;

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

Ga+++ gl KCl 25°C 1.00M C M K1=14.61 1985SMd (60703) 241

$$K(\text{GaL}+\text{H})=3.43$$

ternary complexes with 2-amino-3-phosphonopropionic acid

C8H11NO2 HL CAS 30652-12-1 (5889)
3-Hydroxy-2-methyl-1-ethylpyridin-4-one;

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

Ga+++ gl NaCl 25°C 0.15M M K1=17.24 B2=29.31 1990CLa (61092) 242

$$B3=38.19$$

C8H16N2O4S2 H4L (6947)
2,7-Dicarboxy-3,6-diaza-1,8-octanedithiol;

HS.CH2.CH(COOH)NH.CH2CH2.NH.CH(COOH)CH2.SH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	gl	KCl	25°C	0.10M	C			K1=31.5 B(GaHL)=35.89 B(Ga(OH)L)=22.12 B(Ga(OH)2L)=11.61	1996LMa (62548)	243
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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
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Ga+++	gl	KNO3	25°C	0.10M	U			K1=26.82 K(GaL+H)=5.10 K(GaHL+H)=2.24 *K(GaL)=-8.42	1980MMd (62901)	244
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C8H24N2O12P4S H8L CAS 33424-58-7 (2648)
1,7-Diaza-4-thiaheptane-1,1,7,7-tetra(methylphosphonic acid);
S(CH2.CH2.N(CH2.PO3H2)2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	dis	NaClO4	20°C	1.00M	U			K(Ga+H5L)=10.3	1983KDd (63485)	245
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C8H24N2O13P4 H8L CAS 25007-19-4 (2647)
1,7-Diaza-4-oxaheptane-1,1,7,7-tetra(methylphosphonic acid);
O(CH2.CH2.N(CH2.PO3H2)2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	dis	NaClO4	20°C	1.00M	U			K(Ga+H5L)=10.3	1983KDd (63493)	246
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C9H6NOF HL CAS 387-97-3 (3283)
5-Fluoro-8-hydroxyquinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	sp	NaClO4	25°C	0.10M	C			K1=12.35 By 19F nmr in 20% v/v D2O/H2O, 0.10 M NaClO4, K1=12.6, B2=24.1, B3=34.3	1998JHa (63674)	247
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C9H6NO4BrS H2L CAS 3062-37-1 (3889)
7-Bromo-8-hydroxyquinoline-5-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	oth	oth/un	20°C	0.20M	U			K1=13.6	1972ABb (63696)	248
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Acetate buffer. pH=4

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*****
C9H6NO4ClS          H2L          CAS 3062-36-0 (3888)
7-Chloro-8-hydroxyquinoline-5-sulfonic acid;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      oth oth/un 20C 0.20M U          K1=13.5          1972ABb (63715) 249
Acetate buffer. pH= 4
*****
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
-----
Ga+++      gl  KNO3   25C 0.10M U          K1=14.7   B2=23.9   1974MOa (63800)
250
                                     B3=29.6
                                     B(Ga(OH)2L)=32.3
                                     B(Ga(OH)L2)=31.0
                                     K(Ga+HL)=11.3
-----
Ga+++      sp  oth/un  ?   dil U          K1=12.6          1971BRf (63801) 251
*****
C9H7NO          HL      Oxine          CAS 148-24-3 (504)
8-Hydroxyquinoline (8-quinolinol);
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      gl  NaClO4 20C 0.10M U          K1=12.31          1985SAa (64270) 252
-----
Ga+++      gl  diox/w 25C 50% U          K1=15.67   B2=29.09   1978THc (64271)
253
                                     B3=41.6
-----
Ga+++      sp  alc/w   ?   20% U          1971BRf (64272) 254
                                     B3=32.97
Medium: 20% EtOH
-----
Ga+++      dis NaClO4 20C 0.10M U          K1=14.51   B2=28.01   1965SAf (64273)
255
                                     K3=12.49
-----
Ga+++      oth none   ?   0.0 U          1957PKa (64274) 256
                                     Kso=-32.06
*****
C9H7NO3S2          H2L          CAS 58447-10-2 (4675)
8-Mercaptoquinoline-5-sulfonic acid;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      sp  oth/un  ?   ?   U          K1=10.0   B2=19.50   1968ABa (64424)
257
*****
C9H7NO4S          H2L      Sulfoxine          CAS 84-88-8 (448)

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8-Hydroxyquinoline-5-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++ 258	gl	KNO3	25°C	0.10M	U			K1=11.97 B2=23.44 K3=9.95	1980LMb (64544)	

Ga+++ 259	sp	oth/un	?	?	U			K1=13.3 B2=24.50	1973BIb (64545)	
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C9H7N3O2S H2L TAR CAS 2246-46-0 (707)

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

Ga+++	sp	NaClO4	?	0.10M	U			K1=12.8 K(Ga+HL)=9.1	1969HSd (64705)	260
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Ga+++	sp	alc/w	25°C	50%	U			K(Ga+HL)=12.0	1967NPb (64706)	261
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Medium: 50% MeOH, 0.1 M NaClO4

C9H8N2O3S H2L CAS 148292-08-4 (7219)

Nordesferri-ferrithiocin; (HO)C5NH3.C3NSH3(COOH)

Ga+++	sp	KCl	25°C	0.10M	C			B2=27.8	1996LHa (64816)	262
-------	----	-----	------	-------	---	--	--	---------	-----------------	-----

C9H11NO2 HL Phenylalanine CAS 63-91-2 (2)

2-Amino-3-phenylpropanoic acid; H2N.CH(CH2.C6H5)COOH

Ga+++	gl	KNO3	35°C	0.10M	U	M		B(GaL(tripolyphosphate))=7.21	1980KHb (65939)	263
-------	----	------	------	-------	---	---	--	-------------------------------	-----------------	-----

C9H11NO3 H2L Tyrosine CAS 60-18-4 (4)

2-Amino-3-(4-hydroxyphenyl)propanoic acid; HO.C6H4.CH2.CH(NH2).COOH

Ga+++	gl	KNO3	35°C	0.10M	U	M		B(GaHL(tripolyphosphate))=7.62	1980KHb (66220)	264
-------	----	------	------	-------	---	---	--	--------------------------------	-----------------	-----

Ga+++	gl	NaClO4	25°C	3.0M	C			K(Ga+HL)=8.7 K(Ga+H2L)=2.3	1976BHb (66221)	265
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C9H11NO4 HL CAS 95215-59-1 (8724)

1-(2'-Carboxyethyl)-2-methyl-3-hydroxy-4-pyridinone;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++ gl KNO3 25°C 0.10M C K1=16.84 B2=29.02 2002SGb (66304)
266

B3=37.77
B(GaHL2)=32.27
B(GaH2L2)=35.15

C9H11NO6S H3L CAS 73487-23-7 (5467)
N,N-Dimethyl-2,3-dihydroxy-5-sulfonatobenzamide; HSO3.C6H2(OH)2.CONMe2

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

Ga+++ gl KNO3 25°C 0.10M U K1=15.5 B2=29 1982PWa (66463)
267

B3=30

C9H13NO2 L (7151)
1,2-Diethyl-3-hydroxy-4-pyridinone

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

Ga+++ gl KCl 25°C 0.10M C K1=14.58 B2=26.21 1994MRa (66795)
268

K3=9.84

C9H15NO7P2 H2L HBIDPO CAS 73199-04-9 (2434)
(2-Hydroxybenzyl)iminobis(methylenephosphonic) acid; HO.C6H4.CH2.N(CH2.PO3H2)2

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

Ga+++ gl KNO3 25°C 0.10M U K1=23.78 1980MMd (67474) 269

K(GaL+H)=5.60
K(GaHL+H)=3.30
*K(GaL)=-6.95

C9H24N3O9P3 H6L NOTPH CAS 83843-39-3 (224)
1,4,7-Triazacyclononane-N,N',N''-tris(methylenephosphonic acid);

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

Ga+++ gl KNO3 25°C 1.00M U K1=30.2 1990BSd (68320) 270

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

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

Ga+++ sp NaClO4 20°C 1.00M U 1985KV a (68409) 271

K(Ga+H6L)=6.64

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
Ga+++	vlt	NaClO4	25°C	0.20M	C	T	K1=6.28	1984MAb (69010)	272

Also data for 35 and 45 C.

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
Ga+++	ISE	oth/un	25°C	1.0M	U		K1=4.54 B2=7.71	1972KMf (69576)	273

Medium: 1.0 M sodium acetate. Mixed complexes with acetate ion likely.

By spectrophotometry: K1=4.49, B2=7.69

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	gl	NaClO4	25°C	0.20M	U	T	K1=17.67 B2=31.93	1981AMa (69846)	274

K3=9.41

Temp range 25-45. K1 at 45 C = 17.06; K2 at 45 C =13.84

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
Ga+++	gl	KNO3	25°C	0.10M	U		K1=15.62 B2=28.12	1980LMb (69950)	275

Ga+++	gl	NaNO3	25°C	0.20M	U		K1=17.80 B2=31.40	1968ASa (69951)	276
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C10H9NO3S2 HL (7206)
6-Methyl-5-sulfo-8-mercaptoquinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	sp	oth/un	20°C	0.10M	U		K1=10.4 B2=20.30	1985DAb (70176)	277

C10H10N2O3S H2L CAS 76045-30-2 (7218)
Desferriferriethiocin,
2-(3-Hydroxypyridin-2-yl)-4-methyl-4,5-dihydrothiazole-4-carboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	sp	KCl	25°C	0.10M	C		B2=29.2	1996LHa (70562)	278

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
Ga+++ 279	vlt	diox/w	25♦C	5%	C T H		K1=9.86 B2=18.72	1984MAb	(70730)
Medium: 5% dioxane/H2O, 0.20 M NaClO4. Also data for 35 and 45 C. DH and DS values reported.									

C10H13NO4		HL					CAS 137528-47-3	(8725)	
1-(3'-Carboxypropyl)-2-methyl-3-hydroxy-4-pyridinone;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++ 280	gl	KNO3	25♦C	0.10M	C		K1=16.54 B2=28.20	2002SGb	(71757)
B3=36.19 B(GaHL2)=32.02									

C10H16N2O8		H4L		EDTA			CAS 60-00-4	(120)	
1,2-Diaminoethane-N,N,N',N'-tetraethanoic acid, Sequestric acid;									
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	EMF	KNO3	25♦C	0.10M	C		K1=22.01 K(GaL+H)=2.30 K(Ga(OH)L+H)=5.57	1997DFa	(73793) 281
Ga+++	gl	KNO3	25♦C	0.50M	C	M	K(GaL+H)=1.69 *K(GaL)=-5.55 K(GaL+F)=1.9 K(GaL+S)=10.6	1989TBa	(73794) 282
Ga+++	gl	KNO3	25♦C	0.50M	C	M	K(GaL+H)=1.69 *K(GaL)=-5.55 K(GaL+F)=1.9 K(Ga(OH)L+HS=GaLS)=10.6	1986TBa	(73795) 283
Ga+++	gl	NaClO4	20♦C	0.10M	U		K1=20.90	1985SAa	(73796) 284
Ga+++	gl	KNO3	35♦C	0.10M	U		K1=20.04	1980KHb	(73797) 285
Ga+++	gl	KNO3	25♦C	0.10M	C		K1=21.7 K(GaL+H)=1.7 K(GaL(OH)+H)=5.52	1976HMD	(73798) 286
Ga+++ pH=2	sp	NaClO4	20♦C	0.01M	U		K1=21.7	1969CAe	(73799) 287
Ga+++	EMF	NaClO4	20♦C	0.10M	U		K1=21.1 K(GaL+H)=1.83 K(GaL+OH)=8.36	1967BAC	(73800) 288

Ga+++ ISE KNO3 20°C 0.10M U K1=20.5 1966Mca (73801) 289
K(GaL+H)=1.91

Ga+++ dis NaClO4 20°C 0.10M U 1963STc (73802) 290
B(GaL(OH))=34.0

Medium: KClO4

Ga+++ gl KNO3 15°C 0.10M U K1=20.25 1956STa (73803) 291
K(GaL+H)=1.41
K(GaLOH+H)=5.92

Ga+++ vlt KNO3 20°C 0.10M U K1=20.27 1954SGa (73804) 292

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

Ga+++ gl KNO3 35°C 0.10M U K1=18.72 1980KHb (75395) 293

Ga+++ gl KNO3 25°C 0.10M C K1=17.2 1976HMD (75396) 294
K(GaL(OH)+H)=4.38

Ga+++ sp NaClO4 25°C 0.10M U K1=19.4 1973NKa (75397) 295

Ga+++ ISE KNO3 20°C 0.10M U K1=16.9 1966Mca (75398) 296
K(GaL+H)=4.17

C10H20N2O4S2 H4L EDDASS (6912)

N,N'-Bis(2-mercaptoethyl)diaminoethane-N,N'-diethanoic acid;

(-CH2.N(CH2.CH2.SH)CH2.COOH)2

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

Ga+++ gl KNO3 25°C 0.10M C K1=35.6 1996SAb (75811) 297
K(GaL+H)=2.4
K(Ga(OH)L+H)=11.1

Ga+++ gl KCl 25°C 0.10M C K1=35.6 1995SMa (75812) 298
B(GaHL)=38.0
B(GaH-1L)=24.5

Ga+++ gl KCl 25°C 0.10M C K1=35.6 1995SMb (75813) 299
K(GaL+H)=2.4
K(GaL=Ga(OH)L+H)=-11.1

C10H22N2O3 L Cryptand 2,1 CAS 31249-95-3 (835)

4,7,13-Trioxa-1,10-diazacyclopentadecane (Trioxa(2,1)cryptand);

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

Ga+++ gl R4N.X 25°C 0.05M U K1=12.7 1999BDb (76317) 300

Medium: Et4NClO4

C10H24N2S2 H2L (7871)
N,N'-Bis(2,2-dimethyl-2-mercaptoethyl)diaminoethane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	gl	KNO3	25°C	0.10M	C			K1=24.7 K(Ga(OH)L+H)=3.09 K(Ga(OH)2L+H)=11.3	1996SAb (76597)	301

C11H8N6O7S2 H4L CAS 35322-95-7 (909)
3-Hydroxy-4-(1H-tetrazol-5-ylazo)-2,7-naphthalenedisulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	gl	NaClO4	25°C	0.0	C	I		K(Ga+H2L=GaL+2H)=-0.75	1992PSb (76937)	302

Derived from data for 0.008-2.42 M NaClO4 media.

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
Ga+++	gl	NaClO4	25°C	0.0	C	I		K(2Ga+H3L=Ga2(OH)L+4H)=-3.48 K(Ga+H3L=GaL+3H)=-6.06	1992PSb (76950)	303

Derived from data for 0.085-2.32 M NaClO4 media.

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
Ga+++	gl	alc/w	35°C	70%	U			K1=7.26 B2=14.18	1988KRc (77200)	304

C11H9N3O2 H2L PAR CAS 1141-59-9 (636)
4-(2'-Pyridylazo)-1,3-dihydroxybenzene; C5H4N.N:N.C6H3(OH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	sp	NaCl	25°C	0.15M	C			B2eff=10.3	1999XLa (77540)	305

Medium: 0.15 M NaCl plus phosphate buffer, pH 7.2.

Ga+++	sp	NaClO4	25°C	0.80M	U	I		B(Ga+H3L=GaHL+2H)=-0.51	1985MBa (77541)	306
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Also data for 5-35% CH3CN, Me2SO and DMF and 5-50% CH3OH.

Ga+++	gl	KCl	21°C	0.10M	U			K(Ga+HL)=8.34	1978KYb (77542)	307
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Ga+++	sp	oth/un	25°C	0.10M	U			B2=25.96 K(GaOH+L)=18.84	1972BNb (77543)	308
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Ga+++ sp oth/un 25°C ? U 1966DMf (77544) 309
K(?)=10.3

Ga+++ sp NaClO4 20°C 0.20M U B2=30.3 1963HSc (77545) 310
K(Ga+HL)=14.6

C11H11N3O2S H2L (6578)
4-(4'-Methyl-2'-thiazolylazo)-2-methyl-resorcinol;
(OH)2(CH3)C6H2.N:N.C3HNS(CH3)

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

Ga+++ sp NaNO3 rt 0.25M U K1=13.65 1990JJ a (77919) 311
B(GaHL)=19.08
B(GaH2L2)=37.03

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

Ga+++ gl KNO3 25°C 0.10M C K1=21.55 1976HMD (78625) 312
K(GaL(OH)+H)=5.75
K(GaL(OH)2+H)=8.53

C11H15NO4 HL CAS 480436-59-7 (8726)
1-(4'-Carboxybutyl)-2-methyl-3-hydroxy-4-pyridinone;

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

Ga+++ gl KNO3 25°C 0.10M C K1=16.52 B2=28.33 2002SGb (79037) 313
B3=36.41
B(GaHL2)=32.44
B(GaH2L2)=35.02

C11H17N2O6P HL (5908)
3(((3-Hydroxy-2,5-dimethyl-4-pyridinyl)methylene)amino)-3-phosphonopropanoic
acid;

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

Ga+++ gl KCl 25°C 1.00M C K1=22.60 B2=36.28 1989MSb (79187) 314
K(GaL+H)=3.64
K(GaHL+H)=2.85
K(GaL2+H)=5.99
K(GaHL2+H)=5.83

K(MH2L2+H)=5.07, K(MH3L2+H)=4.37

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
Ga+++	EMF	NaClO4	20°C	0.10M	U		K1=20.8 K(GaL+2OH)=10.7	1967BAc (79444)	315

C11H20N2O10P2S H4L CAS 73199-05-0 (2440)
N-(2-Hydroxy-5-sulfobenzyl)ethylenediamine-N,N'-bis(methylenephosphonic)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	gl	KNO3	25°C	0.10M	U		K1=31.55 K(GaL+H)=8.98 K(GaHL+H)=4.01 K(GaH2L+H)=2.82 *K(GaL)=-10.36	1980MMd (79721)	316

C11H24N2O2S2 H3L (7911)
1-Carboxy-N,N'-bis(2,2-dimethyl-2-mercaptoethyl)diaminoethane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	gl	KNO3	25°C	0.10M	C		K1=27.37 K(Ga(OH)L+H)=5.3	1996SAb (79899)	317

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	ISE	oth/un	25°C	1.0M	U		K1=5.58 B2=9.24	1972KMf (80456)	318

Medium: acetate buffer

C12H9N2O5BrS H3L CAS 35495-39-7 (4965)
1-(2'-Bromo-4',5'-dihydroxyphenyl)azobenzene-4-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	sp	oth/un	?	?	U		K(Ga+HL)=8.81 K(Ga+2HL)=16.99	19710Ya (80608)	319

C12H10N2O2 H2L CAS 2050-14-8 (3378)
2,2'-Dihydroxyazobenzene; HO.C6H4.N:N.C6H4.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	sp	KCl	25°C	0.10M	U		K(Ga+H2L=GaL+2H)=0.61 K(GaL+H2L=GaL2+2H)=5.2(?)	1962KMa (80700)	320

C12H10N2O2 H2L CAS 2050-16-0 (2636)
3,4-Dihydroxyazobenzene; C6H5.N:N.C6H3(OH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	sp	alc/w	20°C	20%	U				1967NVa (80714)	321
								K(GaOH+2HL)=17.54		

Medium: 20% EtOH, 0.1 M

C12H10N2O3	H3L	CAS 69323-27-9	(3971)
2,2',4'-Trihydroxyazobenzene; HO.C6H4.N:N.C6H3(OH)2			

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	sp	oth/un	25°C	0.10M	U				1967NNA (80721)	322
								K(Ga+HL)=15.66		
								K(GaOH+2HL)=30.63		

C12H10N2O5S	H3L	CAS 16432-90-9	(4955)
3,4-Dihydroxyazobenzene-4'-sulfonic acid; (HO)2.C6H3.N:N.C6H4.SO3H			

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	sp	oth/un	20°C	0.10M	U				1967NVa (80732)	323
								K(GaOH+2HL)=18.19		

C12H11NO2	L	CAS 49744-73-2	(1602)
3-Hydroxy-2-methyl-1-phenyl-4-pyridone; (O)(CH3)(OH).C5H2N-C6H5			

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	gl	NaCl	25°C	0.15M	C			K1=17.5 B2=28.8	1991ZRa (80822)	324
								B3=36.3		
								B3(eff)=30.3		

B3(eff) in 0.15M NaCl, pH 7.4

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
Ga+++	gl	KN03	25°C	0.10M	C			K1=9.19 B2=17.47	1988YSc (81811)	325

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
Ga+++	EMF	NaClO4	20°C	0.10M	U			K1=17.3	1967BAC (82457)	326
								K(GaL+H)=3.2		
								K(GaL+OH)=7.14		

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
Ga+++	sp	none	19°C	0.0	U		K1=22.35 K(Ga+HL)=14.55	1971CAe (82535)	327

Ga+++	EMF	NaClO4	20°C	0.10M	U		K1=21.0 K(GaL+H)=1.54 K(GaL+20H)=11.9	1967BAC (82536)	328
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C12H21N3O6 H3L NOTA (5589)

1,4,7-Triazacyclononane-N,N',N"-triethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	gl	KCl	25°C	0.10M	C		K1=30.98 *K(GaL)=-9.70	1991CMD (82734)	329

C12H22O12 HL Lactobionic acid CAS 96-82-2 (2487)

4-O-Beta-D-Galactopyranosyl-D-gluconic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	gl	NaNO3	25°C	0.10M	C		B(GaH-3L)=-8.95 B(GaH-4L)=-16.40	1995EOa (82930)	330

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
Ga+++	gl	R4N.X	25°C	0.05M	U		K1=12.8	1999BDb (83840)	331

Medium: Et4NClO4

C12H27N3O3 L (6685)

1,3,5-Trideoxy-1,3,5-tris(dimethylamino)-cis-inositol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	gl	KCl	25°C	0.10M	C		K1=16.74 B2=30.25	1995HKb (84071)	332

B(GaHL2)=34.57

Other models also considered., e.g. K1=16.62, B2=30.22, B(GaH-1L)12.53

C12H27N3S3 HL TACN-TM (6952)

1,4,7-Tris(2-mercaptoethyl)-1,4,7-triazacyclononane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	gl	KCl	25°C	0.10M	C		K1=34.2 B(GaHL)=43.8	1995Mwa (84099)	333

C13H9N3O7S3 H3L CAS 2172-27-2 (5007)

1-(2-Thiazolylazo)-2-naphthol-3,6-disulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
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Ga+++	sp	NaClO4	?	0.10M	U		K1=8.20	1972BZa (84651)	334

		C13H10N2O4	H3L				CAS 18924-02-2	(4012)	
2-Carboxy-3',4'-dihydroxyazobenzene; H00C.C6H4.N:N.C6H3(OH)2									

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

Ga+++	sp	oth/un	20°C	0.10M	U			1968OYa (84865)	335
							K(Ga(OH)2+H2L)=7.15		

		C13H11NO2	HL				CAS 304-88-1	(181)	
N-Phenylbenzohydroxamic acid; C6H5.CO.N(C6H5).OH									

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

Ga+++	gl	diox/w	25°C	50%	U		B2=19.42 B3=28.47	1972GDb (85151)	336
-------	----	--------	------	-----	---	--	----------------------	-----------------	-----

Medium: 50% dioxan, 0.25 M NaClO4

Ga+++	dis	oth/un	20°C	1.0M	U		K1=10.22 B2=20.21	1965AKb (85152)	337
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K3=9.83

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

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

Ga+++	sp	NaClO4	rt	0.10M	U			1971NOc (86728)	338
							K(Ga+2H2L)=11.6		

Ga+++	sp	oth/un	25°C	0.10M	U			1968BNa (86729)	339
							K(Ga+2HL)=9.57		

		C14H10O7S	H5L				CAS 30782-99-1	(5045)	
1,2,5,10-Tetrahydroxyanthracene-3-sulfonic acid (Leucoalizarin red S)									

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

Ga+++	sp	NaClO4	?	0.10M	U			1971NPb (86935)	340
							K(Ga+H3L)=9.0		
							K(Ga+H4L)=6.2		

		C14H16N2O5S	H2L				CAS 390426-77-4	(8803)	
1-n-Butyl-5-sulfo-8-hydroxyquinoline-7-carboxamide;									

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

Ga+++	sp	none	25°C	0.0	C		K1=11.6 B2=22.70	2001LAa (87906)	341
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B3=32.7

Method: spectrophotometric titration.

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

Ga+++ EMF KNO3 25♦C 0.10M C K1=24.38 1997DFa (88659) 342
K(GaL+H)=2.08
K[Ga(OH)L+H]=6.8

Ga+++ gl KNO3 35♦C 0.10M U K1=21.99 1980KHb (88660) 343

Ga+++ gl KNO3 25♦C 0.10M C K1=22.34 1976HMD (88661) 344
K(GaL+H)=2.7
K(GaL(OH)+H)=2.7

Ga+++ EMF NaClO4 20♦C 0.10M U K1=23.10 1967BAc (88662) 345
K(GaL+OH)=6.46

Ga+++ oth oth/un ? 0.10M U I K1=22.293 1966GJa (88663) 346
Method: amperometric titration. I=1.0, K1=21.753

Ga+++ ISE KNO3 20♦C 0.10M U K1=22.5 1966Mca (88664) 347
K(GaL+H)=2.43

Ga+++ dis NaClO4 20♦C 0.10M U B(GaL(OH))=35.6 1963STc (88665) 348

Medium: KClO4

Ga+++ vlt KNO3 20♦C 0.10M U K1=22.91 1954SGa (88666) 349

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

Ga+++ gl KCl 25♦C 1.00M U K1=8.56 1984MFb (88855) 350

C14H22N4O10 H4L DGENTA CAS 29725-86-8 (2371)

N,N-Diglycyldiaminoethane-tetraethanoic acid;(-CH2.HNCOCH2N(CH2COOH)2)2

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

Ga+++ gl KNO3 25♦C 0.10M C K1=13.26 1976HMD (88951) 351
K(GaL+H)=3.75

C14H23N3O8 H4L NODASA CAS 210217-93-9 (8716)

1,4,7-Triazacyclononane-1-succinic acid-4,7-diethanoic acid;

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

Ga+++ gl KNO3 37♦C 0.50M U K1=30.9 1998AMa (89009) 352

C14H23N3O10 H5L DTPA CAS 67-43-6 (238)
 Diethylenetriamine-pentaethanoic acid; $\text{HOOC} \cdot \text{CH}_2 \cdot \text{N}(\text{CH}_2 \cdot \text{CH}_2 \cdot \text{N}(\text{CH}_2 \cdot \text{COOH})_2)_2$

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	EMF	KNO3	25°C	0.10M	C			K1=25.11 K(GaL+H)=4.06 K[Ga(OH)L+H]=7.1 K(GaHL+H)=1.81	1997DFa (89248)	353
Ga+++	gl	KNO3	35°C	0.10M	U			K1=22.41	1980KHb (89249)	354
Ga+++	sp	NaClO4	20°C	0.1M	U			K1=26.19	1977KV a (89250)	355
Ga+++	gl	KNO3	25°C	0.10M	C			K1=23.32 K(GaL+H)=4.16 K(GaL(OH)+H)=7.51	1976HMD (89251)	356
Ga+++	sp	NaClO4	25°C	0.10M	U			K1=28.1	1973NKA (89252)	357
Ga+++	sp	oth/un	20°C	?	U			K1=26.84	1970CAB (89253)	358
Ga+++	EMF	NaClO4	20°C	0.10M	U			K1=25.54 K(GaL+H)=4.35 K(GaL+OH)=6.52	1967BAc (89254)	359
Ga+++	ISE	KNO3	20°C	0.10M	U			K1=23.0 K(GaL+H)=3.92	1966MCA (89255)	360

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	sp	oth/un	19°C	dil	U			K1=19.02	1971CAg (89866)	361

C14H25N3O7 H3L (5397)
 1-Oxa-4,7,10-triazacyclododecane-4,7,10-triethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	gl	KCl	25°C	0.10M	C			K1=21.3 K(GaL+H)=2.66 K(Ga(OH)L+H)=7.84	1993DSa (90084)	362

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
Ga+++	gl	R4N.X	25°C	0.10M	M			K1=13.96	1986COB (90190)	363

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
Ga+++	gl	R4N.X	25♦C	0.05M	U		K1=15.2	1999BDb (90366)	364
Medium: Et4NC104									

C14H28N2O4S2		H4L		CAS RH (7915)					
N,N'-Bis(2,2-dimethyl-2-mercaptoethyl)ethylenediamine-N,N'-diethanoic acid;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	gl	KN03	25♦C	0.10M	C		K1=41.0 K(Ga(OH)L+H)=11.4	1996SAb (90468)	365

C14H32N2O4		L		CAS 102-60-3 (2678)					
Tetra(2-hydroxypropyl)-N,N,N',N'-diaminoethane; (-CH2.N(CH2.CH(OH).CH3)2)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	gl	NaNO3	25♦C	0.10M	U		K1=7.94 K(GdL+OH)=9.32	1991DMb (90743)	366

C15H10N3OC1		HL		CAS 16195-35-0 (27)					
5-(4-Chlorophenylazo)-8-hydroxyquinoline; Cl.C6H4.N:N.C9H5N.OH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	sp	oth/un	25♦C	0.10M	U		B2=8.15	1978KIa (90947)	367

C15H10N3O5ClS		H3L		(7520)					
7-[(2-Hydroxy-5-chlorophenyl)azo]-8-hydroxyquinoline-5-sulfonic acid;C6H3Cl(OH)N=NC9H4N(OH)(SO3H)									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	sp	KN03	25♦C	0.10M	M		K1=33.92	1997PKb (90953)	368

Ga+++	sp	KN03	25♦C	0.10M	M		K1=18.13	1997PKb (90954)	369

C15H10O4		H2L		(5140)					
7,8-Dihydroxy-4-Phenyl-coumarin;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	sp	oth/un	?	0.10M	U		K(Ga+HL)=8.0 K(Ga(HL)+HL)=8.25	1973KSc (90990)	370

C15H10O10S		H5L		Quercetin S F		CAS 25001-18-7 (1520)			
3,5,7,3',4'-Pentahydroxy-5'-sulfoflavone; (HO)3(O)C9H2O.C6H2(SO3H)(OH)2									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	sp	NaClO4	20♦C	0.10M	U		K1=6.53	1989KOa (91033)	371

Ga+++ sp NaClO4 20°C 0.10M U 1976KTb (91034) 372
B(GaH4L)=9.46
B(Ga2H2L)=26.04

C15H11N3O HL PAN CAS 85-85-8 (572)

1-(2-Pyridylazo)-2-naphthol; C5H4N.N:N.C10H6.OH

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

Ga+++ vlt alc/w 25°C 50% U K1=15.14 1973TBa (91215) 373
Medium: 50% EtOH, 0.06 M (HClO4,NaClO4)

Ga+++ sp oth/un 25°C 0.10M U 1972BNb (91216) 374
K(GaOH+L)=15.17

C15H11N3O HL CAS 4312-09-8 (989)

5-Phenylazo-8-hydroxyquinoline; C6H5.N:N.C9H5N.OH

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

Ga+++ sp oth/un 25°C 0.10M U B2=9.43 1978KIa (91267) 375

C15H11N3O4S H2L 1-PAN-4S (7010)

2-(2-Pyridylazo)-1-naphthol-4-sulfonic acid;

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

Ga+++ sp KNO3 25°C 0.10M U K1=9.40 1980VHa (91324) 376

C15H11N3O5S H3L CAS 111248-75-0 (8411)

5-(2'-Hydroxy-5'-phenylazo)-8-quinolinol;

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

Ga+++ sp oth/un RT dil C 1985IBa (91341) 377
K1eff=4.98
B2eff=9.42
B3eff=13.57

Medium: Britton and Robinson buffer, pH 4.5

C15H16N4OBr2 HL CAS 14337-54-3 (993)

2-(3,5-Dibromo-2-pyridylazo)-5-diethylaminophenol;

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

Ga+++ sp oth/un ? ? U B2=6.18 1972GDc (91941) 378

C15H17N4OBr CAS 14357-53-2 (712)

2-(5-Bromo-2-pyridylazo)-5-diethylaminophenol; BrC5H3N.N:N.C6H3(OH)N(CH3)2

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

Ga+++ sp oth/un ? ? U B2=6.04 1972GDc (91981) 379

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*****
C15H17N4OCl          HL          CAS 26015-51-0 (5137)
2-(5-Chloro-2-pyridylazo)-5-diethyl-m-aminophenol;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      sp  oth/un  ?      ?  U          B2=5.98          1972GDc (91985) 380
*****
C15H18N4O          HL          CAS 14337-52-1 (5124)
5-Diethylamino-2-(2-pyridylazo)phenol;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      sp  oth/un  ?      0.10M U      B2=6.40          1972GDc (92096) 381
*****
C15H20N2O7          H4L      HBET          (6954)
N-(Hydroxobenzyl)diaminoethane-N,N',N'-triethanoic acid;
HO.C6H4.CH2.N(CH2COOH)CH2CH2.N(CH2COOH)2
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      gl  KCl      25°C 0.10M C      K1=24.67          1995MMA (92168) 382
                        B(GaHL)=29.89
                        B(GaH2L)=32.06
*****
C16H11N2O2Cl        H2L          CAS 3566-94-7 (3474)
1-(5-Chloro-2-hydroxyphenylazo)-2-hydroxynaphthalene;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      sp  alc/w  ?      40% U          1967NNb (92761) 383
                        K(GaOH+HL)=21.30
                        K(GaOH+2HL)=37.10
Medium: 40% EtOH, 0.1 M
*****
C16H11N5O12S2        H4L          CAS 3769-61-7 (5175)
2-(2-Hydroxy-3,5-dinitrophenylazo)-8-amino-1-naphthol-3,6-disulfonic acid;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      sp  oth/un  20°C 0.10M U          1968DYa (92904) 384
                        K(GaOH+H2L=Ga(OH)HL+H)=5.54
*****
C16H12N2O6S          H4L          CAS 16625-47-5 (5178)
1-(2,4-Dihydroxyphenylazo)-2-hydroxynaphthalene-4-sulfonic acid;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      sp  oth/un  25°C 0.10M U          1967NNA (93027) 385
                        K(Ga+HL)=16.92
                        K(GaOH+2HL)=16.90
*****
C16H12N2O8S2          H4L      Chromotrope 2R  CAS 4197-07-3 (2604)
2-(Benzeneazo)-chromotropic acid, Acid Red 29

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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++ 386	gl	NaClO4	25°C	0.10M	U		K1=20.20 B2=35.60	1975MPa	(93065)

C16H12N2O11S3 H5L CAS 548-81-2 (5180) 2-(4'-Sulfophenylazo)chromotropic acid, 2-(4-sulfophenylazo)-1,8-dihydroxyaphthalene-3,6-diHSO3									
Ga+++ 387	gl	NaClO4	25°C	0.10M	U		K1=14.17 B2=26.27	1975MPa	(93093)

C16H13N2O10AsS2 H5L Thorin I CAS 3688-92-4 (2609) 1-((2-Arsonophenyl)azo)-2-hydroxy-3,6-naphthalylidisulfonic acid;									
Ga+++ 388	sp	oth/un	25°C	?	U		K(?)=9.9	1968GSe	(93192)

C16H13N2O11AsS2 H6L Arsenazo I CAS 520-10-5 (277) 2-(2'-Arsonophenylazo)chromotropic acid;									
Ga+++ 389	sp	oth/un	25°C	0.0	U		K(Ga+H4L=GaH2L+2H)=5.7	1973JMa	(93254)

C16H28N4O8 H4L DOTA CAS 60239-18-1 (1017) 1,4,7,10-Tetraazacyclododecane-1,4,7,10-tetraethanoic acid;									
Ga+++ 390	EMF	KCl	25°C	0.10M	C		K1=21.33 K(GaL+H)=4.00	1991CMb	(94895)

C16H29N3O8 H3L (6699) 1,7-Dioxa-4,10,13-triazacyclopentadecane-N,N',N"-triethanoic acid;									
Ga+++ 391	gl	KCl	25°C	0.10M	C		K1=17.1 K(Ga(OH)L+H)=3.48	1993DSa	(94973)

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);									
Ga+++ 392	gl	R4N.X	25°C	0.05M	U		K1=14.9	1999BDb	(95207)
Medium: Et4NClO4									

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*****
C17H9NO2          L          (2610)
2,3-Pyridineanthraquinone;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      sp  non-aq 25°C 100% U          1979ZRb (95681) 393
                                   K(GaCl3+L)=5.23
Medium: benzene
*****
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
-----
Ga+++      dis non-aq 25°C 100% C   H          1998YSa (95882) 394
                                   K(Ga+3HL(org))=1.47
Method: solvent extraction into CCl4. DH=16.5 kJ mol-1,
DS=83.6 J K-1 mol-1. K: Ga+3HL(org)=GaL3(org)+3H.
*****
C17H24N4O6        H3L          (7349)
3,6,9,15-Tetraazabicyclo[9.3.1]pentadeca-1(15),11,13-triene-3,6,9-triethanoic
acid;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      gl  R4N.X 25°C 0.10M C          K1=19.37      1997DQa (96455) 395
                                   K(GaL+H)=2.7
                                   K(Ga2(OH)L2+H=2GaL)=3.2
Medium: Me4NN03
*****
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
-----
Ga+++      gl  KCl   25°C 0.10M C          K1=19.91      1991CMb (96649) 396
                                   K(GaL+H)=3.66
*****
C17H33N3O9        L          CAS 132259-53-1 (6558)
1,1,1-Tris((2-((N-methylhydroxyamino)carbonyl)ethoxy)methyl)ethane;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      gl  KCl   25°C 0.10M C          K1=25.58      1991MSa (96737) 397
                                   K(GaL+H)=2.56
                                   K(GaHL+H)=0.6
*****
C18H20N2O6        H4L          CAS 10328-28-6 (3501)
Ethylenedinitrilo-N,N'-bis(2'-hydroxyphenyl)-N,N'-diethanoic acid;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Ga+++      gl  KCl   25°C 0.10M C          K1=32.0       1993MMA (97401) 398

```

N, N'-Bis(2-pyridylmethyl)diaminoethane-N, N'-diethanoic acid:

7-Methyl-3, 7, 11, 17-tetraazabicyclo[11, 3, 1]heptadeca-1(17), 13, 15-triene-3, 11-d

Medium: NMe₄NO₃

Triethylenetetraaminehexanoic acid: $((\text{HOOC}-\text{CH}_2)_2\text{N}-\text{CH}_2-\text{CH}_2-\text{N}(\text{CH}_2-\text{COOH})-\text{CH}_2)$

1 0 0 1

Medium: $\text{N}(\text{CH}_3)_4\text{NO}_3$ $\text{K}(\text{Ga}_2\text{I}(\text{OH})_2+2\text{H})=3.25$

$$K(GaI+Ga)=-15.18 \quad K(Ga2I+H)=-1.19 \quad *K(Ga2I)=-3.72 \quad *K(Ga2H-1I)=-4.42$$
$$K(\text{GaI} + \text{Ca}) = 2.39 \quad K(\text{GaCaI} + \text{H}) = 4.1 \quad K(\text{GaCaHI} + \text{H}) = 4.6 \quad *K(\text{GaCaI}) = -5.20$$

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

```

-----
Ga+++      EMF  KNO3   25°C 0.10M C      K1=27.75      1997DFa (98036) 405
                                         K(GaL+H)=4.8
                                         K(GaL+Ga)=12.40
                                         K(GaHL+H)=3.9
                                         K[Ga2(OH)L+H]=3.25

```

K[Ga2(OH)2L+2H]=7.46
K[Ga(OH)L+H]=9.43

```

-----
Ga+++      gl  KNO3   35°C 0.10M U      K1=23.60      1980KHb (98037) 406
-----

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```

Ga+++      gl  KNO3   25°C 0.10M U      K1=28.21      1980MMd (98038) 407
                                         K(GaL+H)=5.30
                                         K(GaHL+H)=3.96
                                         K(GaH2L+H)=2.56
                                         *K(GaL)=-9.64
-----

```

```

Ga+++      gl  KNO3   25°C 0.10M C      1976HMD (98039) 408
                                         K(GaL+H)=5.6
                                         K(GaHL+H)=3.62
                                         K(GaH2L+H)=2.58
-----

```

```

Ga+++      gl  KNO3   25°C 0.10M U      K1=15.1       1969YMa (98040) 409
                                         K(GaL+H)=4.52
                                         K(GaHL+H)=3.54
                                         K(GaH2L+H)=2.29
                                         B(Ga2L)=25.1
-----

```

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
-----

```

```

Ga+++      gl  KCl    25°C 0.10M C      K1=19.74      1991CMb (98203) 410
                                         K(GaL+H)=3.65
-----

```

C18H32N4O9 H4L CAS 189282-31-3 (8974)
4,7,10,13-Tetrakis-(carboxymethyl)-1-oxa-4,7,10,13-tetraazacyclopentadecane;

```

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

```

```

Ga+++      gl  R4N.X  25°C 0.10M C      K1=19.98      1999CDb (98257) 411
                                         K(GaL+H)=2.85
                                         K(GaL+Ga)=4.85
-----

```

Medium: 0.10 M NMe4NO3.

C18H33N3O9 H3L (6700)
1,7,13-Trioxa-4,10,16-triazacyclooctadecane-N,N',N''-triethanoic acid;

```

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

```

```

Ga+++      gl  KCl    25°C 0.10M C      K1=19.2       1993DSa (98297) 412
-----

```

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
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Ga+++	gl	R4N.X	25°C	0.05M	U			K1=13.7	1999BDb (98575)	413
-------	----	-------	------	-------	---	--	--	---------	-----------------	-----

Medium: Et4NClO4

C19H12O8S H4L Pyrogallol red CAS 85531-30-2 (638)
Pyrogallolsulfonephthalein;

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

Ga+++	sp	oth/un	25°C	?	U			K(?)=4.9	1968GSa (98999)	414
-------	----	--------	------	---	---	--	--	----------	-----------------	-----

C19H14O7S 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
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Ga+++	gl	NaClO4	25°C	0.10M	U			K(Ga+H3L=GaH2L+H)=2.00 K(2Ga+H3L=Ga2L+3H)=0.74	1979CSa (99107)	415
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Ga+++	dis	NaCl	?	0.10M	U	M		K(Ga+2H2L)=17.05 K(Ga+3HA+3H2L)=25.74	1971AGb (99108)	416
-------	-----	------	---	-------	---	---	--	--	-----------------	-----

A=diphenylguanidine. Ligand: Pyrocatechol sulfophthalein

C19H28N4O6 H3L CAS 106967-44-6 (8973)
3,7,11-Tris(carboxymethyl)-3,7,11,17-tetraazabicyclo[11.3.1]heptadeca-1(17),13,
15-triene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	gl	R4N.X	25°C	0.10M	C			K1=20.10	1998CDa (99408)	417
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Medium: 0.10 M Me4NNO3.

C20H13N3O7S H3L Eriochrome B1 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
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Ga+++	sp	oth/un	20°C	0.10M	U			K(Ga+3HL)=23.0	1980PKa (99564)	418
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Medium: Na2SO4

Ga+++	gl	NaClO4	25°C	0.10M	U			K1=14.90 B2=28.60	1975MPa (99565)	419
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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
Ga+++ 420	gl	NaClO4	25°C	0.10M	U		K1=18.40	B2=31.20	1975MPa	(99649)

C20H14N2O5S H3L EriochrBluBlk R CAS 2538-85-4 (3508)

3-Hydroxy-4-(2-hydroxy-1-naphthylazo)naphthalene-1-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	sp	oth/un	?	0.0	U	B2=12.4	1969JMa	(99689)	421
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Ga+++ sp oth/un ? 0.10M U 1967NNb (99690) 422

$$K(\text{GaOH}+\text{HL})=24.75$$
$$K(\text{GaOH} + 2\text{HL}) = 42.50$$

C20H24N2O6 H4L HBED CAS 3625-89-6 (2208)

N,N'-Di-(2-hydroxybenzyl)-diaminoethane-N,N'-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++ g1 KCl 25°C 0.10M U K1=38.51 1994MMe (99996) 423

$$K(\text{GaL}+\text{H})=2.30$$

Ga+++ sp KCl 25°C 0.10M M K1=39.57 1990MMa (99997) 424

Ga+++ gl KN03 25C 0.10M C K1=39.57 1976Hmd (99998) 425

C20H24N2O12S2 H6L CAS 3625-85-3 (5755)

N,N'-Bis(2-hydroxy-5-sulfonylbenzyl)-diaminoethane-N,N'-diethanoic acid;

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

Ga+++ sp KCl 25°C 0.10M M K1=37.4 1990MMa (100030) 426

$$K(\text{GaL}+\text{H})=1.18$$

Ga+++ gl KCl 25°C 0.10M C K1=37.47 1989MSc (100031) 427

$$K(\text{GaL}+\text{H})=1.18$$

Ga+++ gl KCl 25°C 0.10M C K1=37.95 1984Tmb (100032) 428

$$K(\text{GaL}+\text{H})=2.62$$

C20H26N4O6 H4L ENDA-HP (6746)

N,N'-Bis(3-hydroxy-6-methyl-2-pyridylmethyl)diaminoethane-N,N'-diethanoic acid;

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

Ga+++ sp KCl 25°C 0.10M C K1=29.18 1992MSa (100330) 429

$$K(\text{GaL}+\text{H})=5.94$$
$$K(\text{GaHL}+\text{H})=4.85$$

C20H30N2O8P2 H4L CAS 112827-88-0 (8105)

N,N'-Bis(2-hydroxybenzyl)diaminoethane-N,N'-bis(methylenephosphonic acid

monomethyl ester);

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

Ga+++	gl	KCl	25°C	0.10M	C			K1=28.03 K(GaOHL+H)=6.51	1984Tmd (100414)	430
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C20H30N4O8S2		H2L						CAS 173102-22-2	(3839)	
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1,10-Bis(2-hydroxy-5-sulfonylphenyl)-1,4,7,10-tetraazadecane;
(C6H3(OH)(HSO3)CH2NHCH2CH2NHCH2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	gl	NaCl	25°C	0.16M	C			K1=28.33	1996WCa (100425)	431
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C20H39N3O9		L						CAS 132234-45-8	(6559)	
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1,1,1-Tris((3-(hydroxy(methylcarbonyl)amino)propoxy)methyl)ethane;

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

Ga+++	gl	KCl	25°C	0.10M	C			K1=27.29 K(GaL+H)=2.32 K(GaHL+H)=1.6	1991MSa (100762)	432
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C21H21NO3		L						CAS 6393-39-1	(7647)	
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Tris(2-hydroxybenzyl)amine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	gl	alc/w	25°C	70%	C			K1=32.32 K(GaL+H)=6.50	1998MMA (101160)	433
-------	----	-------	------	-----	---	--	--	---------------------------	------------------	-----

Medium: 70% (v/v) EtOH/H2O, 0.1 M KCl.

C21H21NS3		L						CAS 215432-65-8	(7646)	
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Tris(2-mercaptobenzyl)amine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	gl	alc/w	25°C	70%	C			K1=20.5 K(GaL+H)=2.0	1998MMA (101162)	434
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Medium: 70% (v/v) EtOH/H2O, 0.1 M KCl.

C21H25N3O7		H4L						(6563)		
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N-(2-Hydroxybenzyl)-N'-(pyridoxyl)ethylenediamine-N,N'-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	sp	KCl	25°C	0.10M	C			K1=31.0 K(GaL+H)=6.88 K(GaHL+H)=3.63	1991MSb (101273)	435
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C22H14O9		H5L						CAS 4431-00-9	(3513)	
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Aurintricarboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	sp	oth/un	?	?	U				1971PKc (101499)	436

K(Ga+H4L)=14.75

K(Ga+2HL+20H=GaL2)=23.18

C22H26N4O8 H4L (5526)

N,N'-Dipyridoxylethylenediamine-N,N'-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	sp	KCl	25°C	0.10M	M			K1=32.31	1990MMa (101955)	437

K(GaL+H)=7.10

K(GaHL+H)=6.22

Ga+++	gl	KCl	25°C	0.10M	C			K1=32.31	1989MSc (101956)	438
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K(GaL+H)=7.10

K(GaHL+H)=6.2

Ga+++	nmr	none	15°C	0.0	U			K1=36.31	1985TMa (101957)	439
-------	-----	------	------	-----	---	--	--	----------	------------------	-----

K(GaL+H)=7.31

K(GaHL+H)=6.38

Ga+++	gl	KCl	25°C	0.10M	C			K1=36.35	1984TMb (101958)	440
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K(GaL+H)=7.31

K(GaHL+H)=6.38

C22H31N5O6 H2L CAS 813432-03-0 (9200)

Imino-bis(acetyl(1-(3'-aminopropyl)-3-hydroxy-2-methyl-4-pyridinone);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	gl	KNO3	25°C	0.10M	C			K1=24.30	2004SGc (102192)	442

B(GaHL)=28.83

B(GaH3L)=33.21

B(Ga2L3)=68.44

B(Ga2HL3)=74.64

C22H34N2O8P2 H4L CAS 92278-41-6 (8106)

N,N'-Bis(2-hydroxybenzyl)diaminoethane-N,N'-bis(methylenephosphonic acid

monoethyl ester);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	gl	KCl	25°C	0.10M	C			K1=27.98	1984TMD (102217)	443

K(GaOHL+H)=6.46

C22H34N4O8S2 H2L CAS 173102-23-3 (3949)

1,12-Bis(2-hydroxy-5-sulphophenyl)-1,5,8,12-tetraazadodecane;

(C6H3(OH)(HSO3)CH2NHC3H6NHCH2)2

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

Ga+++	gl	NaCl	25°C	0.16M	C			K1=28.27	1996WCa (102225)	444
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C22H37N5O14		H7L						CAS 3234-59-1	(2425)	
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Tetraethylenepentamineheptaethanoic acid;

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

Ga+++	gl	KNO3	25°C	0.10M	U			K1=28.16	1980MMd (102325)	445
-------	----	------	------	-------	---	--	--	----------	------------------	-----

K(GaL+H)=7.87

K(GaHL+H)=4.90

K(GaH2L+H)=3.70

K(GaH3L+H)=2.50

*K(GaL)=-9.77.

C22H41N5O8		H3L						CAS 189687-33-0	(7103)	
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Diethylenetriamine-N,N',N''-triethanoic acid-N,N''-bis(butylamide);

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

Ga+++	gl	KNO3	25°C	0.10M	C			K1=18.18	1995GDa (102387)	446
-------	----	------	------	-------	---	--	--	----------	------------------	-----

K(GaL+H)=3.20

*K(GaL)=-4.57

C23H16O9Cl2S		H4L						CAS 1667-99-8	(711)	
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Chromazurol S;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	sp	oth/un	?	?	U			K1=6.28	1969ASa (102557)	447
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Ga+++	sp	oth/un	25°C	?	U				1966DMc (102558)	448
-------	----	--------	------	---	---	--	--	--	------------------	-----

K1eff=4.5 (pH 4.0)

C23H30N2O6		H4L						CAS 132750-98-2	(6543)	
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N,N'-Trimethylenebis(2-(2-hydroxy-3,5-dimethylphenyl)glycine);

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

Ga+++	sp	KCl	25°C	0.10M	C			K1=32.46	1991BMa (102756)	449
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K(GaL+H)=3.91

For racemic ligand. For meso form: K1=33.96, K(GaL+H)=3.70

C24H29N3O12S3		H6L						(7355)		
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1,2,3-Tris((2-hydroxy-5-sulfobenzyl)amino)propane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++	gl	NaCl	25°C	0.16M	C			K1=31.54	1997COa (103015)	450
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C24H31N3O8		H3L						CAS 35369-55-2	(6972)	
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N,N''-Bis(2-hydroxybenzyl)-2,5,8-triazanonane-N,N',N''-triethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	gl	KCl	25°C	0.10M	C			K1=26.11 K(GaL+H)=10.41 K(GaHL+H)=7.99 K(GaH2L+H)=5.58	1994MMf (103057)	451

C24H32N2O6 H3L Me4-HBED (6507)

N,N'-Bis(2-hydroxy-3,5-dimethylbenzyl)ethylenediamine-N,N'-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	sp	KCl	25°C	0.10M	M			K1=34.19	1990MMa (103062)	452

C24H33N5O8 H5L (6747)

N,N''-Bis(3-hydroxy-6-methyl-2-pyridylmethyl)diethylenetriamine-N,N'.N''-triethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	sp	KCl	25°C	0.10M	C			K1=31.02 K(GaL+H)=7.08 K(GaHL+H)=5.65 K(GaH2L+H)=4.52 K(GaH3L+H)=2.27	1992MSa (103203)	453

*K(GaL)=-9.77

C24H34N2O5 H3L (6509)

N,N'-Bis(2-hydroxy-3,5-dimethylbenzyl)-N-(2-hydroxyethyl)-diaminoethane-N'-ethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	sp	KCl	25°C	0.10M	M			K1=30.50 K(Ga(OH)L+H=GaL+H2O)=6.71	1990MMa (103214)	454

C24H34N3O6 H3L CAS 134627-54-6 (6564)

N-(2-Hydroxy-3,5-dimethylbenzyl)-N'-((3-hydroxy-1,2,5-trimethyl-4-pyridinyl)methyl)EDDA;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	sp	KCl	25°C	0.10M	C			K1=31.85	1991MSb (103218)	455

C24H36N4O8 H2L CAS 134653-17-1 (6565)

N,N'-Bis(1,2-dimethyl-3-hydroxy-5-hydroxymethyl)-4-pyridinyl)-methyl)diaminoethanedithanoic acid

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	sp	KCl	25°C	0.10M	C			K1=27.3	1991MSb (103270)	456

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
Ga+++	gl	KCl	25°C	1.00M	C			K(Ga+HL)=27.56 K(GaHL+H)=1.10 K(GaH2L+H)=0.78 K(GaL+H)=10.14	1989BHa (103815)	457

Ga+++	gl	KCl	25°C 0.10M C	K1=28.65	1989EHa (103816) 458
				K(Ga+HL)=28.17	
				K(GaL+H)=10.31	

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
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Ga+++ gl NaCl 25°C 0.16M C K1=31.83 1997C0a (104062) 459

C26H34N6O8 H4L CAS 132709-65-0 (8941)
3,6,14,17,23,24-Hexaazatricyclotetracos-1,8,10,12,19,21-hexaene-3,6,14,17-tetr
aacetic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++ gl KCl 25°C 0.10M M K1=ca. 20 1996MBb (104093) 460

C26H38N6 L CAS 180684-75-7 (7295)
1,8,14,17,24,31-Hexaazatricyclo[25.3.1.1.0.0]dotriaconta-10,12,14,26,28,

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++ g1 KNO3 25°C 0.20M C K1=14.9 1996FJa (104204) 461

C26H48N6O10 H4L CAS 207388-25-8 (7648)
Triethylenetetramine-N,N,N',N'',N''',N'''-hexaethanoic acid NN-bis(butanamide);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++ gl R4N.X 25C 0.10M C K1=21.57 1998ACc (104306) 462

$$\begin{aligned} K(\text{GaL}+\text{H}) &= 3.95 \\ K(\text{GaHL}+\text{H}) &= 2.87 \\ K(\text{GaL}(\text{OH})+\text{H}) &= 7.18 \\ K(\text{GaL}+\text{Ga}) &= 6.6 \end{aligned}$$

Medium: $\text{N}(\text{CH}_3)_4\text{NO}_3$. $\text{K}(\text{Ga}_2\text{L}(\text{OH})+\text{H})=2.84$, $\text{K}(\text{Ga}_2\text{L}(\text{OH})_2+2\text{H})=6.61$.

C27H29N011	L	Adriamycin	CAS 25316-40-9	(2407)
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Doxorubicin;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++ sp KNO3 25°C 0.10M C 1990Y0a (104458) 463
K(Ga+H2L)=8.09

C27H36N4O12S3 H6L (7353)

Tris(((2-hydroxy-5-sulfobenzyl)amino)ethyl)amine;

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

Ga+++ gl NaCl 25°C 0.16M C K1=28.55 1997C0a (104562) 464

C27H36N6O3 H3L TACN-HP (6748)

N,N',N''-Tris(3-hydroxy-6-methyl-2-pyridylmethyl)-1,4,7-triazacyclononane;

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

Ga+++ sp KCl 25°C 0.10M C K1=45.6 1992MSa (104573) 465

K(GaL+H)=5.85

K(GaHL+H)=5.42

K(GaH2L+H)=4.14

K(Ga+H3L)=19.84

*K(GaL)=-10.14

C28H30N4O8S2 H2L CAS 173102-11-9 (4197)

N,N'-Bis(2-hydroxy-5-sulfophenyl)-N,N'-bis(methylpyridyl)diaminoethane;

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

Ga+++ gl NaCl 25°C 0.16M C K1=35.33 1996WCa (104736) 466

C28H31N3O18S3 H9L 3,4-LICAMS CAS 71659-79-5 (5469)

N,N',N''-Tris(2,3-dihydroxy-5-sulfonatobenzoyl)-1,5,10-triazadecane;

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

Ga+++ sp KCl 25°C 0.10M U K1=41.1 1991LRb (104744) 467

B(GaHL)=46.9

B(GaH2L)=52.6

B(GaH3L)=55.6

Ga+++ gl KNO3 25°C 0.10M U K1=38.5 1982PWa (104745) 468

K(Ga+H3L=GaL+3H)=3.6

K(GaL+2H)=10.2

C28H51N3O12 L CAS 123074-29-3 (6560)

7,19,30-Trihydroxy-1,13-dimethyl-3,11,15,23,26,34-hexaoxa-7,19,30-triazabicyclo
pentatricosatatrien

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

Ga+++ gl KCl 25°C 0.10M C K1=27.48 1991MSa (104982) 469

K(GaL+H)=6

C29H41N5O4 H2L CAS 357333-44-9 (7996)

Bis-(piperazinyl-4-(4-carboxybenzyl)ethyl)methylamine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	gl	NaCl	25°C	0.15M	C		K1=15.5 K(GaL+H)=4.5 K(GaL+OH)=6.8	2001BFa (105144)	470

Additional method: 1H and 13C NMR spectroscopy.

C30H27N3O15 H6L Enterobactin CAS 28384-96-5 (2259)
Enterobactin; cyclo-((OH)C6H3(OH).CO.NH.CH.CO.CH2)3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	sp	KCl	25°C	0.10M	C		K(GaL+H)=4.53 K(GaHL+H)=3.71 K(GaH2L+H)=2.5	1991LRa (105194)	471

C30H27N3O18S3 H9L TRIMCAMS CAS 77069-63-7 (5468)
1,3,5-Tris(2,3-dihydroxy-5-sulfobenzoyl)carbamido)benzene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	sp	KCl	25°C	0.10M	U		K1=41.0 B(GaHL)=46.93 B(GaH2L)=51.93 B(GaH3L)=54.33	1991LRb (105205)	472

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	gl	KNO3	25°C	0.10M	U		K1=38 K(Ga+H3L=GaL+3H)=3.5 K(GaL+H)=5.7 K(GaHL+H)=4.9	1982PWa (105206)	473

C30H44N2O6 H3L (6508)
N,N'-Bis(2-hydroxy-3-methyl-5-tert-butylbenzyl)diaminoethane-N,N'-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	sp	KCl	25°C	0.10M	M		K1=36.30	1990MMa (105315)	474

C30H45N4O6P3 H3L CAS 182250-11-9 (8686)
Tris(4-(phenylphosphinato)-3-methyl-3-azabutyl)amine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ga+++	nmr	NaCl	25°C	0.16M	C		K(Ga+2H3L)=4.24	1996LRc (105322)	475

Method: 71Ga nmr. Medium pH 1.5.

C31H32N2O13S H6L Xylenol orange CAS 63721-85-5 (432)
5,5'-Bis-N,N-bis(carboxymethyl)aminomethyl-4'-hydroxy-3,3'-dimethylfuchsone-2"-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	sp	oth/un	?	?	U			K(Ga+H2L)=15.2	1969ASc (105466)	476
Ga+++	sp	NaClO4	20°C	0.10M	U			K(Ga+H4L)=9.37 K(Ga2(H2L)2+2H2L)=12.49	1969NNb (105467)	477
Ga+++	sp	NaCl	20°C	0.20M	U			K(Ga+H2L)=13.36	1967KUc (105468)	478
Ga+++	sp	oth/un	25°C	?	U			K(?)=4.8	1966DMd (105469)	479
Ga+++	sp	oth/un	?	0.01M	U			K(Ga+H5L)=7.0 K(GaH5L+H5L)=4.5	1966DPb (105470)	480

C33H33N3O18S3 H9L CAS 78261-77-5 (2945)
1,3,5-Tris(N-methyl-N-(2,3-dihydroxysulfo benzoyl)aminomethyl)benzene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	sp	KCl	25°C	0.10M	U			K1=39.1 B(GaHL)=45.91 B(GaH2L)=52.25 B(GaH3L)=55.25	1991LRb (105878)	481

C33H45N3O3 H3L (6764)
N,N',N''-Tris(3,5-dimethyl-2-hydroxybenzyl)-1,4,7-triazacyclononane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	sp	alc/w	25°C	75%	U			K1=44.2	1991CMc (105957)	482

Medium: 75% v/v EtOH/H2O

C34H43N3O18S3 H9L DiP-3,4-LICAMS CAS 96649-34-2 (5595)
Diisopropyl-N,N',N''-tris(5-sulfonato-2,3-dihydroxybenzoyl)-1,5,10-triazadecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	sp	KCl	25°C	0.10M	U			K1=36.6 B(GaHL)=42.94 B(GaH2L)=49.27 B(GaH3L)=53.57	1991LRb (106065)	483

Ga+++	gl	KCl	25°C	0.10M	C			K1=36 K(GaL+2H)=12.1	1985KPb (106066)	484
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C36H33N7O15S3 H6L O-TRENTOX CAS 169209-69-2 (7370)
Tris-N-(2-aminoethyl)-(8-hydroxyquinoline-5-sulphonato-7-carboxamido)amine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
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Ga+++ sp none 25°C 0.0 C 2001LAa (106242) 485

B(GaHL)=33.7
B(Ga2HL)=40.5
B(Ga3HL)=44.7

Method: spectrophotometric titration.

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

Ga+++ sp oth/un 25°C 0.10M C 1997ASa (106598) 486

K1eff=4.85
K2eff=4.72

Medium: 0.10 M acetate buffer, pH 5.0.

Ga+++ sp oth/un 25°C dil U 1969Kba (106599) 487

B(GaH3L)=40.38
K(Ga+H3L)=11.43
K(GaH3L+H5L)=4.88

Ga+++ sp NaClO4 22°C 1.0M U 1967LMg (106600) 488

K(2Ga+2H4L=GaH3L+GaH4L+H)=4.35(?),
K(2Ga+4H4L=Ga(H3L)2+Ga(H4L)2+2H)=7.58(?)

C39H45N3O18S3 H9L TiP-MECAMS CAS 96649-36-4 (5599)
Triisopropyl-tris(5-sulfonato-2,3-dihydroxybenzoyl)-1,3,5-tris(aminoethyl)benzene;

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

Ga+++ gl KCl 25°C 0.10M C K1=35 1985KPb (106715) 489

K(GaL+H)=7.20
K(GaHL+H)=5.8
K(GaH2L+H)=3.1

C40H47N3O10 H7L CAS 86728-01-0 (5503)
Bis(3-(((2-hydroxy-5-methylbenzyl)amino)methyl)-2-hydroxy-5-methylbenzyl)amine-triethanoic acid

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

Ga+++ gl oth/un 25°C 0.10M U K1=19.20 1983YMa (106787) 490

K(GaH-1L+H)=5.01
K(GaH-2L+H)=7.48
K(GaH-3L+H)=9.60

C40H51N3O18S3 H9L DC-3,4-LICAMS CAS 96649-27-2 (5598)
Dicyclohexyl-N,N''-tris(5-sulfonato-2,3-dihydroxybenzoyl)-1,5,10-triazadecane;

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

Ga+++ gl KCl 25°C 0.10M C K1=35 1985KPb (106819) 491

$$K(\text{GaL}+2\text{H})=12.0$$

C41H67N7O4 L CAS 357333-45-0 (8036)
9-Methyl-3,6,9,12,15,22,31-heptaaza-25,28,38,41-tetraoxahexacyclohepta-tetracon
tahexaene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	gl	NaCl	25°C	0.15M	C			K1=13.8 K(GaL+H)=6.0 K(GdL+2H)=12.5 K(GdL+OH)=7.1	2001BFa (106903)	492

Polymer HL Bleomycin (2324)
Bleomycin A2, B2 etc.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	sp	oth/un	25°C	?	U			K1eff=4.7 (pH 7) pH 7.0. Using an ISE, K1eff=4.82. Data also for other bleomycins.	1980LPa (108088)	493

Polymer L (3532)
Human transferrin;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	sp	KN03	25°C	0.10M	C			Keff(Ga+HCO3L)=19.75 Keff(Ga+GaHCO3L)=18.80 Keff(Ga+L)=6.9	1994HCa (108212)	494

At pH 7.4 in 0.1M N-(2-hydroxyethyl)piperazine-N'-2-ethanesulfonic acid,
(HEPES) and 5mM HCO3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Ga+++	sp	oth/un	25°C	0.10M	U			K1eff=20.3 K2eff=19.3	1983HPb (108213)	495

Medium: 0.1 M Tris buffer, pH 7.4; 0.027 M HCO3-. By competition with the
Ga-NTA and Ga-EDDA complexes.

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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 Experiments recorded for

from SC-Database on Saturday, 01 January, 2000 at 00:21:15