SC-Database
Software version = 5.81 Data version = 4.62
Experiment list contains 558 experiments for
 (no ligands specified)
 2 metals : Sn++, Sn++++
 (no references specified)
 (no experimental details specified)

****

e- HL Electron (442)

Electron;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++	oth	oth/un	25°C	0.0	M		2001SPa (937)		1
							K(Sn+2e=Sn(s))=-4.60 (-136 mV)		
Calculated from literature data. K(SnOH+H+2e=Sn(s)+H2O)=-0.81 (-24 mV); K(Sn(OH)3+3H+2e=Sn(s)+3H2O)=12.89 (381 mV).									
Sn++	oth	oth/un	25°C	0.0	M		2001SPa (938)		2
Calculated from literature data. K(SnO(s)+2H+2e=Sn(s)+H2O)=-2.60 (-77 mV); K(Sn(OH)2+2H+2e=Sn(s)+H2O)=3.28 (97 mV).									
Sn++	oth	none	25°C	0.0	U		1952LAb (939)		3
							K(Sn+2e=Sn(s))=-4.60(-136 mV)		
Sn++	EMF	none	25°C	0.0	U		1938HWa (940)		4
							K(Sn+2e=Sn(s))=-4.76(-140.6mV)		

****

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

Bromide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++	ISE	non-aq	25°C	100%	U		K1=5.00 B2=9.20 B3=13.34	1987GSa (2310)	5
Medium: dimethylacetamide									
Sn++	vlt	NaNO3	25°C	1.00M	U		K1=0.60 B2=1.13	1981PMa (2311)	6
Sn++	con	NaClO4	25°C	1.00M	U		K1=0.95 B2=1.24 B3=1.38	1976SLa (2312)	7
Sn++	gl	NaClO4	25°C	0.50M	U	M	K1=1.58 B2=2.14 B3=1.36 B4=0.00 B(SnClBr)=3.31	1975FBc (2313)	8
Sn++	ISE	non-aq	25°C	100%	U		K1=2.15 B2=3.26 B3=4.79	1973SLb (2314)	9

Medium: DMSO, 1 M (Li,Na)ClO4. Using graphical methods: K1=2.23, B2=3.30, B3=4.78. Method: SnHg electrode

---

Sn++ ISE NaClO4 25°C 8.0M U I K1=1.60 B2=2.74 1969FBb (2315) 10
B3=3.74
B4=3.30
B5=2.40
B6=2.28
K1=0.74,B2=0.90(I=1);K1=0.78,B2=1.17,B3=1.09,B4=0.40(I=3);K1=0.85,B2=1.43, B3=1.48,B4=1.00(I=4); At I=0:K1=1.21,B2=1.74,B3=0.72,B4=-0.5. SnHg electrode

---

Sn++ sol oth/un 25°C 4.0M U K1=0.90 B2=1.73 1962HAa (2316) 11
K3=0.40
K4=-0.47
K5=0.32
Medium: H2SO4

Sn++ EMF NaClO4 25°C 3.0M U T H K1=0.73 B2=1.14 1952VAa (2317) 12
K3=0.20
K(SnOH+L)=0.70
Method: Sn/Hg elec. 0 C: K1=0.63,K2=0.32,K3=0.24; 35 C: K1=0.76,K2=0.43,K3= 0.19; 45 C: 0.79,0.48,0.19. DH(K1)=5.8 kJ mol-1,DH(K2)=5.7,DH(K3)=-1.5

Sn++ kin NaClO4 25°C 2.0M U K1=0.43 1951DPa (2318) 13
Medium: HClO4

Sn++ ISE none 25°C 0.0 U K1=1.11 B2=1.81 1928PRa (2319) 14
K3=-0.35

****

C2N3- HL Dicyanamide CAS 504-66-5 (2917)
Dicyanamide; (NC.N.CN)-

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

---

Sn++ ISE non-aq 25°C 100% U K1=2.08 B2=4.16 1987GSa (3473) 15
B3=6.21
B4=8.34
Medium: dimethylacetamide

****

C4N3- HL CAS 454-50-2 (2918)
Tricyanomethanide; (C(CN)3)-

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

---

Sn++ ISE NaClO4 25°C 100% U K1=1.90 B2=3.66 1987GSa (3480) 16
B3=5.87
B4=7.92
Medium: dimethylacetamide

****

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

Chloride;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Sn++	sp	NaCl	25°C	0.0	C	TIH	K1=1.42 B3=2.33 B4=2.03	B2= 2.18	2001MSd (5713)	17
Calc'd from data for 0.01-2.94 m NaCl (0.01 m HCl). Data for 50-300 C. DH(K1)=0.10 kJ mol-1, DS=28 J K-1 mol-1; DH(B2)=0.91, DS=18; DH(B3)=-5.00										
Sn++	oth	oth/un	25°C	0.0	M		K1=1.54 B3=1.97	B2= 2.30	2001SPa (5714)	18
Application of SIT theory to literature data.										
Sn++	vlt	mixed	25°C	65%	U	I	K1=1.11 B3=1.47	B2=1.72	1990BMb (5715)	19
In HF solution. HF=56%:B1=0.65, B2=1.38, B3=1.08; HF=47%, B1=0.67, B2=0.32 B3=0.0										
Sn++	EMF	NaClO4	25°C	3.0M	C		K1=1.202 B3=2.369 B4=1.968	B2= 1.29	1989BZa (5716)	20
Method: Sn electrode.										
Sn++	ISE	non-aq	25°C	100%	U		K1=6.04 B3=16.63 B4=18.95	B2=11.82	1987GSa (5717)	21
Medium: dimethylacetamide										
Sn++	vlt	NaNO3	25°C	1.00M	U		K1=0.73	B2=1.08	1981PMa (5718)	22
Sn++	gl	NaClO4	25°C	3.00M	U	M	K1=1.18 B3=1.65 B(SnCl(SCN))=1.87 B(SnCl2(SCN))=2.18 B(SnCl(SCN)2)=1.91	B2=1.78	1980FBa (5719)	23
Sn++	con	NaClO4	25°C	1.00M	U		K1=1.08	B2=1.85	1976SLa (5720)	24
Sn++	cal	oth/un	25°C	0.5M	C	IH	K1=1.0 K(SnL+L)=1.47 K(SnL2+L)=0.44		1976VKc (5721)	25
In 0.5 M HClO4; DH1=+7.9 kJ/mol; For 3.0 M HClO4: K1=1.16; K2=1.79; K3=1.66										
Sn++	gl	NaClO4	25°C	0.50M	U	M	K1=1.87 B3=1.93 B(SnCl2Br)=2.11 B(SnClBr2)=1.39	B2=2.38	1975FBc (5722)	26

```
Sn++       kin alc/w  25°C 100%  U                        1974CJa  (5723)  27
                                      K3=0.95
Medium: CH3OH, 0.005 M LiClO4
-------------------------------------------------------------------------------
Sn++       ISE non-aq 25°C 100%  U        K1=4.00   B2=6.20   1973SLb  (5724)  28
                                      B3=8.78
                                      B4=10.04
Medium: DMSO, 1 M LiClO4. Using least squares: B3=9.0, B4=10.0. SnHg elect.
-------------------------------------------------------------------------------
Sn++       con non-aq 25°C 100%  U        K2=5.92        1971TKb  (5725)  29
                                      K3=2.56
Medium:MeCN
-------------------------------------------------------------------------------
Sn++       oth oth/un 25°C  var  U        K1=1.05   B2=1.71   1969CAa  (5726)  30
                                      K3=-0.02
Medium: HCl. Method: electrophoresis
-------------------------------------------------------------------------------
Sn++       sol oth/un 25°C  4.0M U        K1=1.45   B2=2.35   1962HZa  (5727)  31
                                      K3=0.0
                                      K4=-0.17
                                      Ks(Me4NSnCl3=Me4N+SnCl3)=-2.77
Medium: H2SO4
-------------------------------------------------------------------------------
Sn++       ISE NaClO4 25°C  3.0M U        K1=1.18   B2=1.74   1961THa  (5728)  32
                                      B3=1.67
-------------------------------------------------------------------------------
Sn++       ISE NaClO4 25°C  3.0M U T H    K1=1.15   B2=1.70   1952VRa  (5729)  33
                                      K3=-0.02
Method: Sn/Hg electrode. DH(K1)=10.9 kJ mol-1,DS=59 J K-1 mol-1; DH(K2)=2.5,
DS=19; DH(K3)=10.0, DS=33. 0 C:K1=0.97,K2=0.56,K3=-0.17; 45 C:1.27,0.59,0.09
-------------------------------------------------------------------------------
Sn++       ISE NaClO4 25°C  3.0M U T                  1952VRa  (5730)  34
                                      K(SnOH+L)=1.04
Method: Sn/Hg electrode. K=0.90(0 C), 0.85(35 C), 1.08(45 C)
-------------------------------------------------------------------------------
Sn++       kin NaClO4 25°C  2.0M U        K1=1.11        1951DPa  (5731)  35
-------------------------------------------------------------------------------
Sn++       ISE NaClO4 25°C 4.03M U        K1=1.05   B2=1.76   1950DCa  (5732)  36
                                      K3=-0.62
                                      K4=0
-------------------------------------------------------------------------------
Sn++       vlt none   16°C  0.0  U        K1=1.85   B2=2.31   1949RPa  (5733)  37
                                      K3=-0.37
                                      K4=0.06
-------------------------------------------------------------------------------
Sn++       kin oth/un 30°C  var  U        K1=0.3    B2=-1.7   1944LTa  (5734)  38
-------------------------------------------------------------------------------
Sn++       sol none   25°C  0.0  U                  1930RMa  (5735)  39
I=0 corr. Ks(Sn(OH)L(H2O)+H=Sn+L+2H2O)=-2.75
-------------------------------------------------------------------------------
```

Sn++ ISE none 25°C 0.0 U K1=1.51 B2=2.24 1928PRa (5736) 40
K3=-0.21
K4=-0.55

****

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

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

---

Sn++ oth oth/un 25°C 0.0 M K1=5.22 B2= 8.90 2001SPa (7185) 41
B3=12.9
Application of SIT theory to literature data.

Sn++ vlt mixed 25°C var. U K1=9.5 B2=16.0 1990BMb (7186) 42
Solvent:water-HF mixtures

Sn++ vlt NaClO4 25°C 1.0M U K1=4.00 B2=6.85 1970BTb (7187) 43
B3=9.43
By rapid a.c. polarography: K1=4.08, B2=6.68, B3=9.46

Sn++ ISE NaClO4 25°C 0.85M U T H K1=6.26 B2=8.76 1968HSc (7188) 44
B3=9.25
Method: amalgam electrode,F membrane electrode. DH(B3)=43.3 kJ mol-1, DS=306 J K-1 mol-1. At 45 C:K1=5.78,B2=8.70,B3=9.82; 60 C:K1=6.21,B2=9.06,B3=10.31

Sn++ ISE NaClO4 25°C 2.0M U K1=4 1961CPc (7189) 45
*K1=1.04 ?

Sn++ vlt oth/un 25°C var U 1961DYa (7190) 46
B4=7

Sn++ vlt NaNO3 25°C 0.80M U I 1954SDa (7191) 47
B3=9.92
B3=10.96 in 2.5 M KNO3.

****

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

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

---

Sn++ ISE NaClO4 25°C 100% U K1=2.84 B2=5.67 1987GSa (8374) 48
B3=8.20
Medium: dimethylacetamide

Sn++ con NaClO4 25°C 1.00M U K1=0.76 B2=1.15 1976SLa (8375) 49
B3=2.10

Sn++ ISE non-aq 25°C 100% U K1=0.89 B2=1.79 1973SLb (8376) 50
Medium: DMSO, 1 M (Li,Na)ClO4. SnHg electrode

Sn++ sol NaClO4 25°C 4.0M U K1=0.70 B2=1.13 1968HJa (8377) 51
B3=2.13
B4=2.30
Kso(SnI2)=-5.08
Ks(Me4N2SnI4)=-12.60
B6=2.59, B8=2.08

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Sn++	gl	NaClO4	25°C	4.00M	U	I	K1=0.15	B2=-0.06	1979ASa (9924)	52
							B3=-0.58			
							B4=-0.98			

****

NbO4--- H3L Niobate CAS 69275-91-0 (6166)
Niobate and polyniobates;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++	EMF	NaClO4	25°C	0.80M	U			1970GUa (10277)	53
							K'=10.48		

K': Sn(NbO3)2 + 2NbO3- = Sn(NbO3)4--

****

OH- HL Hydroxide (57)
Hydroxide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++	oth	oth/un	25°C	0.0	M			2001SPa (12143)	54
							*K1=-3.8		
							*B2=-7.8		
							*B3=-17.5		
							*B(2,2)=-2.4		

Application of SIT theory to literature data. *B(3,4)=-5.6

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++	gl	NaClO4	25°C	3.0M	C			1997SFb (12144)	55
							*K1=-3.77		
							K(3Sn+4H2O=Sn3(OH)4+4H)=-6.87		
Sn++	gl	NaCl	37°C	0.15M	C	I		1996DDa (12145)	56
							B(4Sn=Sn4(OH)6+6H)=-4.30		

I=1.0 M: B=-4.78, I=3.0 M: B=-5.01

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++	gl	NaClO4	25°C	3.00M	U			1978SKd (12146)	57
							B3=24.8		
Sn++	ISE	NaClO4	25°C	3.00M	C			1977WAa (12147)	58
							B3=24.58		

```
--------------------------------------------------------------------------------
Sn++       EMF NaClO4 25°C  3.0M C                        1976GOb (12148)  59
                                      *K1=-3.70
                                      *B(3,4)=-6.81
Method: Hg/Sn and glass electrode.
--------------------------------------------------------------------------------
Sn++       ISE NaClO4 25°C 3.00M U                        1974GOa (12149)  60
                                      *K1=-3.70
                                      *B(3,4)=-6.81
Method: emf with Sn amalgam electrode
--------------------------------------------------------------------------------
Sn++       sol NaClO4 25°C 1.00M U                        1966MIa (12150)  61
                                      *Ks(SnO(s)+H=SnOH)=-0.28
--------------------------------------------------------------------------------
Sn++       ISE NaClO4 25°C 3.00M U                        1964LDa (12151)  62
                                      *B(3,4)=-6.85
                                      *B(2,3)=-6.7
                                      *B(2,2)=-4.6
--------------------------------------------------------------------------------
Sn++       vlt oth/un   ?   var  U                        1964PCa (12152)  63
                                      K(SnO(s)+H2O=Sn+2OH)=-27.85
                                      B3=24.60
--------------------------------------------------------------------------------
Sn++       vlt none   22°C  0.0  U                        1958KOb (12153)  64
                                      Kso=-28.1
--------------------------------------------------------------------------------
Sn++       gl  NaClO4 25°C  3.0M U                        1958TOa (12154)  65
                                      *B(3,4)=-6.77
                                      *B(2,2)=-4.45
                                      *K1=-3.9
*B(m,n): mSn+nH2O=Snm(OH)n+nH. Also Sn/Hg electrode
--------------------------------------------------------------------------------
Sn++       gl  oth/un   ?   var  U                        1956TKb (12155)  66
                                      Kso=-25.64(?)
--------------------------------------------------------------------------------
Sn++       gl  NaNO3  25°C  2.0M U                        1955DAa (12156)  67
                                      *K1=-3.2
                                      K(SnO(s)+H=SnOH)=0.40
--------------------------------------------------------------------------------
Sn++       EMF NaClO4 25°C  3.0M U T H                    1952VRa (12157)  68
                                      *K1=-1.70
*K1=-1.80(0 C),-1.62(35 C),-1.60(45 C). Method: Sn/Hg electrode
DH(K1)=-41.8 kJ mol-1, DS=96.2 J K-1 mol-1
--------------------------------------------------------------------------------
Sn++       sol none   25°C  0.0  U       K1=11.93  B2=20.94  1942GLa (12158)  69
                                      K3=4.45
                                      *Kso=1.76
                                      *Ks(SnO(s)+H=SnOH)=-0.31
                                      Ks(SnO(s)+H2O=Sn(OH)2)=-5.30
Ks(SnO(s)+H2O+OH=Sn(OH)3)=-0.85, *K1=-2.07, *K2=-4.99, *K3=-9.55
```

```
--------------------------------------------------------------------------------
Sn++       EMF none   25°C  0.0  C                      1939GOa (12159)  70
                                      *K1=-1.70
Method: H electrode
--------------------------------------------------------------------------------
Sn++       EMF oth/un 25°C  dil  C  I                   1928PIa (12160)  71
                                      *B(2,2)=-2.74
                                      *Kso=2.79
                                      Ks(SnO(s)+H2O=Sn+2OH)=-25.10
Method: H electrode. In 0.5 M KCi *B(2,2)=-4.10, *Kso=2.34, Kso=-25.50
0.5 M NaClO4: *B(2,2)=-2.96, *Kso=2.86, Kso=-24.97
--------------------------------------------------------------------------------
Sn++       sol oth/un 25°C  var  U                      1906GEa (12161)  72
                                      K(SnO(s)+H2O=Sn(OH)2)=-4.87
                                      K(SnO(s)+H2O+OH=Sn(OH)3)=-0.4
********************************************************************************
PO4---                 H3L    Phosphate        CAS 7664-38-2  (176)
Phosphate;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++       gl  NaClO4 25°C  3.0M C                      2000CIb (13326)  73
                                      K(Sn+H2PO4)=2.17
                                      K(Sn+2H2PO4)=4.816
                                      K(Sn+H2PO4=SnHPO4+H)=1.287
                                      K(Sn+2H2PO4=SnH3(PO4)2+H)=2.17
Additional method: Sn/Hg electrode. K(2Sn+2H2PO4=Sn2H2(PO4)2+2H)=-1.32,
K(2Sn+H2PO4=SnPO4+2H)=-2.41, K(3Sn+3H2PO4=Sn3H3(PO4)3+3H)=-6.10.
--------------------------------------------------------------------------------
Sn++       sol NaClO4 25°C 0.20M U                      1968CIb (13327)  74
                                      K1eff=2.95
                                      B3eff=5.45
                                      B(SnHL)=7.83 (estimated)
                                      B(SnH3L3)=10.04 (estimated)
********************************************************************************
P2O7----               H4L    Pyrophosphate    CAS 2466-09-3  (198)
Diphosphate; from (HO)2PO.O.PO(OH)2
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++       gl  NaCl   25°C 0.15M C        K1=12.046 B2=15.48  1991DWa (13648)  75
                                      B(SnHL2)=22.66
                                      B(SnH2L2)=28.31
                                      B(SnH3L2)=32.11
                                      B3=18.40
B(SnH-1L)=5.97
--------------------------------------------------------------------------------
Sn++       ISE oth/un   ?   1.0M U        B2=16.42       1968PVb (13649)  76
Medium: K4L
--------------------------------------------------------------------------------
```

```
Sn++       sol NaClO4 25°C  1.0M U                        1966MIa (13650)  77
                                        K(2SnO(s)+H+HxL)=5.8
Also other solubility equilibria
--------------------------------------------------------------------------------
Sn++       vlt NaNO3  25°C 2.00M U                        1964PCa (13651)  78
                                        K(Sn+H2L)=4.48
                                        K(SnH2L+H2L)=1.60
                                        K(SnOH+H2L)=5.48
                                        K(SnOH(H2L)+H2L)=1.82
K(Sn(OH)2(s)+H2L=Sn(OH)2H2L)=2.30, K(Sn(OH)2(s)+2H2L=Sn(OH)2(H2L)2)=2.18
--------------------------------------------------------------------------------
Sn++       ISE oth/un 60°C  var  U        K1=13.6         1958VRb (13652)  79
--------------------------------------------------------------------------------
Sn++       con oth/un  rt   var  U        K1=14           1953VRa (13653)  80
********************************************************************************
P3O10-----            H5L                      CAS 10380-08-2  (1001)
Tripolyphosphate; from (HO)2PO.O.PO(OH).O.PO(OH)2
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++       sol NaClO4 25°C  1.0M U                        1966MIa (13903)  81
                                        K(2SnO(s)+H+2HL)=7.26
                                        K(4SnO(s)+2H+2HL)=11.68
                                        K(2SnO(s)+H+2H2L)=5.0
                                        K(4SnO(s)+2H+2H2L)=6.8
********************************************************************************
S--                   H2L    Sulfide          CAS 7783-06-4  (705)
Sulfide;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++       oth none     ?     0  U                        1990DKa (14468)  82
                                        *Ks(SnS+H=Sn+HS)=-11.95
From recalculation of literature data.
--------------------------------------------------------------------------------
Sn++       oth none   25°C  0.0  C                        1989DYa (14469)  83
                                        KSn+HS=SnS+H)=1.1
Calculated from literature data, based on K(H+S)=17.0.
--------------------------------------------------------------------------------
Sn++       oth none   25°C    0  U                        1988LIa (14470)  84
                                        Kso(SnS)=-33.6
                                        *Kso(SnS)=-16.3
Derived from thermodynamic data and K(H+S=HS)=17.3.
--------------------------------------------------------------------------------
Sn++       ISE NaCl   24°C 0.10M M                        1987PFb (14471)  85
                                        Kso(SnS)=-28.0
Method: pH2S measured with Ag2S electrode.  K(H+S=HS)=13.9 and K(H+HS=H2S)=
6.92 assumed
--------------------------------------------------------------------------------
Sn++       sol oth/un 20°C  0.0  U                        1964GMa (14472)  86
```

```
                                        Kso=-26.6
--------------------------------------------------------------------------------
Sn++       oth none   25°C  0.0  U                        1964PCa (14473)  87
                                        K(SnL(s)+2H=Sn+H2S(g))=-5.20
From thermodynamic data. Alternative value K=-3.82
--------------------------------------------------------------------------------
Sn++       oth none   25°C  0.0  U                        1952LAb (14474)  88
                                        Kso(SnL)=-26
From thermodynamic data
--------------------------------------------------------------------------------
Sn++       ISE none   25°C  0.0  U                        1939KMa (14475)  89
                                        Kso(SnL)=-26.94
********************************************************************************
SCN-                    HL    Thiocyanate      CAS 463-56-9  (106)
Thiocyanate;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++       ISE non-aq 25°C 100%  U      T K1=2.55   B2=4.35   1987GSa (15256)  90
                                        B3=5.98
Medium: dimethylacetamide
--------------------------------------------------------------------------------
Sn++       gl  NaClO4 25°C 3.00M U    M T K1=0.90   B2=1.40   1980FBa (15257)  91
                                        B3=1.53
--------------------------------------------------------------------------------
Sn++       con NaClO4 25°C 1.00M U      T K1=1.03   B2=1.58   1976SLa (15258)  92
--------------------------------------------------------------------------------
Sn++       ISE non-aq 25°C 100%  U      T K1=0.92        1973SLb (15259)  93
Medium: DMSO, 1 M LiClO4. Method: Sn amalgam electrode
--------------------------------------------------------------------------------
Sn++       EMF NaClO4 25°C  1.0M U                       1968PCa (15260)  94
                                        K(MeSn+L)=1.48
                                        K(MeSn+2L)=2.20
                                        K(MeSn+3L)=3.32
                                        K(Me2Sn+L)=0.43
K(Me2Sn+2L)=1
--------------------------------------------------------------------------------
Sn++       ISE NaClO4   ?  1.60M U  I     K1=1.02   B2=1.54   1963GSa (15261)  95
                                        B3=1.46
Method: Sn/Hg electrode. In MeOH, 1.6 M NaClO4: K1=3.7, B2=5.6, B3=6.55.
In Me2NCHO: K1=2.04, B2=3.70, B3=4.58. In MeCN: B4=16.82
--------------------------------------------------------------------------------
Sn++       ISE NaClO4 20°C 2.20M U  I     K1=1.17   B2=1.77   1961GOa (15262)  96
                                        B3=1.72 or 1.76
Method: Sn/Hg electrode. In MeOH: B3=4.68. Also in MeOH/H2O and acetone/H2O
mixtures
********************************************************************************
SO4--                   H2L    Sulfate          CAS 7664-93-9  (15)
Sulfate;
--------------------------------------------------------------------------------
```

```
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
Sn++       vlt NaNO3  25°C 1.00M U        K1=1.29   B2=1.65   1981PMa (16549)  97
*************************************************************************
Se--                  H2L    Selenide           (6335)
Selenide;
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
Sn++       oth none   25°C  0.0  U                        1964BUe (16949)  98
                                        Kso=-38.4
*************************************************************************
CH2O2                  HL    Formic acid      CAS 64-18-6  (37)
Methanoic acid; H.COOH
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
Sn++       sol oth/un 20°C 0.70M U        B2=8.05        1970WSb (17647)  99
*************************************************************************
CH4O6Cl2P2             H4L                    CAS 10596-23-3  (2370)
Dichloromethanediphosphonic acid; Cl2.C(PO3H2)2
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
Sn++       gl  R4N.X  25°C 0.10M U        K1=13.59       1984CLb (17954) 100
                                        K(Sn+HL)=8.9
                                        K(SnL+Sn)=8.0
Medium: Me4NNO3
*************************************************************************
CH6O6P2                H4L    Medronic acid    CAS 1984-15-2  (2384)
Methanediphosphonic acid; CH2(PO3H2)2
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
Sn++       gl  R4N.X  25°C 0.10M U        K1=13.6        1984CLb (18290) 101
                                        K(Sn+HL)=7.7
Medium: Me4NNO3
*************************************************************************
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
-------------------------------------------------------------------------
Sn++       gl  NaClO4 25°C  1.0M C  I     K1=6.655  B2=10.66  2001CTa (19063) 102
Sn amalgam electrode also used
At I=0, extrapolation using SIT: K1=8.18, B2=12.19
-------------------------------------------------------------------------
Sn++       sol NaClO4 20°C 2.10M U    M                  1977KWa (19064) 103
                                        B(SnL(C2H5COO))=10.78
                                        B(SnLA)=11.95
```

B(SnLB)=12.62
B(SnLC)=12.48
B(SnLD))=10.90, B(SnLE)=11.39, B(SnL(HCOO))=9.6, B(SnL(CH3COO))=10.65.
H2A=malonic, H2B=succinic, H2C=malonic, H2D=2-hydroxypropanoic, H2E=tartaric

---

Sn++ sol NaClO4 20°C 0.70M U M B2=11.85 1977WOa (19065) 104
B(SnL(CH2=CHCOO))=11.40
B(SnL(CH3CHClCOO))=9.81
B(SnL(CH2ClCH2COO))=10.30
B(SnL(CH3CHBrCOO))=9.90
B(SnL(CH2BrCH2COO))=10.08, B(SnL(CH2BrCOO)=9.90, B(SnL(C2H5COO)=10.78

Sn++ sol NaClO4 20°C 0.70M U M 1974WOb (19066) 105
B(SnL(Glycolate))=10.84
B(SnL(Thioglycolate))=10.87
B(SnL(Chlorethanoate))=9.48
B(SnL(Gly))=15.42

Sn++ sol oth/un 20°C 0.70M U M 1970WSb (19067) 106
B(SnL(formate))=9.90
B(SnL(ethanoate))=10.65
B(SnL(tartrate))=11.39

Sn++ sol oth/un 20°C 0.70M U B2=11.85 1970WSb (19068) 107

****

C2H3O2Br HL Bromoacetic acd CAS 79-08-3 (1309)
Bromoethanoic acid; Br.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++	sol	NaClO4	20°C	0.70M	U	M	B(Sn(oxalate)L)=9.90	1977WOa (19281)	108
Sn++	EMF	NaClO4	20°C	0.70M	U		K1=3.06	1976WOa (19282)	109

****

C2H3O2Cl HL Chloroacetic CAS 79-11-8 (34)
Chloroethanoic acid; ClCH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++	vlt	NaClO4	20°C	0.70M	U		K1=3.34	1974WOa (19381)	110
Sn++	sol	NaClO4	20°C	0.70M	U	M	B(SnL(oxalate))=9.48	1974WOb (19382)	111

****

C2H3O2I HL Iodoacetic acid CAS 64-69-7 (1312)
Iodoethanoic acid; ICH2.COOH

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

```
Sn++       vlt NaClO4 20°C 0.70M U        K1=2.95        1974WOa (19418) 112
**************************************************************************
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
--------------------------------------------------------------------------
Sn++       ISE NaClO4 25°C 3.00M C        K1=3.472  B2=6.042  1976GOa (20168) 113
                                          B3=7.27
--------------------------------------------------------------------------
Sn++       gl  NaClO4 25°C 3.00M C        K1=3.3    B2=6.0    1974GOa (20169) 114
                                          B3=7.3
--------------------------------------------------------------------------
Sn++       vlt NaClO4 20°C 0.70M U        K1=4.92   B2=9.65   1974WOa (20170) 115
--------------------------------------------------------------------------
Sn++       sol oth/un 20°C 0.70M U        B2=9.45        1970WSb (20171) 116
**************************************************************************
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
--------------------------------------------------------------------------
Sn++       vlt NaClO4 20°C 0.70M U        K1=4.30   B2=7.70   1974WOa (20369) 117
                                          B(SnL(oxalate))=10.87
**************************************************************************
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
--------------------------------------------------------------------------
Sn++       vlt NaClO4 20°C 0.70M U        K1=3.76   B2=7.60   1974WOa (20633) 118
                                          B(SnL(oxalate))=10.84
**************************************************************************
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
--------------------------------------------------------------------------
Sn++       gl  NaCl   37°C 0.15M C        K1=10.02       1996DDa (21713) 119
                                          B(SnHL)=12.78
                                          B(SnH-1L)=7.34
--------------------------------------------------------------------------
Sn++       vlt NaClO4 20°C 0.70M U        K1=8.93        1974WOa (21714) 120
--------------------------------------------------------------------------
Sn++       sol NaClO4 20°C 0.70M U    M                  1974WOb (21715) 121
                                          B(SnL(oxalate))=15.42
**************************************************************************
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
Sn++	gl	R4N.X	25°C	0.10M	M		K1=15.68 K(SnL+Sn)=9.6	1984CLb (23396)	122

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++	sol	NaClO4	20°C	0.70M	U	M	B(Sn(oxalate)L)=11.40	1977WOa (23995)	123
Sn++	EMF	NaClO4	20°C	0.70M	U		K1=4.13 B2=7.58	1976WOa (23996)	124

Sn++ cell, details given in Rocz.Chem. 45, 737 (1971)

****

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
Sn++	ISE	NaClO4	20°C	0.70M	U		K1=6.15 B2=11.45	1971WSe (24554)	125

****

C3H5O2Br HL 2-Br-propionic CAS 598-72-1 (1313)
2-Bromopropanoic acid; CH3.CH(Br).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++	EMF	NaClO4	20°C	0.70M	U		K1=2.40 B2=5.60	1976WOa (24696)	126

****

C3H5O2Br HL 3-Br-propionic CAS 590-92-1 (1314)
3-Bromopropanoic acid; Br.CH2.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++	sol	NaClO4	20°C	0.70M	U	M	B(Sn(ox)L)=9.90	1977WOa (24706)	127
Sn++	EMF	NaClO4	20°C	0.70M	U		K1=3.46	1976WOa (24707)	128

****

C3H5O2Cl HL CAS 598-78-7 (1951)
2-Chloropropanoic acid; CH3.CH(Cl).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++	sol	NaClO4	20°C	0.70M	U	M	B(Sn(oxalate)L)=9.81	1977WOa (24711)	129
Sn++	EMF	NaClO4	20°C	0.70M	U		K1=2.76	1976WOa (24712)	130

Sn++ cell, details given in Rocz.Chem. 45, 737 (1971)

****

C3H5O2Cl HL CAS 107-94-8 (1436)
3-Chloropropanoic acid; Cl.CH2.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++	sol	NaClO4	20°C	0.70M	U	M	B(Sn(oxalate)L)=10.30	1977WOa (24733)	131
Sn++	EMF	NaClO4	20°C	0.70M	U		K1=4.11	1976WOa (24734)	132

Sn++ cell, details given in Rocz.Chem. 45, 737 (1971)

****

C3H6O2 HL Propionic acid CAS 79-09-4 (35)
Propanoic acid; CH3.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++	sol	NaClO4	20°C	0.70M	U	M	B(Sn(oxalate)L)=10.78	1977WOa (25052)	133

****

C3H6O3 HL L-Lactic acid CAS 79-33-4 (82)
L-2-Hydroxypropanoic acid; CH3.CH(OH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++	EMF	oth/un	?	?	U		K1=3.78 B2=8.02	1971WSe (25541)	134

****

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
Sn++	ISE	NaClO4	20°C	0.70M	U		K1=6.48 B2=13.90	1971WSe (30727)	135

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++	gl	KCl	25°C	0.10M	C		K1=5.56	1984MMg (30930)	136

****

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
Sn++	ISE	NaClO4	20°C	0.70M	U		K1=6.25 B2=11.48	1971WSe (31355)	137
Sn++	sol	oth/un	20°C	1.35M	U		B2=9.91	1970WSb (31356)	138

Sn++ gl KCl 20°C 0.10M U K1=5.2 B2=9.91 1965SMe (31357) 139
****
C4H9NO7P2 H4L CAS 56269-30-8 (2397)
1-Pyrrolidone-5,5-diphosphonic acid; (O)C4H5N(PO3H2)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++ gl R4N.X 25°C 0.10M M 1984CLb (34404) 140
K(Sn+HL)=14.43
K(Sn+H2L)=8.1
****
C5H5NO L CAS 695-59-7 (397)
Pyridine N-oxide ; C5H4N(O)

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++ con oth/un 24°C 0.0 U 1977SKa (36719) 141
K(SnCl2+L)=1.34
K(SnCl2+A)=1.71
K(SnCl2+B)=2.39
K(SnCl2+C)=1.89
Medium: CH3CN. A=2-picoline-N-oxide, B=3-picoline-N-oxide, C=4-picoline-NO
****
C5H6O7 H3L (8107)
Carboxymethyltartronic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++ gl KCl 25°C 0.10M C K1=7.00 1984MMg (37492) 142
K(SnL+H)=1.56
****
C5H8O2 HL Acetylacetone CAS 123-54-6 (164)
Pentane-2,4-dione; CH3.CO.CH2.CO.CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++ ISE KNO3 25°C 0.10M U 1963YTa (38085) 143
K(SnMe2+L)=6.6
****
C5H10OS2 HL CAS 110-50-9 (591)
(Butoxy)dithiomethanoic acid; CH3.CH2.CH2.CH2O.CSSH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++ dis oth/un 25°C 0.25M U B2=5.7 1982SAa (40164) 144
****
C5H10O10P2 H6L CAS 51395-42-7 (2396)
2,3-Dicarboxypropane-1,1-diphosphonic acid; CH2(COOH)CH(COOH)CH(PO3H2)2

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

---

Sn++ gl R4N.X 25°C 0.10M M K1=17.31 1984CLb (40382) 145
K(Sn+HL)=12.9, K(Sn+H2L)=7.6
K(Sn+H2L)=7.6
K(Sn+H3L)=5.7
K(SnL+Sn)=8.9

****

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

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

---

Sn++ ISE KNO3 25°C 0.10M U 1963YTa (42598) 146
K(SnMe2+L)=5.1

****

C6H6O9 H4L Ditartronic ac (8108)
Di(2-Propane-1,3-dioic acid)ether;

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

---

Sn++ gl KCl 25°C 0.10M C K1=7.90 1984MMg (44539) 147
K(SnL+H)=2.32

****

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

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

---

Sn++ gl NaClO4 25°C 1.0M C I K1=7.82 2001CTa (46253) 148
B(SnHL)=9.49
B(SnH2L)=12.49
B(SnH-1L)=3.62

Sn amalgam electrode also used
At I=0, extrapolation using SIT: K10.19.18, B(SnHL)=12.1, B(SnH2L)=15.01

Sn++ EMF oth/un 20°C 0.20M C 1981JSa (46254) 149
*K(SnH2L)=-5.5
*K(SnHL)=-7.4
*K(SnL)=-10.3

Method: Sn++/Sn electrode. Medium: 0.20 M citric acid, pH 1.8-4.9

****

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

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

---

Sn++ gl NaNO3 25°C 0.1M U M K1=9.73 1997SMb (47854) 150
K(ZnL+Gly)=4.26
K(ZnL+Ala)=4.22
K(ZnL+Pro)=5.02

K(ZnL+Val)=4.05
Ternary complexes with many other amino acids
****
C6H19PSi2 L (6862)
Bis(trimethylsilyl)phosphine; (Me3Si)2PH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++	nmr	non-aq	25°C	100%	U	T H		1993GCa (52241)	151

Method:NMR. Medium:Benzene. Temp. unknown. K:trans-(Sn(H-1L)2)2=cis-(Sn(H-1L)2)2. DH=-7.53 kJ mol-1; DS=-19.7.
****
C7H9O6ClP2 H4L CAS 53818-08-9 (4342)
4-Chlorophenylmethane diphosphonic acid; Cl.C6H4.CH(PO3H2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++	gl	R4N.X	25°C	0.10M	M		K1=17.0	1984CLb (56527)	152
							K(SnL+Sn)=12.5		

****
C8H9N3O7 H2L Uramildiacetic CAS 13055-06-5 (185)
5-Amino-2,4,6-trioxo-1,3-perhydrodiazimino-N,N-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++	ISE	oth/un	20°C	0.0	U		K1=7.65	1946SKa (60653)	153

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++	vlt	R4N.X	25°C	0.2M	U		K1=15.9	1999BBc (62726)	154

Medium: 0.2 M Bu4NPF6
****
C9H7NO HL Oxine CAS 148-24-3 (504)
8-Hydroxyquinoline (8-quinolinol);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++	gl	NaCl	25°C	0.15M	C		K1=8.5 B2=16.20	1997AWa (64348)	155

****
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
Sn++	ISE	NaClO4	20°C	1.0M	U		K1=18.3	1968BLd (74171)	156
							K(SnL+H)=2.5		
							K(SnHL+H)=1.5		

Method: Sn/amalgam and glass electrodes

****

C10H20S4 L 14-Ane-S4 CAS 24194-61-4 (175)
1,4,8,11-Tetrathiacyclotetradecane; cyclo(-(S.CH2.CH2)2.CH2.(S.CH2.CH2)2.CH2-)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Sn++	vlt	R4N.X	25°C	0.2M	U		K1=6.3		1999BBc (76160)	157

Medium: 0.2 M Bu4NPF6.

****

C13H12N4S L Dithizone CAS 60-10-6 (1801)
Diphenylthiocarbazone; C6H5.NH.NH.CS.N:N.C6H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Sn++	sp	NaClO4	25°C	0.10M	U		K1=6.35	B2=11.99	1973BSe (85474)	158

****

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
Sn++	ISE	NaClO4	20°C	1.0M	U		K1=18.7		1968BRd (88778)	159
							B(SnHL)=21.4			
							B(SnH2L)=23.2			

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Sn++	ISE	NaClO4	20°C	1.0M	U		K1=8.86	B2=17.35	1968BRd (89936)	160
							K3=2.5			
							K4=2.4			
							K5=1.6			

****

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
Sn++	gl	KCl	25°C	0.10M	C		K1=21.90		1996HVa (103821)	161
							K(Sn+H3L)=8.75			
							K(Sn+H2L)=14.09			
							K(Sn+HL)=21.14			
							K(2Sn+HL)=31.18			
							B(Sn2L)=37.72			

****

C27H34N2O4S HL Brilliant Green CAS 633-03-4 (5398)
Brilliant green, Basic Green 1;((C2H5)2N.C6H4)2CC6H5.HSO4

```
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++       dis NaCl     ?  0.80M U                        1971BSl (104548) 162
                                          K(SnCl3+HL)=6.47
********************************************************************************
e-                     HL    Electron           (442)
Electron;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     oth oth/un 25°C  0.0  M                        2001SPa   (941) 163
Calc from literature data. K(SnO2(s)+2H+2e=SnO(s)+H2O)=-4.60 (-136 mV);
K(SnO2(s)+4H+2e=Sn(II)+2H2O)=-2.60 (-77 mV).
--------------------------------------------------------------------------------
Sn++++     oth oth/un 25°C  0.0  M                        2001SPa   (942) 164
Calc from literature data. K(SnO2(s)+3H+2e=SnOH+H2O)=-6.39 (-189 mV);
K(SnO2(s)+2H+2e=Sn(OH)2)=10.49 (-310 mV).
--------------------------------------------------------------------------------
Sn++++     oth oth/un 25°C  0.0  M                        2001SPa   (943) 165
Calc from literature data. K(SnO3+3H+2e=Sn(OH)3)=11.03 (326 mV);
K(SnO2(s)+2H2O+2e=Sn(OH)3+OH)=-34.10 (-1008 mV).
--------------------------------------------------------------------------------
Sn++++     EMF oth/un 25°C 2.02M U  I                    1934HTa   (944) 166
                                          K(Sn+2e=Sn(II))=4.48(132.5 mV)
Medium:HCl; K=4.67(1.14 M;138.2 mV), 4.75(0.85 M;140.4 mV), 4.88(0.53 M)
********************************************************************************
Br-                    HL    Bromide          CAS 10035-10-6  (19)
Bromide;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     sp  alc/w  35°C  50%  C T H                    2001AJa  (2320) 167
                                          K(R3SnClBrl)=1.85
Medium: 50% v/v EtOH/H2O. R=phenyl. Data for 35-65 C. DH=12.70 kJ mol-1,
DS=76.78 J K-1 mol-1. Also data for R=4-Cl-, 4-CH3-, 3-CH3-, 2-CH3-phenyl.
--------------------------------------------------------------------------------
Sn++++     sp  non-aq 25°C 100%  U    M                  1973GKa  (2321) 168
                                          K(SnI2L2+SnI4=2SnI3L)=-0.05
                                          B(SnI4+SbL4=2SnI2L2)=0.72
                                          B(SnI2L2+SnL4=2SnIL3)=-0.05
Medium: CCl4
--------------------------------------------------------------------------------
Sn++++     ISE NaClO4 25°C  3.0M U                       1968MPe  (2322) 169
                                          K(SnMe+L)=0.6
--------------------------------------------------------------------------------
Sn++++     ISE NaClO4 25°C  3.0M U                       1965FMb  (2323) 170
                                          K(SnMe2+L) < -0.5
--------------------------------------------------------------------------------
Sn++++     dis NaNO3  30°C 0.10M U        K1=3.3         1965SMg  (2324) 171
```

```
                                        Kd(SnPh3OH(C6H6)+L)=-6.9
                                        Kd(SnPh3OH(MIBK)+L)=-6.6
********************************************************************************
CO3--                 H2L    Carbonate        CAS 465-79-6  (268)
Carbonate;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     gl  NaCl   25°C 0.10M C  I     K1=9.86   B2=15.98  2004FGa  (3375) 172
Data for 0.25-1.0 M NaCl. At I=0, K1=10.33, K2=6.36; at I=0.75 M NaCl,
K1=9.52, K2=5.96.
--------------------------------------------------------------------------------
Sn++++     gl  NaCl   25°C 0.10M C  I                   2004FGa  (3376) 173
                                        B(R3SnH-1(CO3))=-3.49
                                        K(R3SnOH+CO3)=2.6
Data for 0.25-1.0 M NaCl. R is CH3. B: (CH3)3Sn+H2O+CO3=(CH3)3Sn(OH)CO3+H
At I=0, B=-3.38, K=2.8; at I=0.75 M NaCl, B=-4.05, K=2.3.
--------------------------------------------------------------------------------
Sn++++     sol oth/un 300°C  var  U                   1971KBd  (3377) 174
                                        B(Sn(OH)3L)=49.7
********************************************************************************
Cl-                    HL    Chloride         CAS 7647-01-0  (50)
Chloride;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     gl  NaNO3  25°C  0.0  C                       2004FGa  (5737) 175
                                        K((CH3)3Sn+Cl)=-0.6
                                        K((C2H5)3Sn+Cl)=-0.5
                                        K((C3H7)3Sn+Cl)=-0.4
--------------------------------------------------------------------------------
Sn++++     sp  alc/w  35°C  50%  C T H                 2001AJa  (5738) 176
                                        K(R3SnCl+Cl)=1.73
Medium: 50% v/v EtOH/H2O. R=phenyl. Data for 35-65 C. DH=12.25 kJ mol-1,
DS=72.92 J K-1 mol-1. Also data for R=4-Cl-, 4-CH3-, 3-CH3-, 2-CH3-phenyl.
--------------------------------------------------------------------------------
Sn++++     gl  R4N.X  25°C  0.0  C  I M   K1=0.92   B2= 1.07  1996DFa  (5739) 177
                                        B(MH-1Cl)=-2.60
                                        B(MH-2Cl)=-8.55
Metal is (CH3)2Sn++. Data for I=0.0 to 1.0 M for Me4NCl and NaCl media.
--------------------------------------------------------------------------------
Sn++++     EMF oth/un 25°C  5.0M C        K1=3.71   B2= 6.46  1978FRa  (5740) 178
                                        B3=8.78
                                        B4=9.48
                                        B5=11.23
                                        B6=12.40
Medium: 5.0 M HClO4. method: Ag,AgCl/Cl electrode.
--------------------------------------------------------------------------------
Sn++++     EMF oth/un 25°C  var  U        K1=0.62   B2=1.38   1972DJa  (5741) 179
                                        K3=0.71
```

```
                                        K4=0.33
                                        K5=0.39
-------------------------------------------------------------------------------
Sn++++     EMF non-aq 25°C 100%  U                        1971DTb  (5742) 180
                                        K5=4.13
                                        K6=1.90
Medium: SeOCl2, 0.5 M Et4NClO4
-------------------------------------------------------------------------------
Sn++++     con non-aq 25°C 100%  U                        1971TKb  (5743) 181
                                        K3=6.1
Medium: MeCN
-------------------------------------------------------------------------------
Sn++++     ISE NaClO4 25°C  3.0M U        K1=1.69   B2=2.51   1968MPe  (5744) 182
Metal:MeSn+++
-------------------------------------------------------------------------------
Sn++++     ix  oth/un 25°C  0.0  U        K2=0.35        1966CPc  (5745) 183
                                        K3=-0.25
                                        K4=-1.79
Metal:MeSn+++. Method:anion exchange
-------------------------------------------------------------------------------
Sn++++     ix  oth/un 25°C  0.0  U        K1=0.37   B2=0.14   1966CPc  (5746) 184
                                        K3=-1.45
Metal:Me2Sn++
-------------------------------------------------------------------------------
Sn++++     ix  oth/un 25°C  0.0  U        K1=-0.17  B2=1.40   1966CPc  (5747) 185
Metal: Me3Sn+
-------------------------------------------------------------------------------
Sn++++     ISE NaClO4 25°C  3.0M U        K1=0.38   B2=-0.14  1965FMb  (5748) 186
Metal:Me2Sn++
-------------------------------------------------------------------------------
Sn++++     sp  non-aq   ?  100%  U                        1965MCa  (5749) 187
                                        K5=4.30
Medium:MeCN
-------------------------------------------------------------------------------
Sn++++     dis NaNO3  30°C 0.10M U                        1965SMg  (5750) 188
                                        Kd(Ph3SnOH(C6H6)+L)=-7.1
                                        K(Ph3Sn+L)=3.0
Kd(Ph3SnOH(i-BuCOMe)+L=Ph3SnL+OH)=-6.9
-------------------------------------------------------------------------------
Sn++++     gl  oth/un 25°C 0.10M U                        1964TYa  (5751) 189
                                        K(SnMe2+L)=1.45
-------------------------------------------------------------------------------
Sn++++     vlt none   22°C  0.0  U                        1958KOa  (5752) 190
                                        Kso(SnL2(OH)2)=-56.3 ?
-------------------------------------------------------------------------------
Sn++++     ISE oth/un 25°C  0.0  U                        1950BJa  (5753) 191
                                        B6=4?
-------------------------------------------------------------------------------
Sn++++     ISE oth/un 25°C  0.0  U                        1946PYa  (5754) 192
                                        B6=0.82
```

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Sn++++	gl	NaCl	25°C	0.10M	C	I	K1=2.47		2004FGa (7192)	193
							B(R3SnH-1F)=-4.95			

Data for 0.25-1.0 M NaCl. R is CH3. B: (CH3)3Sn+H2O+F=(CH3)3Sn(OH)F+H
At I=0, K1=2.61, B=-5.10; at I=0.75 M NaCl, K1=2.65, B=-4.25.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Sn++++	sol	oth/un	22°C	?	U	T	*Ks(SnO2+F+2H2O=Sn(OH)4F)=-5.4		1975KBa (7193)	194

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Sn++++	sol	oth/un	50°C	?	U	T	*Ks(SnO2+F+2H2O=Sn(OH)4F)=-5.8		1975KBa (7194)	195

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Sn++++	sol	oth/un	200°C	?	U		K(SnO2(s)+2HF=Sn(OH)2F2)=-3.5		1975KBa (7195)	196

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Sn++++	sol	oth/un	25°C	?	U	T	K(SnO2(s)+HF+H2O=Sn(OH)3F)=-5.		1975KBa (7196)	197

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Sn++++	sol	oth/un	300°C	var	U		B(Sn(OH)3F)=43.3		1970KMd (7197)	198
							B(Sn(OH)3F2)=44.6			
							B(Sn(OH)3F3)=46.3			
							B(Sn(OH)4F)=49.8			

At 90 atm. B(Si(OH)4F2)=50.8

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Sn++++	EMF	NaClO4	25°C	0.50M	U		K1=5.10	B2=9.85	1967CMa (7198)	199
							K3=4.12			
							K4=3.09			
							K5=2.2			

Metal ion: MeSn+++. With Me2Sn++,I=1 M: K1=3.70, K2=2.87, K3=1.47, B3=8.04.
By ion exchange: B3=8.07, K4=0.09. With Me3Sn+: K1=2.28,K2=0.61

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Sn++++	vlt	oth/un	25°C	var	U		B6=ca.25		1954SDa (7199)	200

****

FClBrI HL (541)
Halides, comparative (for book data under ligand 80)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Sn++++	nmr	non-aq	22°C	100%	U	M	K(2SnF5A=cis-SnF4A2+SnF6)=-.52		1968DEa (7435)	201
							K(2SnF5A=tr-SnF4A2+SnF6)=-1.03			

Medium: CHCl3.A=CNO. Data also for other halogens

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	con	non-aq	25°C	100%	U		1971TKb (8378)		202
							K3=7.5		
Medium: MeCN									
Sn++++	dis	NaNO3	30°C	0.10M	U		K1=3.7	1965SMg (8379)	203
							Kd(Ph3SnOH(CHCl3)+I)=-6.1		
							Kd(Ph3SnOH(MIBK)+I)=-6.2		
Sn++++	kin	non-aq	20°C	100%	U	TI		1963GNa (8380)	204
							K(Me3SnBr+L)=1.96		
							K(Et3SnBr+L)=2.23		
							K(i-Pr3SnBr+L)=1.85		
							K(Bu3SnBr+L)=2.09		
Medium:Me2CO. Data also at 11 C									
Sn++++	dis	NaClO4	25°C	5.0M	U			1962GSa (8381)	205
							Kd(SnL4 into C6H6)=3.3		
Sn++++	dis	oth/un	25°C	var	U			1959GIa (8382)	206
							Kd(SnL4 into C6H6)>=3.3		

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaClO4	25°C	3.0M	U			1974PEb (10259)	207
							K(SnMe2+4L)=2.45		
							K(3SnMe2+3L=(SnMe2)3L3)=12.98		

OH- HL Hydroxide (57)
Hydroxide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	oth/un	25°C	0.72M	C	I		2004FGa (12162)	208
							K(R3Sn+H2O=R3Sn(OH)+H)=-6.23		
Medium: synthetic seawater. Cation is (CH3)3Sn+.									
Data for 5-45% salinity. At 5%, *K1=-6.16; at 15%, *K1=-6.19.									
Sn++++	gl	oth/un	25°C	0.72M	C	I		2004FGa (12163)	209
							K(R3Sn+H2O=R3Sn(OH)+H)=-6.47		
Medium: synthetic seawater. Cation is (C2H5)3Sn+.									
Data for 5-45% salinity. At 5%, *K1=-6.37; at 15%, *K1=-6.42.									

```
Sn++++     gl  oth/un 25°C 0.72M C  I                    2004FGa (12164) 210
                                          K(R3Sn+H2O=R3Sn(OH)+H)=-6.42
Medium: synthetic seawater. Cation is (C3H7)3Sn+.
Data for 5-45% salinity. At 5%, *K1=-6.31; at 15%, *K1=-6.36.
-------------------------------------------------------------------------------
Sn++++     gl  NaNO3  25°C 0.10M C                        2003AMa (12165) 211
                                          *K1=-3.13
                                          *B2=-8.35
                                          *B3=-18.84
                                          *B4=-30.17
Cation is (CH3)2Sn++. *B(2,2)=-4.46, *B(2,3)=-8.98.
-------------------------------------------------------------------------------
Sn++++     gl  NaNO3  25°C 0.10M C                        2003MOa (12166) 212
                                          *K1=-2.39
                                          *B2=-7.89
                                          *B3=-17.76
                                          *B4=-29.03
Metal is R2Sn(IV), where R = vinyl. *B(2,2)=-3.08. *B(2,3)=-7.98.
-------------------------------------------------------------------------------
Sn++++     gl  KNO3   25°C 0.10M M TI                     2001ASa (12167) 213
                                          *K1=-3.03
                                          *B2=-8.21
                                          *B3=-18.73
                                          *B4=-29.54
Metal ion is (CH3)2Sn++. Data for 15-35 C and for 25-75% v/v dioxane/H2O.
*B(2,2)=-3.12, *B(2,3)=-8.13, *B(2,4)=-13.59.
-------------------------------------------------------------------------------
Sn++++     gl  KNO3   25°C 0.10M M   H                    2001ASa (12168) 214
Metal ion is (CH3)2Sn++. From equilibrium data for 5-35 C: DH(K1)=40.2
kJ mol-1, DH(K2)=-11.5, DH(K3)=-21.4, DH(K4)=-20.9, DH(B(2,2))=65.0.
-------------------------------------------------------------------------------
Sn++++     gl  NaNO3  25°C 0.10M M TIH                    2001MSc (12169) 215
                                          *K1=-5.90
                                          *B2=-16.40
                                          *B(2,1)=-2.44
                                          *B(2,2)=-8.56
Metal ion is (CH3)3Sn+.  *B(2,3)=-18.70. Data for 15, 20, 30 and 35 C.
DH values. Also data at 25 C for 25%-75% dioxane/H2O.
-------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C  0.0  C  I                    1999FGa (12170) 216
                                          *K1=-2.86
                                          *B2=-8.16
                                          *B3=-19.35
                                          *B(2,2)=-4.99
*B(2,3)=-9.06. By calorimetry, DH(*K1)=33.1 kJ mol-1, DH(*B2)=62.1,
DH(*B3)=97.7, DH(*B(2,2))=60, DH(*B(2,3))=84. Data for 0.09-3.8 M.
-------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 0.10M C                        1999JNa (12171) 217
                                          *K1=-3.12
                                          *B2=-8.33
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                                        *B3=-19.33
Metal is Me2Sn++.
--------------------------------------------------------------------------------
Sn++++     gl  NaNO3  25°C  0.0  C  IH                  1999SFb (12172) 218
                                        K((CH3)3Sn+OH)=7.86
                                        *K1((CH3)3Sn)=-6.14
Values from data in 1.8-4.3 m NaNO3, NaCl, KCl and Na2SO4.
By calorimetry, DH(K1)=-30 kJ mol-1, DH(*K1)=25.8.
--------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 0.10M C                      1999SRa (12173) 219
                                        *K1=-3.175
                                        *B(1,2)=-8.415
                                        *B(1,3)=-19.459
                                        *B(2,2)=-4.95
M is Sn(CH3)2++. *B(2,3)=-9.96.
--------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 0.10M C                      1998BGa (12174) 220
                                        *K1=-3.17
                                        *B(1,2)=-8.42
                                        *B(1,3)=-19.45
                                        *B(2,2)=-4.96
Metal is (CH3)2Sn(IV).  *B(2,3)=-9.71.
--------------------------------------------------------------------------------
Sn++++     gl  NaCl   25°C  1.0M C TI                  1998CFa (12175) 221
                                        *K1(Me3Sn)=6.32
Data for 15-45 C, I=0.15 - 1.5 M with NaCl and NaNO3. At I=0: *K1=6.143
--------------------------------------------------------------------------------
Sn++++     gl  diox/w 25°C  75%  C                     1998SMb (12176) 222
                                        *K1=-5.71
Metal is (C6H5)3Sn+  Medium: 75% dioxane/H2O, 0.10 M NaNO3.
--------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 0.10M C  I                  1997TNa (12177) 223
                                        *B(1,1)=-6.35
                                        *B(1,2)=-17.90
                                        *B(2,1)=-4.59
Metal is Me3Sn+. In 0.10 M  NaNO3: *B(1,1)=-6.26, *B(1,2)=-17.63,
*B(2,1)=-4.84.
--------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 0.10M C                      1997TNa (12178) 224
                                        *B(1,1)=-6.42
                                        *B(1,2)=-17.70
                                        *B(2,1)=-4.73
Metal is Et3Sn+.
--------------------------------------------------------------------------------
Sn++++     gl  R4N.X  25°C  0.0  C  I                  1996DFa (12179) 225
                                        *K1=-2.86
                                        *B2=-8.16
                                        *B3=-19.35
                                        *B(2,2)=-4.99
Metal is (CH3)2Sn++. *B(2,3)=-9.06. Data for I=0.0 to 1.0 M for Me4NCl,
```

NaNO3 and NaClO4.

Sn++++ gl none 25°C 0 M I K1=11.14 B2=19.84 1996SFa (12180) 226
B3=22.65
B(M2(OH)2)=23.01
B(M2(OH)3)=32.94
K(M(OH)+H)=2.86
Metal ion: SnMe2++. I=0.1 to 0.8 M NaClO4 and NaNO3, extrapolated to 0

Sn++++ gl NaNO3 25°C 0.10M C 1994NAa (12181) 227
*B(1,1)=-3.176
*B(1,2)=-8.423
*B(2,2)=-4.687
*B(2,3)=-9.644
*B(2,4)=-15.443, *B(3,2)=-3.205, *B(4,5)=-11.724, *B(4,6)=-16.365.
Metal is Sn(Me)2++. *B(p,q): pSn(Me)2=(Sn(Me)2)p(OH)q+qH.

Sn++++ gl NaNO3 25°C 0.10M M 1992SHc (12182) 228
*K1=-5.79
Metal ion is (CH3)3Sn+.

Sn++++ nmr NaClO4 25°C 0.50M C I 1991HKa (12183) 229
*K(Sn(CH3)3(H2O)2)=-6.34
In 0.5 M KNO3, *K=-6.35; in 0.5 M KCl, *K=-6.38.

Sn++++ gl KNO3 25°C 0.10M C H 1989APa (12184) 230
*K1=-3.124
*B(2,2)=-5.05
*B(2,3)=-9.74
*B(1,2)=-8.428
*B(1,3)=-19.450. M=(CH3)2Sn(IV). Also DH by calorimetry

Sn++++ gl KNO3 25°C 0.10M C H 1989APa (12185) 231
*K1=-3.102
*B(2,2)=-5.07
*B(2,3)=-10.26
*B(1,2)=-8.563
M=(CH3CH2)2Sn(IV). Also DH by calorimetry.

Sn++++ gl NaClO4 25°C 0.30M C 1987HOa (12186) 232
*K1=-6.26
M = Sn(CH3)3(H2O)2+

Sn++++ gl NaClO4 25°C 0.30M U 1985HDa (12187) 233
K(Me3SnOH+H)=4.74

Sn++++ gl none 25°C 0.0 M K1=14.09 B2=27.69 1978TEa (12188) 234
B3=41.45
B4=54.99

```
Sn++++     sol oth/un 25°C       U T                    1973KBa (12189) 235
                                       Ks(Sn(OH)4(s)=Sn(OH)4)=-6.44
Ks=-6.04(100 C), -5.49(200 C), -5.25(300 C), -5.07(400 C).
log Ks4=-746.4/T-3.959
-------------------------------------------------------------------------------
Sn++++     sp  none   25°C 0.00  U                      1973KBa (12190) 236
                                       *K1=-0.49
                                       *K2=0.19
                                       *K3=0.88
                                       *K4=2.03
-------------------------------------------------------------------------------
Sn++++     gl  alc/w  25°C  40%  U                      1972DEa (12191) 237
                                       K'=-5.1
                                       K"=-4
Medium: 40% w/w MeOH/H2O, 1 M NaCl.         K': 0.8(EtSn)10(OH)28 + 0.6 H2O=
(EtSn)8(OH)23 + 0.6H.      K": 0.1(EtSn)10(OH)28 + 0.2H2O=EtSn(OH)3 + 0.2H
-------------------------------------------------------------------------------
Sn++++     gl  alc/w  25°C  40%  U                      1972DEa (12192) 238
                                       K'=-5.75
                                       K"=-9.7
Medium: 40% w/w MeOH/H2O, 1 M NaCl.                    K': 3EtSn(OH)3 + H2O=
(EtSn)3(OH)10 + H.      K": 1/3(EtSn)3(OH)10 +2/3H2O=EtSn(OH)4 + 2/3H
-------------------------------------------------------------------------------
Sn++++     sp  KNO3   25°C 1.00M U        K1=14.57  B2=28.68  1971NAc (12193) 239
                                       B3=42.35
                                       B4=55.13
-------------------------------------------------------------------------------
Sn++++     sol oth/un 25°C       U                      1970BKa (12194) 240
                                       Ks4=-6.4
                                       Ks5=-4.8
Medium: NaOH. Ksn: Sn(OH)4(s)(cassiterite) + (n-4)OH = Sn(OH)n
-------------------------------------------------------------------------------
Sn++++     gl  alc/w  25°C  40%  U                      1970DEb (12195) 241
                                       K'=-25.5
                                       K"=-17.1
Medium: 40% w/w MeOH/H2O, 1 M NaCl.              K': 10(EtSn)3(OH)6 + 21H2O=
3(EtSn)10(OH)27 + 21H.    K": (EtSn)6(OH)15 + 12H2O=6(EtSn)10(OH)27 + 12H
-------------------------------------------------------------------------------
Sn++++     gl  alc/w  25°C  20%  U                      1970DEb (12196) 242
                                       *K=ca.-2
Medium: 20% w/w MeOH/H2O, 1 M NaCl.  *K: EtSnCl2 + H2O=EtSnCl2OH + H
-------------------------------------------------------------------------------
Sn++++     sol oth/un 100°C       U                     1970KBb (12197) 243
                                       K1=ca.36.5
                                       B2=ca.41.6
                                       B3=46.7
                                       B4=51.4
B5=54.6,B6=57.6. Kso(Sn(OH)4(s)=Sn + 4OH)=-53.77. Medium: MOH(M=Na,K) at
various concentrations at 17 atm
-------------------------------------------------------------------------------
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```
Sn++++     sol oth/un 300°C       U T                    1970KMd (12198) 244
                                        B3=41.7
                                        B4=48.7
At 90 atm. At 100 C: B4=51.4
-------------------------------------------------------------------------------
Sn++++     gl  alc/w  25°C  40%  U                       1969DEb (12199) 245
                                        *K(EtSn+H2O=EtSnOH+H)=-2.2
                                        *B(3,6)=-7.9
                                        *B(10,27)=-39.5
                                        *K((EtSn)10(OH)27)=-4.4
*K((EtSn)10(OH)28=(EtSn)10O(OH)27 + H)=ca.-7.2. Medium: 40% w/w MeOH/H2O,
1 M KCl. *B(n,m): nEtSn + mH2O=(EtSn)n(OH)m + mH
-------------------------------------------------------------------------------
Sn++++     gl  KCl    25°C  1.0M U  I                   1968ACb (12200) 246
                                        *K1(SnEt2)=-2.65
                                        *B2(SnEt2)=-4.84
                                        *B(2,2-SnEt2)=-4.00
                                        *B(2,3-SnEt2)=-7.60
Data also in 'dilute' soln. In 2 M KCl:*K1(Me3Sn)=-6.40, *B(1,2-Me3Sn)=-5.45
*B((2,2-Me3Sn)=-13.85
-------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 3.00M U                       1966TFa (12201) 247
                                        *K1(SnMe2)=-3.54
                                        *K1(SnEt2)=-3.40
                                        *K1(SnPr2)=-2.92
                                        K(2SnMe2OH=(SnMe2OH)2)=2.48
K(2Et2SnOH=(Et2SnOH)2)=2.43, 2.27(Pr)
-------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 3.00M U                       1966TFa (12202) 248
                                        *K1(SnMe3)=-6.60
                                        *K1(SnEt3)=-6.81
-------------------------------------------------------------------------------
Sn++++     dis NaNO3  30°C 0.10M U                       1965SMg (12203) 249
                                        K(SnPh3+L)=9.2
Kd((Ph)3Sn(OH)=(Ph)3Sn(OH)(org)0=4.0 (org=C6H6), 2.8 (org=iso-BuCOMe)
-------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 3.00M U  I                    1964TYa (12204) 250
                                        *K1(SnMe2)=-3.55
                                        *B2(SnMe2)=-9.00
                                        *B(2,2-SnMe2)=-4.52
                                        *B(4,6-SnMe2)=-16.14
Alternative model: *K1=-3.54, *B2=-8.98, *B(2,2)=-4.60, *B(2,3)=-9.76,
*B(3,4)=-10.48. In D2O: *K1=-4.06,*B2=-10.16,*B(2,2)=-4.22,*B(4,6)=-16.14
-------------------------------------------------------------------------------
Sn++++     gl  NaCl   25°C 0.10M U                       1964TYa (12205) 251
                                        *K1(SnMe2)=-3.245
                                        *B2(SnMe2)=-8.52
                                        *B(2,2)=-5.00
                                        *B(4,6)=-18.53
Other models also treated
```

```
--------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 3.00M U  I                    1964TYb (12206) 252
                                        *K1(SnEt3)=-6.81
In D2O *K1(Et3Sn)=-7.50
--------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C  3.0M U                       1963NTa (12207) 253
                                        *K1=-3.50
                                        *B(2,2)=-4.34
Sn as Et2Sn. *B(2,2): 2Sn+2H2O=Sn2(OH)2+2H)
--------------------------------------------------------------------------------
Sn++++     gl  KNO3   25°C 0.10M U                       1963YTa (12208) 254
                                        *K1=-3.2
                                        *B(2,2)=-4.6
Metal as Me2Sn. *B(2,2): 2Sn+2H2O=Sn2(OH)2+2H
--------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C  3.0M U                       1962TOb (12209) 255
                                        *K1=-3.45
                                        *B2=-9.0
                                        *B(2,2)=-4.7
                                        *B(2,3)=-9.8
Metal as Me2Sn
--------------------------------------------------------------------------------
Sn++++     oth oth/un 25°C  var  U                       1958HEa (12210) 256
Medium: 0-90% H2O2. By tyndallometry.  Ks(SnO2(s)+4H2O=Sn(OH)6+2H)=-12.26
Ks(Al2(Sn(OH)6)3(s)=2Al+3Sn(OH)6)=-20.5 ?
--------------------------------------------------------------------------------
Sn++++     gl  oth/un 25°C  dil  U                       1953RSa (12211) 257
                                        *K1(SnMe2)=-3.11
********************************************************************************
PO4---                H3L    Phosphate        CAS 7664-38-2  (176)
Phosphate;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     gl  KNO3   25°C 0.10M M TI                    2001ASa (13328) 258
                                        K(Me2Sn+H2PO4)=6.41
                                        K(Me2Sn+2H2PO4)=10.94
Metal ion is (CH3)2Sn++. Data for 15-35 C and for 25-75% v/v dioxane/H2O.
--------------------------------------------------------------------------------
Sn++++     gl  NaNO3  25°C 0.10M M                       1992SHc (13329) 259
                                        K(R3Sn+HPO4)=4.30
Metal ion is (CH3)3Sn+.
********************************************************************************
P2O7----              H4L    Pyrophosphate    CAS 2466-09-3  (198)
Diphosphate; from (HO)2PO.O.PO(OH)2
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     gl  NaCl   25°C 0.15M C        K1=22.61  B2=27.08  1991DWa (13654) 260
                                        B(SnHL)=23.56
```

B(SnHL2)=33.36
B(SnH-1L2)=19.84

Sn++++ gl NaClO4 25°C 0.30M C 1987HOa (13655) 261
B(SnHL)=10.80
Sn=Sn(CH3)3(H2O)2
****
P3O10----- H5L CAS 10380-08-2 (1001)
Tripolyphosphate; from (HO)2PO.O.PO(OH).O.PO(OH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ cal KNO3 25°C 0.10M C H 1992ACa (13904) 262
Metal is Sn(Me)2++. DH(K1)=13.3 kJ mol-1, DS=234; DH(SnHL)=15.9, DS=342;
DH(SnH2L)=25.9, DS=431; DH(SnL2)=13.4, DS=277; DH(Sn2L)=23.0, DS=395.

Sn++++ gl KNO3 25°C 0.10M C 1990ACa (13905) 263
K(SnMe2+L)=9.88
B((SnMe2)L2)=12.13
B((SnMe2)HL)=15.02
B((SnMe2)H2L)=17.67
B((SnMe2)2L)=16.07
****
S-- H2L Sulfide CAS 7783-06-4 (705)
Sulfide;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ oth none 25°C 0 U 1988LIa (14476) 264
Kso(SnS2)=-70.8
*Kso(SnS2)=-36.2
Derived from thermodynamic data and K(H+S=HS)=17.3.

Sn++++ gl NaCl 25°C 1.0M U 1974LDa (14477) 265
K(3EtSnS3+3H+6H2O=(EtSn)3(OH)6(HS)8+HS)=31.4

Sn++++ ISE NaNO3 25°C 0.10M U 1968HRa (14478) 266
K(SnS2(s)+S=SnS3)=5.31

Sn++++ sol oth/un 25°C var U 1962DGb (14479) 267
Ks(SnL2(s)+HL=HSnL3)=-0.7

Sn++++ sol oth/un 20°C var U 1956BLa (14480) 268
K(SnL2(s)+OH=SnL2OH)=0.20
K(SnL2(s)+L=SnL3)=5.04
****
SO4-- H2L Sulfate CAS 7664-93-9 (15)
Sulfate;

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

---

Sn++++ gl NaNO3 25°C 0.0 C 2004FGa (16550) 269
K((CH3)3Sn+SO4)=0.37
K((C2H5)3Sn+SO4)=0.44
K((C3H7)3Sn+SO4)=0.5

Sn++++ gl R4N.X 25°C 0.0 C I M K1=2.53 B2= 2.98 1996DFa (16551) 270
B(MH-1SO4)=-1.22
B(MH-2SO4)=-8.27
Metal is (CH3)2Sn++. Data for I=0.0 to 1.0 M for Me4NCl and NaCl media.

Sn++++ sp oth/un 25°C 0.0 U K2=2.3 1957BRd (16552) 271

Sn++++ sol oth/un 18°C 0.0 U T 1955BRa (16553) 272
K(SnO2(s)+2H2L=SnL+L+2H2O)=-1.55(18 C), -1.30(30 C)

Sn++++ sp oth/un 25°C var U B2=-0.85 1954BRb (16554) 273

****

CH2O2 HL Formic acid CAS 64-18-6 (37)
Methanoic acid; H.COOH

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

---

Sn++++ gl NaNO3 25°C 0.10M M K1=2.45 1992SHc (17648) 274
Metal ion is (CH3)3Sn+.

Sn++++ dis oth/un 18°C 0.10M U K1=2.65 1971MTa (17649) 275
Metal ion: Sn(C3H7)3+

****

CH4N2S L Thiourea CAS 62-56-6 (51)
Thiocarbamide, Thiourea; (H2N)2CS

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

---

Sn++++ sp oth/un 25°C 3.00M U I B2=0.91 1981VSb (17858) 276

****

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

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

---

Sn++++ EMF alc/w 20°C 100% U 1971GSa (17901) 277
B(Sn2L3)=36.67
K(Sn+2HL=SnL2+2H) > 1
Medium: MeOH, 1 M LiCl or Li tosylate

****

CH5N L Methylamine CAS 74-89-5 (155)
Methylamine; CH3.NH2

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

---

Sn++++ gl diox/w 25°C 75% C K1=6.73 1998SMb (18032) 278
Metal is (C6H5)3Sn+ Medium: 75% dioxane/H2O, 0.10 M NaNO3.

Sn++++ gl KCl 25°C 0.10M U 1992SHa (18033) 279
K(SnMe3(OH)+L)=7.26

****

C2H2O2Cl2 HL CAS 79-43-6 (1282)
Dichloroethanoic acid; Cl2CH.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	dis	oth/un	18°C	0.10M	U		K1=0.40	1971MTa	(18399) 280

Metal ion: Sn(C3H7)3+

****

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
Sn++++	gl	NaNO3	25°C	0.10M	C		K(R2Sn+L)=8.41	2003MOa	(19069) 281

Metal is R2Sn(IV), where R = vinyl.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaClO4	25°C	0.30M	C		K1=1.49	1987HOa	(19070) 282

Sn=Sn(CH3)3(H2O)2

****

C2H3N L Cyanomethane CAS 75-05-8 (1399)
Acetonitrile; CH3.CN

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	sp	non-aq	25°C	100%	U	M	K(SnA4+2L)=1.40	1976VCa	(19195) 283

Medium: MeCN

****

C2H3O2Cl HL Chloroacetic CAS 79-11-8 (34)
Chloroethanoic acid; ClCH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	dis	oth/un	18°C	0.10M	U		K1=1.73	1971MTa	(19383) 284

Metal ion: Sn(C3H7)3+

****

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
Sn++++	gl	diox/w	25°C	75%	C		K1=6.92	1998SMb	(20172) 285

Metal is (C6H5)3Sn+ Medium: 75% dioxane/H2O, 0.10 M NaNO3.

Sn++++ gl none 25°C 0 M T K1=3.01 B2=5.25 1997SGa (20173) 286
B(ML(OH))=13.075
B(MH-1L)=-0.925

Metal ion: SnMe2++. Extrapolated to I=0

Sn++++ gl KNO3 25°C 0.10M C H K1=2.815 B2=4.62 1990AGa (20174) 287
B(MH-1L)=-1.320

M=Sn(CH3)2++. DH(K1)=-4.18, DH(B2)=27.2, DH(MH-1L)=33.8 kJ mol-1.
DS(K1)=40, DS(B2)=183, DS(MH-1L)=88.6 J K-1 mol-1.

Sn++++ gl NaClO4 25°C 0.30M C K1=1.25 1987HOa (20175) 288

Sn=Sn(CH3)3(H2O)2

Sn++++ dis oth/un 18°C 0.10M U K1=3.63 1971MTa (20176) 289

Metal ion is Sn(C3H7)3+

****

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
Sn++++	gl	NaClO4	25°C	0.10M	C		K1=13.85	2002GNd (20370)	290
							B((Me2Sn)H-1L)=7.64		

Metal is (CH3)2Sn++. By spectrophotometry, K1=14.16

Sn++++ gl NaClO4 25°C 0.30M C K1=6.35 1987HOa (20371) 291

Sn=Sn(CH3)3(H2O)2

****

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
Sn++++	gl	NaClO4	25°C	0.10M	C		K1=3.05	2002GNd (20634)	292
							B((Me2Sn)H-1L)=-0.12		

Metal is (CH3)2Sn++.

****

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
Sn++++	gl	NaNO3	25°C	0.10M	C			2003MOa (21716)	293
							K(R2Sn+L)=10.65		
							K(R2Sn+2L)=19.38		
							K(R2Sn+H+L)=13.96		

Metal is R2Sn(IV), where R = vinyl.

Sn++++ gl NaClO4 25°C 0.10M C K1=7.99 1999SRa (21717) 294
B(MHL)=11.03
B(MH-1L)=2.40
M is Sn(CH3)2++.

Sn++++ gl diox/w 25°C 75% C K1=6.75 1998SMb (21718) 295
Metal is (C6H5)3Sn+ Medium: 75% dioxane/H2O, 0.10 M NaNO3.

Sn++++ gl KCl 25°C 0.10M U 1992SHa (21719) 296
K(SnMe3(OH)+L)=6.38

Sn++++ gl diox/w 20°C 75% M T H 1988SSf (21720) 297
K(SnMe2+L)=11.31
30 C: K=11.35; 40 C: K=10.68. DH=-47.8 kJ mol-1, DS=55 J K-1 mol-1.
****
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
---
Sn++++ gl diox/w 30°C 75% U K1=12.63 B2=20.98 1980NGa (21815) 298
****
C2H6N2O L Glycinamide CAS 598-41-4 (60)
2-Aminoethanoic acid amide; H2N.CH2.CO.NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ gl NaNO3 25°C 0.10M C 2003MOa (21954) 299
K(R2Sn+L)=7.47
K(R2Sn+L=R2SnL(OH)+H)=3.62
Metal is R2Sn(IV), where R = vinyl.
****
C2H6OS HL CAS 60-24-2 (841)
2-Mercaptoethanol; HS.CH2.CH2.OH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ gl NaNO3 25°C 0.10M M K1=6.98 1992SHc (22081) 300
Metal ion is (CH3)3Sn+.

Sn++++ gl NaClO4 25°C 0.30M C K1=5.94 1987HOa (22082) 301
Sn=Sn(CH3)3(H2O)2
****
C2H6OS L DMSO CAS 67-68-5 (329)
Dimethylsulfoxide; (CH3)2.SO

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ nmr non-aq 27°C 100% U M 1987HHa (22124) 302
K(Bu3SnCl+L)=1.31

K(Bz3SnCl+L)=1.38
K(Ph3SnCl+L)=1.55
Medium: DMSO/CDCl3
****
C2H7N L Ethylamine CAS 75-04-7 (156)
Ethylamine; CH3.CH2.NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ gl NaNO3 25°C 0.10M M K1=7.35 1992SHc (22279) 303
Metal ion is (CH3)3Sn+.
****
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
---
Sn++++ gl NaNO3 25°C 0.10M C 2003MOa (22499) 304
K(R2Sn+L)=15.58
K(R2Sn+2L)=19.58
K(R2Sn+H+L)=20.40
Metal is R2Sn(IV), where R = vinyl.

Sn++++ gl diox/w 25°C 75% C K1=11.28 1998SMb (22500) 305
B((C6H5)3SnHL)=19.70
Metal is (C6H5)3Sn+ Medium: 75% dioxane/H2O, 0.10 M NaNO3.

Sn++++ gl KCl 25°C 0.10M U 1987HOa (22501) 306
B(SnHL)=15.52
Sn=Sn(CH3)3(H2O)2
****
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
---
Sn++++ gl NaNO3 25°C 0.10M C 2003MOa (23231) 307
K(R2Sn+L)=14.02
K(R2Sn+2L)=20.24
K(R2Sn+H+L)=19.26
Metal is R2Sn(IV), where R = vinyl.

Sn++++ gl NaNO3 25°C 0.10M M K1=7.03 1992SHc (23232) 308
B(R3SnHL)=13.72
Metal ion is (CH3)3Sn+.
****
C3H4N2 L Imidazole CAS 288-32-4 (90)
1,3-Diazole, imidazole; C3H4N2

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

```
--------------------------------------------------------------------------------
Sn++++     gl  diox/w 25°C  75%  C        K1=3.92        1998SMb (23926) 309
Metal is (C6H5)3Sn+  Medium: 75% dioxane/H2O, 0.10 M NaNO3.
--------------------------------------------------------------------------------
Sn++++     gl  KCl    25°C 0.10M U                       1992SHa (23927) 310
                                        K(SnMe3(OH)+L)=3.46
********************************************************************************
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
--------------------------------------------------------------------------------
Sn++++     gl  NaNO3  25°C 0.10M C                         2003MOa (24555) 311
                                        K(R2Sn+L)=6.71
                                        K(R2Sn+2L)=12.10
Metal is R2Sn(IV), where R = vinyl.
--------------------------------------------------------------------------------
Sn++++     gl  none   25°C    0  M T      K1=5.43   B2=7.21   1997SGa (24556) 312
                                        B(ML(OH))=13.99
                                        B(MH-1L)=-0.01
                                        B(MHL)=7.81
Metal ion: SnMe2++.  Extrapolated to I=0
--------------------------------------------------------------------------------
Sn++++     gl  KNO3   25°C 0.10M C   H    K1=4.543  B2=6.14   1990AGa (24557) 313
                                        B(MH-1L)=-0.744
                                        B(MHL)=6.95
M=Sn(CH3)2++. DH(K1)=23.48, DH(B2)=13.0, DH(MH-1L)=42.6, DH(MHL)=23.0
kJ mol-1. DS(K1)=165, DS(B2)=165, DS(MH-1L)=129, DS(MHL)=209
--------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 0.30M C                         1987HOa (24558) 314
                                        B(Sn2L)=3.37
Sn=Sn(CH3)3(H2O)2
********************************************************************************
C3H6O                   L    Acetone          CAS 67-64-1  (1912)
Propan-2-one, acetone; CH3.CO.CH3
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     sp  non-aq 25°C 100%  U    M                   1976VCa (24857) 315
                                        K(SnBr4+2L)=1.60
Medium: acetone
********************************************************************************
C3H6OS                  HL                     CAS 1892-31-5  (3550)
Thiopropanoic acid; CH3.CH2.CO.SH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 0.10M C        K1=14.13       2002GNd (24860) 316
                                        B((Me2Sn)H-1L)=7.48
Metal is (CH3)2Sn++.
```

****

C3H6O3 HL L-Lactic acid CAS 79-33-4 (82)
L-2-Hydroxypropanoic acid; CH3.CH(OH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaClO4	25°C	0.10M	C		K1=2.90 B((Me2Sn)H-1L)=-0.09	2002GNd (25542)	317

Metal is (CH3)2Sn++.

****

C3H7NO2 HL Alanine CAS 56-41-7 (86)
2-Aminopropanoic acid; H2N.CH(CH3).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaNO3	25°C	0.10M	C		K(R2Sn+L)=9.70 K(R2Sn+2L)=17.44 K(R2Sn+H+L)=13.07	2003MOa (26267)	318

Metal is R2Sn(IV), where R = vinyl.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	diox/w	25°C	75%	C		K1=6.83	1998SMb (26268)	319

Metal is (C6H5)3Sn+ Medium: 75% dioxane/H2O, 0.10 M NaNO3.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	KNO3	25°C	0.10M	C		K(SnMe2+L)=8.27 B((SnMe2)HL)=11.28 B((SnMe2)H-1L)=3.25 B((SnMe2)H-2L)=-5.93	1995ACa (26269)	320

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	diox/w	20°C	75%	U T H		K(SnMe2+L)=11.54	1988SSf (26270)	321

30 C: K=11.36; 40 C: K=11.73. DH=-41.0 kJ mol-1. DS=78 J K=1 mol-1

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaNO3	25°C	0.10M	C		K(R2Sn+L)=18.88 K(R2Sn+2L)=23.54 K(R2Sn+H+L)=23.76	2003MOa (26835)	322

Metal is R2Sn(IV), where R = vinyl.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	diox/w	25°C	75%	C		K1=12.98 B((C6H5)3SnHL)=19.60	1998SMb (26836)	323

Metal is (C6H5)3Sn+ Medium: 75% dioxane/H2O, 0.10 M NaNO3.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaNO3	25°C	0.10M	M		K1=7.22	1992SHc (26837)	324

B(R3SnHL)=15.42
Metal ion is (CH3)3Sn+.

Sn++++ gl NaClO4 25°C 0.30M U 1985HDa (26838) 325
B((Me3Sn)HL)=15.11
K(Me3Sn+HL)=4.66
****
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
---
Sn++++ gl NaNO3 25°C 0.10M C 2003MOa (27177) 326
K(R2Sn+L)=9.88
K(R2Sn+2L)=16.50
K(R2Sn+H+L)=13.39
Metal is R2Sn(IV), where R = vinyl.

Sn++++ gl diox/w 25°C 75% C K1=6.20 1998SMb (27178) 327
Metal is (C6H5)3Sn+ Medium: 75% dioxane/H2O, 0.10 M NaNO3.

Sn++++ gl KCl 25°C 0.10M U 1992SHa (27179) 328
K(SnMe3(OH)+L)=5.71
****
C3H8OS2 H2L BAL CAS 59-52-9 (379)
2,3-Dimercaptopropan-1-ol; HS.CH2.CH(SH).CH2(OH)

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ gl NaClO4 25°C 0.30M C K1=8.50 1987HOa (27665) 329
B(SnHL)=16.22
Sn=Sn(CH3)3(H2O)2
****
C3H9N L n-Propylamine CAS 107-10-8 (2356)
1-Aminopropane; H2N.CH2.CH2.CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ gl NaNO3 25°C 0.10M M K1=7.46 1992SHc (27833) 330
Metal ion is (CH3)3Sn+.
****
C3H9N L Trimethylamine CAS 75-50-3 (803)
Trimethylamine; (CH3)3.N

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ gl NaClO4 25°C 0.10M C K1=5.78 B2= 8.84 1997TNa (27863) 331
B(Me3SnH-1L)=-4.08
Metal is Me3Sn+.
****

C4H4N2O2 HL Uracil CAS 66-22-8 (412)
2,4-Dihydroxypyrimidone, 2,4-Pyrimidinedione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Sn++++	gl	KNO3	25°C	0.10M	M		K1=9.34	B2=16.60	2001ASa (28869)	332

Metal ion is (CH3)2Sn++.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaNO3	25°C	0.10M	M		K1=6.39	2001MSc (28870)	333
							B((CH3)3SnH-1L)=-0.96		

Metal ion is (CH3)3Sn+.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	diox/w	25°C	75%	C		K1=8.23	1998SMb (28871)	334

Metal is (C6H5)3Sn+ Medium: 75% dioxane/H2O, 0.10 M NaNO3.

****

C4H5N3O HL Cytosine CAS 71-30-7 (1096)
2-Oxy-6-aminopyrimidine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Sn++++	gl	KNO3	25°C	0.10M	M		K1=4.44	B2= 8.54	2001ASa (29417)	335

Metal ion is (CH3)2Sn++.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaNO3	25°C	0.10M	M		K1=2.96	2001MSc (29418)	336
							B((CH3)3SnH-1L)=-2.95		

Metal ion is (CH3)3Sn+.

****

C4H6O3 L CAS 108-24-7 (2538)
Acetic anhydride; CH3.CO2.CO.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	sp	non-aq	5°C	100%	U	M		1976VCa (29751)	337
							K(SnBr4+L)=-0.097		
							K(SnBr4L+L)=0.60		

Medium: benzene

****

C4H6O4 H2L Succinic acid CAS 110-15-6 (112)
1,4-Butanedioic acid; HOOC.CH2.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaNO3	25°C	0.10M	C			2003MOa (30042)	338
							K(R2Sn+L)=6.22		
							K(R2Sn+2L)=10.91		

Metal is R2Sn(IV), where R = vinyl.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaClO4	25°C	0.10M	C		K1=4.65	2002GNd (30043)	339
							B((Me2Sn)HL)=8.51		
							B((Me2Sn)H-1L)=-0.27		

```
                                        K(Me2Sn+HL=Me2SnHL)=3.27
                                        K(Me2Sn+H2L=Me2SnL+2H)=-4.59
Metal is (CH3)2Sn++.
--------------------------------------------------------------------------------
Sn++++     gl  NaCl   25°C  0.0  C  I                  1999SFa (30044) 340
                                        K(SnMe3+L)=2.374
                                        K(SnMe3+L+H)=7.182
I=0.25 M: K values: 2.103, 6.63; I=0.5 M: 2.343, 6.99; I=1.0: 2.521, 7.06
--------------------------------------------------------------------------------
Sn++++     gl  KNO3   25°C 0.10M C   H    K1=4.54        1990AGa (30045) 341
                                        B(MH-1L)=-0.30
                                        B(MHL)=8.25
                                        B(MHL2)=11.28
M=Sn(CH3)2++. DH(K1)=29.3, DH(MHL)=10.0, DH(MH-1L)=36.3 kJ mol-1.
DS(K1)=184, DS(MHL)=191, DS(MH-1L)=117 J K-1 mol-1
--------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 0.30M C                    1987HOa (30046) 342
                                        B(SnHL)=6.69
                                        B(Sn2L)=3.93
Sn=Sn(CH3)3(H2O)2
********************************************************************************
C4H6O4S              H2L    Thiodiacetic     CAS 123-93-3  (140)
2,2'-Thiodiglycolic acid, Thiodiethanoic acid; HOOC.CH2.S.CH2.COOH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     gl  KNO3   25°C 0.10M C   H    K1=3.103       1992CGa (30232) 343
                                        B(SnH-1L)=-1.22
                                        B(SnHL)=6.30
Metal is Sn(Me)2++. DH(K1)=21.3 kJ mol-1, DS(K1)=-132 J K-1 mol-1.
DH(SnHL)=6.7, DS(SnHL)=-143.
********************************************************************************
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
--------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 0.10M C        K1=14.18       2002GNd (30364) 344
                                        B((Me2Sn)H-1L)=7.24
                                        B((Me2Sn)HL)=18.47
                                        K(Me2Sn+HL=Me2SnHL)=13.88
Metal is (CH3)2Sn++.
--------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 0.30M C        K1=5.98        1987HOa (30365) 345
                                        B(Sn2L)=8.48
Sn=Sn(CH3)3(H2O)2
********************************************************************************
C4H6O4S2             H4L                    CAS 2418-14-6  (4264)
2,3-Dimercaptobutanedioic acid; HOOC.CH(SH).CH(SH).COOH
--------------------------------------------------------------------------------
```

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Sn++++	gl	NaClO4	25°C	0.10M	C		B2=43.41		2002GNd (30397)	346
							B((Me2Sn)2H-1L2)=33.11			
							B((Me2Sn)HL)=26.11			
							B((Me2Sn)H2L)=29.07			

Metal is (CH3)2Sn++. Ligand is meso isomer.

****

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
Sn++++	gl	NaClO4	25°C	0.10M	C		K1=5.09		2002GNd (30728)	347
							B((Me2Sn)HL)=7.69			
							B((Me2Sn)H-1L)=1.51			
							K(Me2Sn+HL=Me2SnHL)=2.95			
							B((Me2Sn)H-2L)=-6.30			

Metal is (CH3)2Sn++. K(Me2Sn+H2L=Me2SnL+2H)=-2.93.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Sn++++	gl	KCl	31°C	0.10M	U				1976MPc (30729)	348
							K(SnMe2+H2L=SnMe2L+2H)=-6.22			
							K(SnMe2H-1L+H)=4.79			
							K(SnMe2H-2L+H)=7.81			

****

C4H6O5 H2L Diglycolic acid CAS 110-99-6 (243)

Di(carboxy)methyl ether, 2,2'-Oxydiethanoic acid; HOOC.CH2.O.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Sn++++	gl	KNO3	25°C	0.10M	C	H	K1=5.184		1992CGa (30931)	349
							B(SnH-1L)=-1.36			

Metal is Sn(Me)2++. DH(K1)=3.8 kJ mol-1, DS(K1)=-112 J K-1 mol-1.

****

C4H6O6 H2L D-Tartaric acid CAS 147-71-7 (93)

D-Tartaric acid, D-2,3-Dihydroxybutanedioic acid; HOOC.CH(OH).CH(OH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Sn++++	sp	oth/un	?	?	U		K1=0.54		1991MBd (30979)	350

Method: polarimetry

****

C4H6O6 H2L DL-Tartaric acd CAS 133-37-9 (94)

DL-Tartaric acid,DL-2,3-Dihydroxybutanedioic acid; HOOC.CH(OH).CH(OH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Sn++++	gl	NaClO4	25°C	0.10M	C		K1=4.33		2002GNd (31030)	351
							B((Me2Sn)H-1L)=0.90			
							B((Me2Sn)HL)=6.40			

B((Me2Sn)H-2L)=-5.83
K(Me2Sn+HL=Me2SnHL)=2.49
Metal is (CH3)2Sn++. K(Me2Sn+H2L=Me2SnL+2H)=-2.48.
****
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
---
Sn++++ gl NaClO4 25°C 0.30M C 1987HOa (31358) 352
B(Sn2L)=3.07
Sn=Sn(CH3)3(H2O)2
****
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
---
Sn++++ gl NaNO3 25°C 0.10M C 2003MOa (31944) 353
K(R2Sn+L)=11.39
K(R2Sn+2L)=19.39
K(R2Sn+H+L)=14.09
K(R2Sn+2H+L)=17.30
Metal is R2Sn(IV), where R = vinyl.

Sn++++ gl NaClO4 25°C 0.30M C 1987HOa (31945) 354
B(SnHL)=11.58
Sn=Sn(CH3)3(H2O)2
****
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
---
Sn++++ gl KNO3 25°C 0.10M C H K1=9.414 1992CGa (32363) 355
B(SnH-1L)=2.41
Metal is Sn(Me)2++. DH(K1)=-8.7 kJ mol-1, DS(K1)=-151 J K-1 mol-1.
****
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
---
Sn++++ gl NaNO3 25°C 0.10M C 2003MOa (33053) 356
K(R2Sn+L)=8.32
K(R2Sn+L=R2SnL(OH)+H)=3.26
Metal is R2Sn(IV), where R = vinyl.

Sn++++ gl NaClO4 25°C 0.10M C K1=6.61 1999SRa (33054) 357
B(MHL)=10.07

B(MH-1L)=1.80

M is Sn(CH3)2++.

****

C4H8O L THF CAS 109-99-9 (2537)

Tetrahydrofuran; cyclo(-CH2.CH2.O.CH2.CH2-)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	sp	non-aq	5°C	100%	U	HM		1976VCa	(33189) 358
							K(SnI4+L)=-0.046		
							K(SnI4L+L)=1.12		

Medium: benzene. In THF: K(SnCl4+2L)=2.94

****

C4H9NO2 HL Dimethylglycine CAS 1118-68-9 (88)

N,N-Dimethyl-2-aminoethanoic acid; (CH3)2N.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaClO4	25°C	0.10M	C		K1=6.65	1997TNa	(34033) 359
							B(Me3SnHL)=12.84		
							B(Me3SnH-1L)=-3.19		
							B((Me3Sn)2L)=8.79		

Metal is Me3Sn+.

****

C4H9NO2S HL Methylcysteine CAS 1187-84-4 (84)

2-Amino-3-methylmercaptopropanoic acid; H2N.CH(CH2.S.CH3)COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	diox/w	25°C	75%	C		K1=5.81	1998SMb	(34106) 360

Metal is (C6H5)3Sn+ Medium: 75% dioxane/H2O, 0.10 M NaNO3.

****

C4H9NO3 HL Threonine CAS 72-19-5 (48)

2-Amino-3-hydroxybutanoic acid; H2N.CH(CH(OH).CH3)COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	diox/w	25°C	75%	C		K1=6.22	1998SMb	(34325) 361

Metal is (C6H5)3Sn+ Medium: 75% dioxane/H2O, 0.10 M NaNO3.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	KCl	25°C	0.10M	U			1992SHa	(34326) 362
							K(SnMe3(OH)+L)=5.78		

****

C4H10O L Ether CAS 60-29-7 (3573)

Diethyl ether (ethyl ether, ethoxyethane); C2H5.O.C2H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	nmr	non-aq	21°C	100%	C T H			2001FLb	(34653) 363
							K(SnCl4+L)=0.14		

K(SnCl4L+L)=0.52
Medium: dichloromethane. Method: 119Sn nmr. DH(SnCl4+L)=-25.5 kJ mol-1, DS(SnCl4+L)=-84.5 J K-1 mol-1; DH(SnCl4L+L)=-35.6, DS(SnCl4L+L)=-111.3.

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaNO3	25°C	0.10M	M		K1=7.46	1992SHc (34771)	364

Metal ion is (CH3)3Sn+.

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	alc/w	25°C	40%	C		K1=5.4	1978DEa (35064)	365
							B(10,1,28)=2.9		
							B(1,1,4)=-8.4		
							B(1,1,2)=1.40		
							B(1,2,3)=-2.7		

Medium: MeOH/water, metal: C2H5SnCl3. Polarography also used.
B(p,q,r): p(C2H5Sn)+q(C4H11NO3)+rH2O

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaNO3	25°C	0.10M	M		K1=7.53	1992SHc (35815)	366
							B(R3SnHL)=16.00		
							B(R3SnH2L)=21.13		

Metal ion is (CH3)3Sn+.

****

C5H5N L Pyridine CAS 110-86-1 (31)
Pyridine, Azine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	nmr	non-aq	27°C	100%	U	M		1987HHa (36679)	367
							K(Bu3SnCl+L)=0.61		
							K(Bz3SnCl+L)=0.67		
							K(Ph3SnCl+L)=1.04		

Medium: pyridine/CDCl3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaClO4	25°C	0.30M	C		K1=1.13	1987HOa (36680)	368

Sn=Sn(CH3)3(H2O)2

Sn++++ nmr non-aq 34°C 100% C K1=3.66 B2= 6.45 1981FSa (36681) 369
Method: 1H nmr. Metal is CH3SnCl3. Medium: nitrobenzene. Also data for
4-Me, 4-COCH3, 4-COOCH3, 4-CN and 4-NO2 substituted pyridines.

Sn++++ cal non-aq 25°C 100% U HM 1967MOb (36682) 370
Medium: n-hexane. DH(SnCl4(l)+2L(l)=SnCl4L2(c))=-221.1 kJ mol-1
DH(SnCl4(g)+2L(l)=SnCl4L2(c))=-253.7
****
C5H5N5 L Adenine CAS 73-24-5 (237)
6-Aminopurine; H2N.C5H3N4

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ gl KNO3 25°C 0.10M M K1=10.01 B2=17.70 2001ASa (36980) 371
Metal ion is (CH3)2Sn++.

Sn++++ gl NaNO3 25°C 0.10M M K1=7.33 2001MSc (36981) 372
B((CH3)3SnHL)=12.79
B((CH3)3SnH-1L)=0.01
Metal ion is (CH3)3Sn+.

Sn++++ gl diox/w 25°C 75% C K1=6.86 1998SMb (36982) 373
Metal is (C6H5)3Sn+ Medium: 75% dioxane/H2O, 0.10 M NaNO3.
****
C5H6N2O2 HL Thymine CAS 65-71-4 (413)
2,4-Dihydroxy-5-methylpyrimidine; C4HN2(CH3)(OH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ gl KNO3 25°C 0.10M M K1=9.61 B2=16.96 2001ASa (37288) 374
Metal ion is (CH3)2Sn++.

Sn++++ gl NaNO3 25°C 0.10M M K1=6.76 2001MSc (37289) 375
B((CH3)3SnH-1L)=-0.36
Metal ion is (CH3)3Sn+.

Sn++++ gl diox/w 25°C 75% C K1=8.60 1998SMb (37290) 376
Metal is (C6H5)3Sn+ Medium: 75% dioxane/H2O, 0.10 M NaNO3.
****
C5H6N2O2 HL CAS 645-65-8 (3620)
4(or 5)-Imidazolylethanoic acid; C3H3N2.CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ gl NaClO4 25°C 0.10M C K1=5.51 1999SRa (37318) 377
B(MHL)=9.08
B(MH-1L)=-0.08
M is Sn(CH3)2++.
****
C5H9NO2 HL Proline CAS 147-85-3 (44)

Pyrrolidine-2-carboxylic acid; C4H8N.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaNO3	25°C	0.10M	C			2003MOa (38642)	378
							K(R2Sn+L)=10.59		
							K(R2Sn+2L)=19.19		
							K(R2Sn+H+L)=13.85		

Metal is R2Sn(IV), where R = vinyl.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	diox/w	25°C	75%	C		K1=7.48	1998SMb (38643)	379

Metal is (C6H5)3Sn+ Medium: 75% dioxane/H2O, 0.10 M NaNO3.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	KCl	25°C	0.10M	U			1992SHa (38644)	380
							K(SnMe3(OH)+L)=7.45		

****

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
Sn++++	gl	NaNO3	25°C	0.10M	C			2003MOa (39125)	381
							K(R2Sn+L)=11.79		
							K(R2Sn+2L)=19.76		
							K(R2Sn+H+L)=15.55		
							K(R2Sn+2H+L)=18.75		

Metal is R2Sn(IV), where R = vinyl.

****

C5H9NO4 H2L MIDA CAS 4408-64-4 (190)

N-Methyliminodiethanoic acid; CH3.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaNO3	25°C	0.10M	C		K1=4.81	1997TNa (39281)	382
							B(Me3SnH-1L)=-4.44		

Metal is Me3Sn+.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaNO3	25°C	0.10M	C		K1=9.625	1996ANb (39282)	383
							B(ML2H)=20.73		
							B(MLH-1)=2.53		

Metal=[Sn(CH3)2]++

****

C5H9N3 L Histamine CAS 51-45-6 (103)

4(5)-(2'-Aminoethyl)imidazole; C3H3N2.CH2.CH2.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaNO3	25°C	0.10M	C			2003MOa (39545)	384
							K(R2Sn+L)=12.75		
							K(R2Sn+2L)=19.57		

```
                                        K(R2Sn+H+L)=17.86
Metal is R2Sn(IV), where R = vinyl.
--------------------------------------------------------------------------------
Sn++++     gl  diox/w 25°C  75%  C        K1=5.85        1998SMb (39546) 385
                                        B((C6H5)3SnHL)=11.14
Metal is (C6H5)3Sn+  Medium: 75% dioxane/H2O, 0.10 M NaNO3.
--------------------------------------------------------------------------------
Sn++++     gl  KCl    25°C 0.10M U                      1992SHa (39547) 386
                                        K(SnMe3(OH)+L+H)=12.66
                                        K(SnMe3(OH)+L)=6.73
********************************************************************************
C5H10N2O3              HL    Gly-Ala          CAS 3695-73-6  (56)
Glycyl-alanine; H2N.CH2.CO.NH.CH(CH3).COOH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     gl  NaNO3  25°C 0.10M C                      2003MOa (40007) 387
                                        K(R2Sn+L)=8.04
                                        K(R2Sn+L=R2SnL(OH)+H)=3.75
Metal is R2Sn(IV), where R = vinyl.
********************************************************************************
C5H10O4                 L    Deoxy-Ribose     CAS 533-67-5  (7470)
2-Deoxy-D-ribose, 2-Deoxy-D-erythro-pentose;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 0.10M C                      1999JNa (40328) 388
                                        B(SnH-3L)=-17.22
                                        B(SnH-4L2)=-27.09
Metal is Me2Sn++.
********************************************************************************
C5H10O5                 L    D-Arabinose      CAS 10323-20-3  (3606)
D-Arabinose;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 0.10M C                      1998BGa (40336) 389
                                        B((CH3)2SnH-3L)=-16.62
                                        B((CH3)2SnH-4L)=-28.01
Metal is (CH3)2Sn(IV)
********************************************************************************
C5H10O5                 L    D-Ribose         CAS 50-69-1  (512)
D-Ribose;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 0.10M C                      1999JNa (40355) 390
                                        B(SnH-3L)=-15.72
                                        B(SnH-4L2)=-24.90
Metal is Me2Sn++.
```

****
C5H10O5 L L-Arabinose CAS 5328-37-0 (1616)
L-Arabinose

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ gl NaClO4 25°C 0.10M C 1998BGa (40372) 391
B((CH3)2SnH-3L)=-16.64
B((CH3)2SnH-4L)=-28.22
Metal is (CH3)2Sn(IV)
****
C5H11NO2 L Betaine CAS 107-43-7 (4326)
(Carboxymethyl)trimethylammonium hydroxide inner salt; (CH3)3.N.CH2.CO2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ gl NaClO4 25°C 0.10M C K1=1.82 1997TNa (40468) 392
B(Me3SnH-1L)=-3.94
Metal is Me3Sn+.
****
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
---
Sn++++ gl NaNO3 25°C 0.10M C 2003MOa (40757) 393
K(R2Sn+L)=9.46
K(R2Sn+2L)=16.95
K(R2Sn+H+L)=12.83
Metal is R2Sn(IV), where R = vinyl.

Sn++++ gl diox/w 25°C 75% C K1=6.49 1998SMb (40758) 394
Metal is (C6H5)3Sn+ Medium: 75% dioxane/H2O, 0.10 M NaNO3.

Sn++++ gl KNO3 25°C 0.10M C 1995ACa (40759) 395
K(SnMe2+L)=7.84
B((SnMe2)HL)=11.04
B((SnMe2)H-1L)=2.69
B((SnMe2)H-2L)=-6.80
****
C5H11NO2 HL Nor-Valine CAS 760-78-1 (689)
2-Aminopentanoic acid; CH3.CH2.CH2.CH(NH2).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ gl KCl 25°C 0.10M U 1992SHa (40846) 396
K(SnMe3(OH)+L)=6.33
****
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
--------------------------------------------------------------------------------
Sn++++     gl  NaNO3  25°C 0.10M C                         2003MOa (41124) 397
                                      K(R2Sn+L)=10.12
                                      K(R2Sn+2L)=17.95
                                      K(R2Sn+H+L)=13.26
Metal is R2Sn(IV), where R = vinyl.
--------------------------------------------------------------------------------
Sn++++     gl  KCl    25°C 0.10M U                         1992SHa (41125) 398
                                      K(SnMe3(OH)+L)=5.97
--------------------------------------------------------------------------------
Sn++++     gl  diox/w 20°C  75%  M T H                     1988SSf (41126) 399
                                      K(SnMe2+L)11.26
30 C: K=10.86; 40 C: K=10.81.  DH=-36.8 kJ mol-1, DS=88.6 J K-1 mol-1
********************************************************************************
C5H11NO2S             H2L    Penicillamine    CAS 52-66-4  (350)
DL-2-Amino-3-mercapto-3-methylbutanoic acid; (CH3)2C(SH)CH(NH2)COOH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     gl  diox/w 25°C  75%  C        K1=11.10         1998SMb (41280) 400
                                      B((C6H5)3SnHL)=18.91
Metal is (C6H5)3Sn+  Medium: 75% dioxane/H2O, 0.10 M NaNO3.
--------------------------------------------------------------------------------
Sn++++     gl  NaNO3  25°C 0.10M M        K1=7.59          1992SHc (41281) 401
                                      B(R3SnHL)=15.35
Metal ion is (CH3)3Sn+.
--------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 0.30M C                         1987HOa (41282) 402
                                      B(SnHL)=14.50
Sn=Sn(CH3)3(H2O)2
********************************************************************************
C5H11O8P              H2L    Ribose-5-phosph  CAS 4300-28-1  (2756)
Ribose-5-phosphoric acid, Ribofuranoside 5 Phosphoric acid;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 0.10M C                         2002JNa (41424) 403
                                      B(R2SnH-1L)=0.14
                                      B(R2SnH-3L)=-15.46
                                      B(R2SnH-4L2)=-23.76
Metal is (CH3)2Sn++.
********************************************************************************
C5H12N2O2              HL    Ornithine        CAS 1069-31-4  (46)
2,5-Diaminopentanoic acid; H2N.CH2.CH2.CH2.CH(NH2)COOH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     gl  NaNO3  25°C 0.10M C                         2003MOa (41584) 404
```

K(R2Sn+L)=14.21
K(R2Sn+2L)=19.45
K(R2Sn+H+L)=19.26
K(R2Sn+2H+L)=22.58
Metal is R2Sn(IV), where R = vinyl.

Sn++++ gl diox/w 25°C 75% C K1=7.22 1998SMb (41585) 405
B((C6H5)3SnHL)=16.07
Metal is (C6H5)3Sn+ Medium: 75% dioxane/H2O, 0.10 M NaNO3.
****
C5H13N L 1-Pentylamine CAS 110-58-7 (3613)
1-Pentylamine; CH3.CH2.CH2.CH2.CH2.NH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ gl NaNO3 25°C 0.10M M K1=7.27 1992SHc (41713) 406
Metal ion is (CH3)3Sn+.
****
C6H5NCl2 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
---
Sn++++ sp diox/w 25°C 100% U T H 1976BSa (42344) 407
K(SnCl4+L)=1.76
At 10 - 50 C. DH = -28.8 kJ mol-1; DS = -63.5 J K-1 mol-1.

Sn++++ sp diox/w 25°C 100% U T H 1975BSb (42345) 408
K(SnCl4+L)=1.25
At 10-50 C. DH=-26.7 kJ mol-1; DS=-66.0 J K-1 mol-1
****
C6H5NCl2 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
---
Sn++++ sp diox/w 25°C 100% U T H 1975BSb (42349) 409
K(SnCl4+L)=1.76
At 10-50 C. DH=-28.8 kJ mol-1; DS=-63.5 J K-1 mol-1
****
C6H5NCl2 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
---
Sn++++ sp diox/w 25°C 100% U T H 1976BSa (42354) 410
K(PhSnCl3+L)=1.36
At 10 - 50 C. DH = -47.5 kJ mol-1; DS = -133 J K-1 mol-1.

Sn++++ sp diox/w 25°C 100% U T H 1975BSb (42355) 411

K(SnCl4+L)=2.94
At 10-50 C. DH=-32.2 kJ mol-1; DS=-51.8 J K-1 mol-1
****
C6H5NCl2 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
---
Sn++++ sp diox/w 25°C 100% U T H 1976BSa (42358) 412
K(SnCl4+L)=2.19
At 10-50 C. DH = -30.9 kJ mol-1; DS = -61.4 J K-1 mol-1.

Sn++++ sp diox/w 25°C 100% U 1976BSa (42359) 413
K(PhSnCl3+L)=0.74

Sn++++ sp diox/w 25°C 100% U T H 1975BSb (42360) 414
K(SnCl4+L)=2.19
At 10-50 C. DH=-30.9 kJ mol-1; DS=-61.4 J K-1 mol-1
****
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
---
Sn++++ sp diox/w 25°C 100% U T H 1976BSa (42979) 415
K(SnCl4+L)=2.09
At 10 - 50 C. DH = -29.2 kJ mol-1; DS = -57.6 J K-1 mol-1.

Sn++++ sp diox/w 25°C 100% U T H 1975BSb (42980) 416
K(SnCl4+L)=2.09
At 10-50 C. DH=-29.2 kJ mol-1; DS=-57.6 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
---
Sn++++ sp diox/w 25°C 100% U T H 1976BSa (43178) 417
K(PhSnCl3+L)=1.78
At 10 - 50 C. DH = -51.8 kJ mol-1; DS = -140 J K-1 mol-1.
****
C6H6NBr L 4-Bromoaniline CAS 106-40-1 (757)
4-Bromoaniline; H2N.C6H4.Br

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ sp diox/w 25°C 100% U T H 1976BSa (43185) 418
K(PhSnCl3+L)=2.14
At 10-50 C. DH = -49.7 kJ mol-1. DS = -126 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
Sn++++	sp	diox/w	25°C	100%	U	T H	K(PhSnCl3+L)=0.94	1976BSa (43390)	419

At 10 -50 C. DH = -45.9 kJ mol-1; DS = -136 J K-1 mol-1.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	sp	diox/w	25°C	100%	U	T H	K(SnCl4+L)=2.64	1976BSa (43391)	420

At 10 -50 C. DH = -34.7 kJ mol-1; DS = -66.8 J K-1 mol-1.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	sp	diox/w	25°C	100%	U	T H	K(SnCl4+L)=2.62	1975BSb (43392)	421

At 10-50 C. DH=-34.7 kJ mol-1; DS=-66.8 J K-1 mol-1

****

C6H6N2O2 L p-Nitroaniline CAS 100-01-6 (465)
4-Nitroaminobenzene; H2N.C6H4.NO2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	sp	diox/w	25°C	100%	U	T H	K(SnCl4+L)=1.69	1976BSa (43406)	422

At 10-50 C. DH = -30.5 kJ mol-1; DS = -70.2 J K-1 mol-1.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	sp	diox/w	25°C	100%	U		K(SnCl4+L)=1.69	1975BSb (43407)	423

****

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
Sn++++	vlt	KNO3	21°C	0.50M	C		K1=24.5 B2=46.50	1975ZBa (43834)	424

Method: polarography. Medium: HNO3/KNO3 (pH 0.6-1.3) and chloroethanoate buffer/KNO3 (pH 2.0-3.0). Range of values: K1 (24.1-24.6), B2 (46.0-47.3).

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	EMF	alc/w	20°C	100%	U	M	K(Sn+H2L+2A=SnL+2HA)=26.5 K(SnL+2A)=19.43 K(SnL+SnA2L)=2.77 K(SnA2L+A)=7.5	1971GSa (43835)	425

Medium: MeOH, 1 M LiCl. K(SnA3L+A)=4.2; K(SnL+H2L+2A=SnL2+2HA)=23.07.
Data for other Sn/L/methanol complexes also given

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	sp	oth/un	20°C	?	U		K(SnO3+2H2L=SnOL2)=8.68	1959HAa (43836)	426

****

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
Sn++++	sp	oth/un	20°C	?	U			1959HAa (43982)	427
							K(SnO3+2H3L=SnO(HL)2)=8.58		

****

C6H7N L Picoline CAS 109-06-8 (320)
2-Methylpyridine; C5H4N.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	nmr	non-aq	34°C	100%	U	H	K1=0.81 B2=1.49	1983FSd (44615)	428

In nitrobenzene. By temperature coefficient, DH(K1)=-52 kJ mol-1, DS=-152; DH(K2)=-28, DS=-75. Sn(IV)=Me2SnCl2

****

C6H7N L beta-Picoline CAS 108-99-6 (324)
3-Methylpyridine; C5H4N.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	nmr	non-aq	34°C	100%	U	H	K1=1.27 B2=2.42	1983FSd (44706)	429

In nitrobenzene. By temperature coefficient, DH(K1)=-14 kJ mol-1, DS=-23; DH(K2)=-14, DS=-18. Sn(IV)=Me2SnCl2

****

C6H7N L gamma-Picoline CAS 108-89-4 (325)
4-Methylpyridine; C5H4N.CH3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	nmr	non-aq	34°C	100%	U	H	K1=1.34 B2=2.59	1983FSd (44834)	430

In nitrobenzene. By temperature coefficient, DH(K1)=-17 kJ mol-1, DS=-21; DH(K2)=-14, DS=-16. Sn(IV)=Me2SnCl2

****

C6H7N L Aniline CAS 62-53-3 (583)
Aminobenzene, aniline; C6H5.NH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	sp	diox/w	25°C	100%	U	T H		1976BSa (44880)	431
							K(PhSnCl3+L)=2.68		

At 10-50 C. DH = -54.7 kJ mol-1; DS = -135 J K-1 mol-1.

****

C6H8O4 H2L CAS 5445-51-2 (69)
Cyclobutane-1,1-dicarboxylic acid; C4H6(COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaNO3	25°C	0.10M	C			2003MOa (45521)	432
							K(R2Sn+L)=7.44		

K(R2Sn+2L)=12.23
Metal is R2Sn(IV), where R = vinyl.
****
C6H8O6 H3L Tricarballylic CAS 99-14-9 (1620)
1,2,3-Propanetricarboxylic acid; HOOC.CH2.CH(COOH).CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ gl NaCl 25°C 0.0 C I 1999SFa (45572) 433
K(SnMe3+L)=3.288
K(SnMe3+H+L)=8.831
K(SnMe3+2H+L)=12.89
At I=0.25 M: K values: 2.173, 7.346, 11.22; I=0.5 M: 2.055, 7.268, 11.29;
I=1.0 M: 1.827, 6.884, 10.84

Sn++++ gl none 25°C 0 M T K1=6.69 1997SGa (45573) 434
B(ML(OH))=15.01
B(MH-1L)=1.01
B(MHL)=11.12
B(MH2L)=14.38
Metal ion: SnMe2++. Extrapolated to I=0
****
C6H8O7 H3L Citric acid CAS 77-92-9 (95)
2-Hydroxypropane-1,2,3-tricarboxylic acid; HOOCCH2.CH(OH)(COOH).CH2COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ gl NaCl 25°C 0.0 C I 1999SFa (46255) 435
K(SnMe3+L)=3.367
K(SnMe3+H+L)=8.908
K(SnMe3+2H+L)=13.281
At I=0.25 M: K values: 2.093, 7.029, 10.605; I=0.5 M: 1.989, 6.873, 10.605
I=1.0 M: 2.03, 6.83, 10.78

Sn++++ gl KNO3 25°C 0.10M C 1990ACa (46256) 436
K(SnMe2+L)=6.55
B((SnMe2)HL)=10.83
B(SnMe2)H-1L)=0.99
B((SnMe2)2H-1L)=6.65
B((SnMe2)2H-2L)=2.38

Sn++++ gl NaClO4 25°C 0.30M C K1=1.79 1987HOa (46257) 437
B(SnHL)=7.09
M = Sn(CH3)3(H2O)2+. Two speciation models calculated

Sn++++ gl KCl 28°C 0.10M U 1980MPc (46258) 438
K(Me2Sn+H3L=Me2SnHL+2H)=-2.64
Metal is (CH3)2Sn++
****
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
Sn++++	gl	NaNO3	25°C	0.10M	C		K1=5.63 B(Me3SnHL)=12.11	1997TNa (47026)	439

Metal is Me3Sn+.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	KNO3	25°C	0.10M	C		K(SnMe2+L)=10.38 B((SnMe2)HL)=12.06	1990ACa (47027)	440

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaNO3	25°C	0.10M	C		K(R2Sn+L)=11.52 K(R2Sn+2L)=18.66 K(R2Sn+H+L)=16.51 K(R2Sn+L=R2SnL(OH)+H)=3.48	2003MOa (47616)	441

Metal is R2Sn(IV), where R = vinyl.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaClO4	25°C	0.10M	C		K1=7.96 B(MHL)=13.23 B(MH2L)=16.25 B(MH-1L)=1.56	1999SRa (47617)	442

M is Sn(CH3)2++.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	diox/w	25°C	75%	C		K1=6.23 B((C6H5)3SnHL)=11.94	1998SMb (47618)	443

Metal is (C6H5)3Sn+ Medium: 75% dioxane/H2O, 0.10 M NaNO3.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	KCl	25°C	0.10M	U		K(SnMe3(OH)+L+H)=11.98 K(SnMe3(OH)+L)=6.15	1992SHa (47619)	444

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaClO4	25°C	0.30M	U		K(Me3Sn+L)=4.74 B((Me3Sn)HL)=10.97 K(Me3Sn+HL)=1.73	1985HDa (47620)	445

****

C6H10N2O5 H2L Asp-Gly CAS 3790-51-0 (6521)
Aspartyl-glycine; H2N.CH(CH2.COOH)CO.NH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaClO4	25°C	0.10M	C		K1=6.90 B((CH3)2SnHL)=10.4	2000JHa (47759)	446

B((CH3)2SnH2L)=13.4
B((CH3)2SnH-1L)=2.13

Metal is (CH3)2Sn++

****

C6H10N2O5 H2L Gly-Asp CAS 4685-12-5 (282)
Glycyl-aspartic acid; H2N.CH2.CO.NH.CH(CH2.COOH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaClO4	25°C	0.10M	C		K1=7.51	2000JHa (47779)	447
							B((CH3)2SnHL)=11.6		
							B((CH3)2SnH2L)=14.5		
							B((CH3)2SnH-1L)=2.30		

Metal is (CH3)2Sn++

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaNO3	25°C	0.10M	C			2003MOa (48089)	448
							K(R2Sn+L)=6.13		
							K(R2Sn+2L)=10.95		

Metal is R2Sn(IV), where R = vinyl.

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaNO3	25°C	0.10M	C		K1=4.78	1997TNa (49270)	449
							B(Me3SnHL)=11.65		

Metal is Me3Sn+.

****

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
Sn++++	gl	NaNO3	25°C	0.10M	C		K1=12.412	1996ANb (49307)	450
							B(MHL)=15.75		
							B(MHL2)=24.12		
							B(MH2L2)=30.87		

Metal=[Sn(CH3)2]++

****

C6H12O5 HL (7553)
2-Deoxy-D-glucose;

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

Sn++++ gl NaClO4 25°C 0.10M C 1998BGa (49504) 451
B((CH3)2SnH-3L)=-17.77
B((CH3)2SnH-4L)=-28.96
Metal is (CH3)2Sn(IV)

****

C6H12O6 L D-Fructose CAS 57-48-7 (1561)
D-Fructose

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaClO4	25°C	0.10M	C		B((CH3)2SnH-2L)=-7.18 B((CH3)2SnH-3L)=-15.46 B((CH3)2SnH-4L)=-26.43	1998BGa (49552)	452

Metal is (CH3)2Sn(IV)

****

C6H12O6 L D-Glucose CAS 492-62-6 (1560)
D-Glucose

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaClO4	25°C	0.10M	C		B((CH3)2SnH-3L)=-16.88 B((CH3)2SnH-4L)=-28.08	1998BGa (49594)	453

Metal is (CH3)2Sn(IV)

****

C6H12O6 L Sorbose CAS 87-79-6 (930)
L(-)-Sorbose;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaClO4	25°C	0.10M	C		B((CH3)2SnH-2L)=-7.38 B((CH3)2SnH-3L)=-15.76 B(CH3)2SnH-4L)=-26.87	1998BGa (49617)	454

Metal is (CH3)2Sn(IV)

****

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
Sn++++	gl	diox/w	25°C	75%	C		K1=6.96	1998SMb (49916)	455

Metal is (C6H5)3Sn+ Medium: 75% dioxane/H2O, 0.10 M NaNO3.

****

C6H13NO2 HL Leucine CAS 61-90-5 (47)
2-Amino-4-methylpentanoic acid; H2N.CH(CH2.CH(CH3)2)COOH

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

Sn++++ gl KCl 25°C 0.10M U 1992SHa (50108) 456
K(SnMe3(OH)+L)=6.34
****
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
---
Sn++++ gl NaNO3 25°C 0.10M C K1=8.86 B2=15.29 2003AMa (50408) 457
K(R2Sn+H+L)=12.09
K(R2Sn+L=R2SnH-1L+H)=3.44
K(R2Sn+L=R2SnH-2L+2H)=-4.87
Cation is (CH3)2Sn++.
****
C6H13NO5 L D-Glucosamine CAS 3416-24-8 (565)
2-Amino-2-deoxyglucose;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ gl NaNO3 25°C 0.10M M T H K1=4.737 1997SEc (50463) 458
Data for 15-35 C. DH(K1)=-18.0 kJ mol-1, DS(K1)=12.9 J K-1 mol-1.
Metal ion is Me3Sn+.

Sn++++ gl NaNO3 25°C 0.10M M T K1=6.780 B2=13.29 1997SEc (50464) 459
Metal ion is Me2Sn++.

Sn++++ gl NaNO3 25°C 0.10M M T H K1=5.286 B2= 9.48 1997SEc (50465) 460
Metal ion is Bu2Sn++. For Bu3Sn+, K1=3.636, DH(K1)=16.4 kJ mol-1,
DS(K1)=22.3 J K-1 mol-1.
****
C6H13NO5 HL Tricine CAS 5704-04-1 (1239)
N-(Tris(hydroxymethyl)methyl)glycine; (HO.CH2)3C.NH.CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ gl NaNO3 25°C 0.10M C K1=8.45 B2=14.87 2003AMa (50509) 461
K(R2Sn+H+L)=11.71
K(R2Sn+L=R2SnH-1L+H)=3.23
K(R2Sn+L=R2SnH-2L+2H)=-5.06
Cation is (CH3)2Sn++.
****
C6H13O9P H2L CAS 59-56-3 (3049)
alpha-D-Glucose-1-phosphoric acid; Glucopyranose-1-phosphoric acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ gl NaClO4 25°C 0.10M C K1=5.66 2002JNa (50622) 462
B(R2SnHL)=7.96
B(R2SnH-1L)=0.88
Metal is (CH3)2Sn++.

****

C6H13O9P H2L CAS 56-73-5 (3703)
d-Glucose-6-phosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaClO4	25°C	0.10M	C		K1=5.81	2002JNa (50625)	463
							B(R2SnHL)=8.35		
							B(R2SnH-1L)=0.95		
							B(R2SnH-3L)=-17.51		

Metal is (CH3)2Sn++.

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaNO3	25°C	0.10M	C			2003MOa (50835)	464
							K(R2Sn+L)=15.09		
							K(R2Sn+2L)=20.04		
							K(R2Sn+H+L)=20.11		
							K(R2Sn+2H+L)=23.37		

Metal is R2Sn(IV), where R = vinyl.

Sn++++	gl	diox/w	25°C	75%	C		K1=6.89	1998SMb (50836)	465
							B((C6H5)3SnHL)=16.07		

Metal is (C6H5)3Sn+ Medium: 75% dioxane/H2O, 0.10 M NaNO3.

****

C6H14O6 L Glucitol CAS 50-70-4 (2878)
D-Sorbitol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaClO4	25°C	0.10M	C			1998BGa (51109)	466
							B((CH3)2SnH-3L)=-16.87		

Metal is (CH3)2Sn(IV)

****

C6H18N3OP L HMPA CAS 680-31-9 (603)
Hexamethylphosphoramide, Tris-(dimethylamino)phosphine oxide;((CH3)2N)3PO

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	nmr	non-aq	27°C	100%	U	M		1987HHa (51987)	467
							K(Bu3SnCl+L)=1.40		
							K(Bz3SnCl+L)=1.55		
							K(Ph3SnCl+L)=2.25		

Medium: HMPA/CDCl3

****

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

```
-------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------------
Sn++++     gl  NaNO3  25°C 0.10M C        K1=10.533      1996ANb (52805) 468
                                         B(MHL)=12.65
                                         B(MHL2)=17.69
Metal=[Sn(CH3)2]++
*******************************************************************************
C7H7NS                  L    Thiobenzamide    CAS 2227-79-4  (1660)
Thiobenzamide; C6H5.CS.NH2
-------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------------
Sn++++     sp  non-aq 25°C 100%  U                        1977SWa (55706) 469
                                         K(SnCl4+L)=3.60
Medium: Et2O
*******************************************************************************
C7H8NCl                 L                     CAS 95-74-9  (756)
3-Chloro-4-methylaniline; Cl.C6H3(CH3).NH2
-------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------------
Sn++++     sp  diox/w 25°C 100%  U T H                    1976BSa (55789) 470
                                         K(PhSnCl3+L)=2.24
At 10-50 C. DH = -43.4 kJ mol-1; DS = -99 J K-1 mol-1.
*******************************************************************************
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
-------------------------------------------------------------------------------
Sn++++     sp  diox/w 25°C 100%  U T H                    1976BSa (55882) 471
                                         K(SnCl4+L)=2.13
At 10 - 50 C. DH = -29.6 kJ mol-1; DS = -58.9 kJ mol-1.
-------------------------------------------------------------------------------
Sn++++     sp  diox/w 25°C 100%  U T H                    1976BSa (55883) 472
                                         K(PhSnCl3+L)=0.44
At 10 - 50 C. DH = -58.6 kJ mol-1; DS = -191 kJ mol-1.
-------------------------------------------------------------------------------
Sn++++     sp  diox/w 25°C 100%  U                        1975BSb (55884) 473
                                         K(SnCl4+L)=1.18
*******************************************************************************
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
-------------------------------------------------------------------------------
Sn++++     sp  diox/w 25°C 100%  U T H                    1976BSa (55905) 474
                                         K(SnCl4+L)=3.06
At 10 -50 C. DH = -32.2 kJ mol-1; DS = -49.3 J K-1 mol-1.
```

```
--------------------------------------------------------------------------------
Sn++++     sp  diox/w 25°C 100%  U                        1975BSb (55906) 475
                                        K(SnCl4+L)=3.06
********************************************************************************
C7H8N2O2                L                       CAS 99-52-5  (1937)
3-Nitro-6-methylaminobenzene; CH3.C6H3(NO2).NH2
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     sp  diox/w 25°C 100%  U                        1975BSb (55909) 476
                                        K(SnCl4+L)=2.13
********************************************************************************
C7H8N2O2                L                       CAS 611-05-2  (764)
4-Nitro-3-methylaniline; CH3.C6H3(NO2).NH2
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     sp  diox/w 25°C 100%  U                        1976BSa (55918) 477
                                        K(PhSnCl3+L)=0.23
--------------------------------------------------------------------------------
Sn++++     sp  diox/w 25°C 100%  U T H                    1976BSa (55919) 478
                                        K(SnCl4+L)=1.96
At 10 - 50 C. DH = -27.6 kJ mol-1; DS = -54.7 J K-1 mol-1.
--------------------------------------------------------------------------------
Sn++++     sp  diox/w 25°C 100%  U                        1975BSb (55920) 479
                                        K(SnCl4+L)=1.96
********************************************************************************
C7H9N                   L    3-Methylaniline  CAS 108-44-1  (755)
3-Methylaniline (3-Toluidine); CH3.C6H4.NH2
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     sp  diox/w 25°C 100%  U                        1976BSa (56310) 480
                                        K(PhSnCl3+L)=2.79
********************************************************************************
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
--------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 0.30M C        K1=2.05        1987HOa (58678) 481
Sn=Sn(CH3)3(H2O)2
********************************************************************************
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
--------------------------------------------------------------------------------
Sn++++     gl  NaNO3  25°C 0.10M M        K1=2.85        1992SHc (59013) 482
Metal ion is (CH3)3Sn+.
```

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	diox/w	30°C	75%	U		K1=12.23 B2=20.23	1980NGa (60356)	483

****

C8H10O8 H4L CAS 1703-58-8 (7339)
1,2,3,4-Butanetetracarboxylic; HOOC.CH2.CH(COOH).CH(COOH).CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaCl	25°C	0.0	C	I	K(SnMe3+L)=3.70 K(SnMe3+H+L)=10.264 K(SnMe3+2H+L)=15.345 K(2SnMe3+L)=6.93	1999SFa (60892)	484

At I=0.25 M: K values: 2.23, 7.94, 12.37, 4.42; I=0.5 M: 2.24, 7.87, 12.48
4.07; I=1.0 M: 1.81, 7.251, 11.44, 3.59

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	none	25°C	0	M	T	K1=8.20 B(MHL)=13.34 B(MH-1L)=1.80 B(MH2L)=17.47 B(MH3L)=20.40	1997SGa (60893)	485

Metal ion: SnMe2++. Extrapolated to I=0

****

C8H12N4O3 HL Gly-His CAS 3486-76-8 (273)
Glycyl-histidine; H2N.CH2.CO.NH.CH(CH2.C3H3N2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaClO4	25°C	0.10M	C		K1=9.05 B(MHL)=13.73 B(MH2L)=17.16 B(MH-1L)=2.56	1999SRa (61594)	486

M is Sn(CH3)2++.

****

C8H15NO8 HL CAS 5616-22-8 (6474)
N-(2,3,4,5,6-Pentahydroxyhexanoyl)glycine, N-D-Gluconylglycine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaClO4	25°C	0.10M	C		K1=2.36 B(SnH-1L)=-0.96 B(SnH-2L)=-5.42 B(SnH-3L)=-15.87	1995GBa (62230)	487

Metal is Et2Sn++

****

C8H16N2O3 HL Gly-Leu CAS 869-19-2 (255)
Glycyl-leucine; H2N.CH2.CO.NH.CH(CH2.CH(CH3)2).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaNO3	25°C	0.10M	C			2003MOa (62394)	488
							K(R2Sn+L)=8.31		
							K(R2Sn+L=R2SnL(OH)+H)=3.43		

Metal is R2Sn(IV), where R = vinyl.

****

C9H7N L CAS 119-65-3 (487)
Isoquinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	cal	non-aq	25°C	100%	U	H		1967MOb (64028)	489

Medium: n-hexane. DH(SnCl4(l)+2L(l)=SnCl4L2(c))=-156.3 kJ mol-1
DH(SnCl4(g)+2L(l)=SnCl4L2(c))=-188.9

****

C9H7NO3S2 H2L CAS 58447-10-2 (4675)
8-Mercaptoquinoline-5-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	sp	oth/un	?	?	U			1968ABa (64430)	490
							B3=35.9		

****

C9H9NO4 H2L Salicylglycine CAS 487-54-7 (3869)
N-(2-Hydroxybenzoyl)glycine, 2-hydroxyhippuric acid; HO.C6H4.CO.NH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaClO4	25°C	0.10M	C		K1=6.79	2001JGa (65095)	491
							B(R2SnHL)=10.65		
							B(R2SnH-1L)=2.40		

Metal is (CH3)2Sn++.

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaNO3	25°C	0.10M	C			2003MOa (65974)	492
							K(R2Sn+L)=10.40		
							K(R2Sn+2L)=18.65		
							K(R2Sn+H+L)=13.66		

Metal is R2Sn(IV), where R = vinyl.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	KNO3	25°C	0.10M	C			1995ACa (65975)	493
							K(SnMe2+L)=7.95		

```
                                        B((SnMe2)HL)=11.21
                                        B((SnMe2)H-1L)=3.24
                                        B((SnMe2)H-2L)=-5.95
**************************************************************************
C9H11NO2              HL    B-Phenylalanine  CAS 614-19-7  (187)
3-Amino-3-phenyl-propanoic acid; H2N.CH(C6H5).CH2.COOH
--------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------
Sn++++     gl  diox/w 25°C  75%  C        K1=6.48        1998SMb (66012) 494
Metal is (C6H5)3Sn+  Medium: 75% dioxane/H2O, 0.10 M NaNO3.
**************************************************************************
C9H13N3O5              L    Cytidine         CAS 65-46-3  (2152)
Cytidine, Cytosine-1-beta-D-ribofuranoside;
--------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------
Sn++++     gl  KNO3   25°C 0.10M M        K1=3.77   B2= 7.69  2001ASa (67081) 495
Metal ion is (CH3)2Sn++.
--------------------------------------------------------------------------
Sn++++     gl  NaNO3  25°C 0.10M M        K1=2.90        2001MSc (67082) 496
                                        B((CH3)3SnH-1L)=-2.42
Metal ion is (CH3)3Sn+.
**************************************************************************
C9H14N4O3              HL    Carnosine        CAS 305-84-0  (272)
3-Alanyl-histidine; H2N.CH2.CH2.CO.NH.CH(CH2.C3H3N2).COOH
--------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 0.10M C        K1=8.32        1999SRa (67325) 497
                                        B(MHL)=14.37
                                        B(MH2L)=17.54
                                        B(MH-1L)=1.73
M is Sn(CH3)2++.
**************************************************************************
C9H16N3O14P3          H4L    CTP              CAS 65-47-4  (406)
Cytidine-5'-triphosphoric acid;
--------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------
Sn++++     gl  KNO3   25°C 0.10M C   H    K1=7.77        1992ACa (67714) 498
                                        B(SnHL)=12.28
                                        B(SnH2L)=14.92
                                        B(SnH-1L)=1.14
                                        B(Sn2HL)=15.28
Metal is Sn(Me)2++. DH(K1)=18.4 kJ mol-1, DS=210; DH(SnHL)=-2.1, DS=18;
DH(SnH2L)=5.9, DS=305; DH(SnH-1L)=37.7, DS=148; DH(Sn2HL)=29, DS=390.
**************************************************************************
C9H17NO8              HL                     CAS 94231-90-0  (7909)
N-(2,3,4,5,6-Pentahydroxyhexanoyl)-beta-alanine, N-D-gluconyl-beta-alanine;
```

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ gl NaClO4 25°C 0.10M C K1=2.87 1995GBa (67846) 499
B(SnH-1L)=-0.80
Metal is Et2Sn++. For N-D-gluconyl-alpha-alanine, K1=2.85, B(SnH-1L)=-0.67
B(SnH-2L)=-4.92, B(SnH-3L)=-15.74.
****
C9H17NO9 HL CAS 168107-24-2 (7910)
N-(2,3,4,5,6-Pentahydroxyhexanoyl)serine, N-D-gluconyl-L-serine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ gl NaClO4 25°C 0.10M C K1=2.39 1995GBa (67850) 500
B(SnH-1L)=-1.00
B(SnH-2L)=-5.15
B(SnH-3L)=-15.48
Metal is Et2Sn++
****
C10H9NO3S2 HL (7206)
6-Methyl-5-sulfo-8-mercaptoquinoline;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ sp oth/un 20°C 0.10M U 1985DAb (70180) 501
B3=35.0
****
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
---
Sn++++ gl diox/w 20°C 75% U T H 1985SGb (70772) 502
K(Sn(CH3)2+L)=11.19
K(Sn(CH3)2L+L)=7.12
DH(SnR2+2L)=-120.4 kJ mol-1, DS=-60.9 J K-1 mol-1

Sn++++ gl diox/w 20°C 75% U T H 1985SGb (70773) 503
K(Sn(C3H7)2+L)=11.22
K(Sn(C3H7)2L+L)=7.35
DH(SnR2+2L)=-128 kJ mol-1, DS=-82.1 J K-1 mol-1

Sn++++ gl diox/w 20°C 75% U T H 1985SGb (70774) 504
K(Sn(C4H9)2+L)=11.29
K(Sn(C4H9)2L+L)=7.40
DH(SnR2+2L)=-136.6 kJ mol-1, DS=-108 J K-1 mol-1
****
C10H12N4O5 HL Inosine CAS 58-63-9 (2344)
Hypoxanthine-9-beta-D-ribofuranoside;

```
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
Sn++++     gl  KNO3   25°C 0.10M M TIH    K1=8.13   B2=14.82  2001ASa (71406) 505
Metal ion is (CH3)2Sn++. Data for 15-35 C and for 25-75% v/v dioxane/H2O.
DH(K1)=139.8 kJ mol-1, DS(K1)=626 J K-1 mol-1; DH(K2)=-60.7, DS(K2)=-77.
-------------------------------------------------------------------------
Sn++++     gl  NaNO3  25°C 0.10M M TIH    K1=5.49        2001MSc (71407) 506
                                         B((CH3)3SnH-1L)=-2.42
Metal ion is (CH3)3Sn+.  Data for 15-35 C. DH(K1)=36.7 kJ mol-1, DS=228
J K-1 mol-1; DH(ML+OH)=17.5. Also data at 25 C for 25%-75% dioxane/H2O.
-------------------------------------------------------------------------
Sn++++     gl  diox/w 25°C  75%  C        K1=7.17        1998SMb (71408) 507
Metal is (C6H5)3Sn+  Medium: 75% dioxane/H2O, 0.10 M NaNO3.
*************************************************************************
C10H13NOS              HL                     CAS 99254-27-0  (8352)
N-(2,5-Dimethylphenyl)-2-mercaptoacetamide;
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
Sn++++     gl  diox/w 30°C  75%  M        K1=12.91  B2=21.35  1993BGd (71704) 508
Medium: 75% v/v dioxane/H2O, 0.10 M NaCl. Metal is (Me)2Sn++.
For (Et)2Sn++, K1=12.88, K2=8.11. For (n-Bu)2Sn++, K1=12.91, K2=7.86.
*************************************************************************
C10H13N4O8P           H3L    IMP             CAS 131-99-7  (843)
Inosine-5'-monophosphoric acid;
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
Sn++++     gl  KNO3   25°C 0.10M M TIH    K1=11.90  B2=19.37  2001ASa (71873) 509
Metal ion is (CH3)2Sn++. Data for 15-35 C and for 25-75% v/v dioxane/H2O.
DH(K1)=129.6 kJ mol-1, DS(K1)=664 J K-1 mol-1; DH(K2)=-8.5, DS(K2)=115.
-------------------------------------------------------------------------
Sn++++     gl  NaNO3  25°C 0.10M M TIH    K1=6.55        2001MSc (71874) 510
                                         B((CH3)3SnHL)=13.04
                                         B((CH3)3SnH-1L)=-1.76
Metal ion is (CH3)3Sn+.  Data for 15-35 C. DH(K1)=36.0 kJ mol-1, DS=246;
DH(ML+H)=-22.9, DH(ML+OH)=-39.8. Data at 25 C for 25%-75% dioxane/H2O.
-------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 0.30M C                       1987HOa (71875) 511
                                         B(SnHL)=11.41
                                         B(Sn2HL)=14.26
Sn=Sn(CH3)3(H2O)2
*************************************************************************
C10H13N5O4             L    Adenosine       CAS 58-61-7  (2154)
Adenosine, Adenine-9-beta-D-ribofuranoside;
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
Sn++++     gl  KNO3   25°C 0.10M M        K1=4.41   B2= 8.31  2001ASa (71950) 512
Metal ion is (CH3)2Sn++.
```

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--------------------------------------------------------------------------------
Sn++++     gl  NaNO3  25°C 0.10M M        K1=2.52        2001MSc (71951) 513
                                         B((CH3)3SnH-1L)=-3.60
Metal ion is (CH3)3Sn+.
********************************************************************************
C10H14N2O5            H2L    Thymidine        CAS 50-89-5  (8256)
Thymine deoxyriboside, 1-(2-Deoxy-beta-ribofuranosyl)-5-methyluracil;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     gl  KNO3   25°C 0.10M M        K1=9.52   B2=16.83  2001ASa (72088) 514
Metal ion is (CH3)2Sn++.
********************************************************************************
C10H14N2O6              L    alpha-Thymidine  CAS 4449-43-8  (695)
Thymine-2-desoxyribofuranosyl-5-methyluracil;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     gl  NaNO3  25°C 0.10M M        K1=6.67        2001MSc (72110) 515
                                         B((CH3)3SnH-1L)=-0.41
Metal ion is (CH3)3Sn+.
--------------------------------------------------------------------------------
Sn++++     gl  diox/w 25°C  75%  C        K1=8.85        1998SMb (72111) 516
Metal is (C6H5)3Sn+  Medium: 75% dioxane/H2O, 0.10 M NaNO3.
********************************************************************************
C10H14N5O7P           H2L    AMP-5            CAS 18422-05-4  (842)
Adenosine-5'-monophosphoric acid, 5-Adenylic acid;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 0.10M C        K1=5.51        2002JNa (72486) 517
                                         B(R2SnHL)=9.63
                                         B(R2SnH-1L)=0.56
                                         B(R2SnH-3L)=-15.17
Metal is (CH3)2Sn++.
--------------------------------------------------------------------------------
Sn++++     gl  KNO3   25°C 0.10M M TI     K1=6.07   B2=10.74  2001ASa (72487) 518
Metal ion is (CH3)2Sn++.
--------------------------------------------------------------------------------
Sn++++     gl  NaNO3  25°C 0.10M M        K1=4.41        2001MSc (72488) 519
                                         B((CH3)3SnHL)=9.16
                                         B((CH3)3SnH-1L)=-2.20
Metal ion is (CH3)3Sn+.
--------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 0.30M C        K1=3.31        1987HOa (72489) 520
                                         B(SnHL)=7.92
                                         B(Sn2L)=4.73
Sn=Sn(CH3)3(H2O)2
********************************************************************************
C10H14N5O8P           H3L    GMP-5            CAS 85-32-5  (2947)
```

Guanosine-5'-monophosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	KNO3	25°C	0.10M	M	TI	K1=12.34 B2=20.13	2001ASa (72602)	521

Metal ion is (CH3)2Sn++. Data for 15-35 C and for 25-75% v/v dioxane/H2O.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaClO4	25°C	0.10M	C		K1=10.13 B(SnHL)=14.81 B(SnH-2L)=-6.29 B(SnH-3L)=-15.80	1999JNa (72603)	522

Metal is Me2Sn++.

****

C10H15N4O14P3 H5L ITP CAS 35908-31-7 (2148)
Inosine 5'-triphosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	KNO3	25°C	0.10M	C	H	K1=10.21 B(SnHL)=16.82 B(SnH2L)=19.61 B(Sn2HL)=20.31	1992ACa (72769)	523

Metal is Sn(Me)2++. DH(K1)=10.9 kJ mol-1, DS=232; DH(SnHL)=-8.66, DS=293; DH(SnH2L)=-2.5, DS=367; DH(Sn2HL)=22.2, DS=460.

****

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
Sn++++	gl	NaNO3	25°C	0.10M	C		B(M2L)=15.41 B(M2H-1L)=10.44 B(M2H-2L)=4.75	1996ANb (74172)	524

Metal=[Sn(CH3)2]++

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sn++++	gl	NaClO4	25°C	0.10M	C		K1=7.98 B(SnHL)=11.96 B(SnH2L)=14.29 B(SnH-1L)=1.32 B(SnH-3L)=-15.92	1999JNa (74820)	525

Metal is Me2Sn++. B(Sn2HL)=15.17

****

C10H16N5O14P3 H5L GTP CAS 86-01-1 (404)
Guanosine-5'-triphosphoric acid;

```
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     gl  KNO3   25°C 0.10M C   H    K1=10.69       1992ACa (74888) 526
                                         B(SnHL)=17.63
                                         B(SnH2L)=20.42
                                         B(SnH3L)=22.56
                                         B(Sn2HL)=21.00
Metal is Sn(Me)2++. DH(K1)=4.6 kJ mol-1, DS=220; DH(SnHL)=-12.5, DS=290;
DH(SnH2L)=-24.3, DS=314; DH(SnH3L)=-5.9, DS=410; DH(Sn2HL)=31.4, DS=506.
********************************************************************************
C10H17N3O6S           H3L    Glutathione      CAS 70-18-8  (333)
Glutamyl-cysteinyl-glycine;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     gl  NaNO3  25°C 0.10M M        K1=6.99        1992SHc (75144) 527
                                         B(R3SnHL)=15.48
                                         B(R3SnH2L)=20.26
Metal ion is (CH3)3Sn+.
--------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 0.30M C                       1987HOa (75145) 528
                                         B(SnHL)=14.17
Sn=Sn(CH3)3(H2O)2
********************************************************************************
C11H12N2O2             HL    Tryptophan       CAS 73-22-3  (3)
2-Amino-3-(3-indolyl)propanoic acid; H2N.CH(CH2.C8H6N)COOH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     gl  KNO3   25°C 0.10M C                       1995ACa (78234) 529
                                         K(SnMe2+L)=11.37
                                         B((SnMe2)HL)=11.37
                                         B((SnMe2)H-1L)=3.22
                                         B((SnMe2)H-2L)=-5.80
********************************************************************************
C11H21NO8S             HL                   CAS 94231-87-5  (8392)
N-D-Gluconyl-L-methionine;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 0.10M C        K1=2.80        1995GBa (79780) 530
                                         B(SnH-1L)=-0.60
                                         B(SnH-2L)=-5.15
                                         B(SnH-3L)=-16.08
Metal is Et2Sn++
********************************************************************************
C12H6O12               H6L    Mellitic acid      (7400)
Benzenehexacarboxylic acid; (C(COOH))6
--------------------------------------------------------------------------------
```

```
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
Sn++++     gl  NaCl   25°C  0.0  C  I                    1999SFa (80115) 531
                                       K(SnMe3+L)=6.31
                                       K(SnMe3+H+L)=12.86
                                       K(SnMe3+2H+L)=17.97
                                       K(2SnMe3+L)=9.23
At I=0.25 M: K values: 2.89, 8.58, 12.80, 5.08; I=0.5 M: 2.61, 7.93, 11.78
4.54; I=1.0 M: 2.32, 7.41, 11.51, 4.26
*************************************************************************
C12H8N2                 L    Phenanthroline   CAS 66-71-7  (144)
1,10-Phenanthroline;
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
Sn++++     gl  KNO3   25°C 0.10M U                        1964PCa (80515) 532
                                       K(SnMe2+L)=4.2
-------------------------------------------------------------------------
Sn++++     EMF KNO3   25°C 0.10M U                        1963YTa (80516) 533
                                       K(SnMe2+L)=4.2
*************************************************************************
C12H9N2O6ClS          H4L    Lumogallion      CAS 4386-25-8  (4967)
5-Chloro-2-hydroxy-1-(2',4'-dihydroxyphenylazo)-3-sulfobenzene;
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
Sn++++     sp  KNO3    rt  0.10M U                        1967MOa (80614) 534
                                       K(SnO+H3L=SnOHL+2H)=4.84
*************************************************************************
C12H22O11               L    Sucrose          CAS 57-50-1  (2523)
beta-D-Fructofuranosyl-alpha-D-glucopyranoside; Saccharose;
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
Sn++++     gl  NaClO4 25°C 0.10M C                        1998BGa (82912) 535
                                       B((CH3)2SnH-3L)=-17.34
                                       B((CH3)2SnH-4L)=-28.99
Metal is (CH3)2Sn(IV)
*************************************************************************
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
-------------------------------------------------------------------------
Sn++++     sp  oth/un 27°C    ?  U    M                   1974ZSa (91240) 536
                                       Keff(SnCl4+L)=5.4
                                       Keff(SnBr4+L)=4.0
-------------------------------------------------------------------------
Sn++++     sp  diox/w 25°C  20%  U                        1967PIa (91241) 537
                                       K(SnMe2+L)=12.55
```

K(SnEt2+L)=13.73
K(SnBu2+L)=14.37
K(SnPh2+L)=14.68
Medium: 20% dioxan, 0.1 M ClO4-
****
C15H12OS HL (1261)
mono-Thiodibenzoylmethane; C6H5.CO.CH2.CS.C6H5

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ gl diox/w 20°C 75% U T H 1985SGb (91503) 538
K(Sn(CH3)2+L)=11.79
K(Sn(CH3)2L+L)=7.00
DH(SnR2+2L)=-60.2 kJ mol-1, DS=153.8 J K-1 mol-1

Sn++++ gl diox/w 20°C 75% U T H 1985SGb (91504) 539
K(Sn(C3H7)2+L)=11.85
K(Sn(C3H7)2L+L)=7.20
DH(SnR2+2L)=-66.0 kJ mol-1, DS=149 J K-1 mol-1

Sn++++ gl diox/w 20°C 75% U T H 1985SGb (91505) 540
K(Sn(C4H9)2+L)=11.88
K(Sn(C4H9)2L+L)=7.42
DH(SnR2+2L)=-70.2 kJ mol-1, DS=131 J K-1 mol-1
****
C15H12O2 HL Diphenylacac CAS 120-46-7 (362)
1,3-Diphenylpropane-1,3-dione, Dibenzoylmethane; C6H5.CO.CH2.CO.C6H5

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ gl diox/w 20°C 75% U T H 1985SGb (91560) 541
K(Sn(CH3)2+L)=11.36
K(Sn(CH3)2L+L)=7.57
DH(SnR2+2L)=-116.6 kJ mol-1, DS=-36.0 J K-1 mol-1

Sn++++ gl diox/w 20°C 75% U T H 1985SGb (91561) 542
K(Sn(C3H7)2+L)=11.48
K(Sn(C3H7)2L+L)=7.64
DH(SnR2+2L)=-121.4 kJ mol-1, DS=-48.8 J K-1 mol-1

Sn++++ gl diox/w 20°C 75% U T H 1985SGb (91562) 543
K(Sn(C4H9)2+L)=11.58
K(Sn(C4H9)2L+L)=7.78
DH(SnR2+2L)=-132.0 kJ mol-1, DS=-80.2 J K-1 mol-1
****
C16H18N2O5S HL Penicillin V CAS 87-08-1 (943)
Phenoxymethylpenicillinic acid, 4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid;

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

---
Sn++++ gl KNO3 25°C 0.10M M T H K1=7.17 B2=13.65 1983SBc (93819) 544
Also data for 35 C. DH(B2)=-7.61 kJ mol-1, DS(B2)=368 J K-1 mol-1.
****
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
---
Sn++++ sp NaCl ? 1.0M U 1972WVa (99116) 545
K(Sn+H3L=SnH2L+H)=7.80
K(Sn+2H3L=Sn(H2L)2+2H)=14.90
K(2Sn+H3L=Sn2H2L+H)=12.92
Medium: 1.0(NaCl),pH=3.0
****
C44H26N4Cl4 H2L CAS 22112-77-2 (1783)
5,10,15,20-4-Tetra-(4-chlorophenyl)porphine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ sp non-aq 25°C 100% C T H 2002AZa (107042) 546
K(CH3SnBr3+H2L)=3.76
K'(CH3SnBr3(H2L)+H2L)=4.19
Medium: CHCl3. Data for 5-25 C. DH(K)=-114 kJ mol-1, DS(K)=-310 J K-1mol-1
DH(K')=-150, DS(K')=-420. For 3-Cl-phenyl, K=6.10; DH(K)=-185, DS(K)=-504.

Sn++++ sp non-aq 20°C 100% C T H 2002AZb (107043) 547
K(Me2SnBr2+H2L)=1.45
K'(Me2SnBr2(H2L)+H2L)=3.19
Medium:CHCl3. Data for 5-20 C. DH(K)=-69 kJ mol-1, DS(K)=-207 J K-1 mol-1;
DH(K')=-83, DS(K')=-223.

Sn++++ sp non-aq 20°C 100% C T H 2002AZc (107044) 548
K(2Et2SnCl2+H2L)=4.04
K(2Bu2SnCl2+H2L)=3.54
Medium: CHCl3. Data for 5-25 C. DH(2Et2SnCl2+H2L)=-125 kJ mol-1, DS=-348
J K-1 mol-1; DH(2Bu2SnCl2+H2L)=-120, DS=-344.
****
C44H26N8O8 H2L CAS 24843-73-8 (1779)
5,10,15,20-Tetra-(4-nitrophenyl)porphine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ sp non-aq 25°C 100% C T H 2002AZa (107048) 549
K(CH3SnBr3+H2L)=2.03
K'(CH3SnBr3(H2L)+H2L)=2.38
Medium: CHCl3. Data for 5-25 C. DH(K)=-90 kJ mol-1, DS(K)=-262 J K-1mol-1;
DH(K')=-93, DS(K')=-266.
****

C44H30N4 H2L Tetraphenylpor. CAS 917-23-7 (1781)
5,10,15,20-Tetraphenyl-21H,23H-porphine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ sp non-aq 25°C 100% C T H 2002AZa (107073) 550
K(CH3SnBr3+H2L)=3.97
K'(CH3SnBr3(H2L)+H2L)=4.48
Medium: CHCl3. Data for 5-25 C. DH(K)=-135 kJ mol-1, DS(K)=-377 J K-1 mol-1; DH(K')=-165, DS(K')=-467.

Sn++++ sp non-aq 25°C 100% C T H 2002AZb (107074) 551
K(Me2SnBr2+H2L)=2.42
K'(Me2SnBr2(H2L)+H2L)=2.63
Medium:CHCl3. Data for 5-25 C. DH(K)=-80 kJ mol-1, DS(K)=-228 J K-1 mol-1; DH(K')=-107, DS(K')=-306.

Sn++++ sp non-aq 20°C 100% C T H 2002AZc (107075) 552
K(2Et2SnCl2+H2L)=5.08
K(2Bu2SnCl2+H2L)=4.38
Medium: CHCl3. Data for 5-25 C. DH(2Et2SnCl2+H2L)=-134 kJ mol-1, DS=-360 J K-1 mol-1; DH(2Bu2SnCl2+H2L)=-132, DS=-364.
****
C48H38N4 H2L CAS 14527-51-6 (1780)
5,10,15,20-Tetrakis-(4-methylphenyl)-21H,23H-porphine;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Sn++++ sp non-aq 25°C 100% C T H 2002AZa (107352) 553
K(CH3SnBr3+H2L)=4.25
K'(CH3SnBr3(H2L)+H2L)=5.06
Medium:CHCl3. Data for 5-25 C. DH(K)=-162 kJ mol-1, DS(K)=-464 J K-1mol-1; DH(K')=-175, DS(K')=-489. For 3-Me-phenyl, K=4.25; DH(K)=-162, DS(K)=-463.

Sn++++ sp non-aq 25°C 100% C T H 2002AZb (107353) 554
K(Me2SnBr2+H2L)=3.37
K'(Me2SnBr2(H2L)+H2L)=3.62
Medium: CHCl3. Data for 5-25 C. DH(K)=-112 kJ mol-1, DS(K)= -311 J K-1 mol-1; DH(K')=-116, DS(K')=-317.

Sn++++ sp non-aq 20°C 100% C T H 2002AZc (107354) 555
K(2Et2SnCl2+H2L)=5.45
K(2Bu2SnCl2+H2L)=5.32
Medium: CHCl3. Data for 5-25 C. DH(2Et2SnCl2+H2L)=-145 kJ mol-1, DS=-393 J K-1 mol-1; DH(2Bu2SnCl2+H2L)=-140, DS=-373.
****
C48H38N4O4 H2L CAS 22122-78-3 (1788)
5,10,15,20-Tetra-(4-Methoxyphenyl)porphine;

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

---
Sn++++ sp non-aq 25°C 100% C T H 2002AZa (107356) 556
K(CH3SnBr3+H2L)=4.34
K'(CH3SnBr3(H2L)+H2L)=5.42
Medium:CHCl3. Data for 5-25 C. DH(K)=-173 kJ mol-1, DS(K)=-498 J K-1mol-1; DH(K')=-185, DS(K')=-516.

Sn++++ sp non-aq 25°C 100% C T H 2002AZb (107357) 557
K(Me2SnBr2+H2L)=3.50
K'(Me2SnBr2(H2L)+H2L)=3.70
Medium: CHCl3. Data for 5-25 C. DH(K)=-112 kJ mol-1, DS(K)= -310 J K-1 mol-1; DH(K')=-121, DS(K')=-336.

Sn++++ sp non-aq 20°C 100% C T H 2002AZc (107358) 558
K(2Et2SnCl2+H2L)=6.38
K(2Bu2SnCl2+H2L)=6.20
Medium: CHCl3. Data for 5-25 C. DH(2Et2SnCl2+H2L)=-164 kJ mol-1, DS=-436 J K-1 mol-1; DH(2Bu2SnCl2+H2L)=-156, DS=-412.

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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

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