SC-Database
Software version = 5.81 Data version = 4.62
Experiment list contains 777 experiments for
 (no ligands specified)
 3 metals : Tl+, Tl++, Tl+++
 (no references specified)
 (no experimental details specified)

****

e- HL Electron (442)

Electron;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	EMF	oth/un	25°C	0.0	C	T		1993MCb (969)	1

In KI. Tl(Hg)/Tl(I) electrode. K(TlI(s)+e=Tl(Hg)+I-)=-12.297(-0.72872 mV). At 40 C, K=12.364 (-0.73266). Tl(Hg) has 0.001-0.002 mol fraction Tl.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	EMF	KNO3	25°C	0.0	M	TIH		1981GLc (970)	2
							K=-10.988 (-650.10mV)		
							K'=-10.432 (-617.18 mV)		

Method: Tl(Hg) and Tl/TlBr electrodes in 0.005-0.10 M KNO3. Data for 10-70 C. K: TlBr+e=Tl(s)+Br-; K': TlBr+Hg+e=Tl(Hg)+Br-.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	EMF	non-aq	30°C	100%	U			1974BNb (971)	3
							K=-9.97(-599.4mV) M units		

Medium: N.N-dimethylformamide; K: TlCl(s)+e=Tl(s)+Cl-

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	EMF	non-aq	23°C	100%	U			1974CRa (972)	4
							K=-16.56(-973mV)		

Medium: n-hexanol; K: TlCl(s)+e=Tl(s)+Cl-

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	EMF	non-aq	23°C	100%	U			1974SRg (973)	5
							K=-15.06(-886.8mV)		

Medium: N.N-dimethylformamide; K: TlCl(s)+e=Tl(s)+Cl-

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	EMF	NaClO4	25°C	3.0M	U	I		1967KRb (974)	6
							K(Tl+e=Tl(s))=-6.649, -393.3mV		
							K'=-9.72, -575 mV		

K': TlCl(s)+e=Tl/Hg+Cl. I=2.0: K=-6.336, -374.8 mV, K'=-9.43, -558 mV; I=1.0: K=-6.038, -357.2 mV, K'=-9.23, -546 mV

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	EMF	NaClO4	25°C	3.00M	U			1966GKb (975)	7
							K(Tl+ +e=Tl/Hg)=-6.606, -390mV		

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	EMF	none	0°C	0.0	U	T		1965MLa (976)	8
							K=-9.352, -506.8 mV		

K: TlCl(s) + e = Tl/Hg + Cl-. K=-8.796(25 C), -8.372(50 C), -7.992(80 C)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	EMF	NaClO4	25°C	3.0M	U			1959SCb (977)	9

```
                                        K=-6.61(-391 mV)
K: Tl+e=Tl(in Hg,saturated)
--------------------------------------------------------------------------------
Tl+        EMF non-aq 25°C 100%  U T                    1954PSa   (978)  10
                                        K=-5.81(-344mV) M units
Medium: formamide; K: Tl+ + e=Tl(s). K=-5.85(-338mV,18 C) M units
--------------------------------------------------------------------------------
Tl+        EMF none   25°C  0.0  U T                    1934CMa   (979)  11
                                        K(Tl+e=Tl(s))=-5.68(-336.0 mV)
                                        K(TlCl(s)+e=Tl(s))=-9.42(-557)
                                        K(TlBr(s)+e=Tl(s))=-11.11
                                        K(TlI(s)+e=Tl(s))=-12.95(-766)
K(Tl+e=Tl(s))=-5.595(0 C,-303.2 mV),-5.639(12.5 C,-319.6 mV),-5.718(37.5 C,
-352.4 mV),-5.819(50 C,-373.1 mV)
********************************************************************************
BF4-                   HL                       (2497)
Tetrafluoroborate;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        vlt non-aq 22°C 100%  U        K1=2.9         1988BEb  (1204)  12
Medium: CH2Cl2
--------------------------------------------------------------------------------
Tl+        con non-aq 25°C 100%  U        K1=1.15        1970YKb  (1205)  13
Medium: MeCN
********************************************************************************
Br-                    HL    Bromide          CAS 10035-10-6  (19)
Bromide;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        nmr NaClO4 25°C  4.0M U  I     K1=9.6    B2=16.9   1981GHa  (2333)  14
                                        B3=22.2
                                        B4=26.5
Medium: 1M NaClO4/3M HClO4, [Tl]=1.0 M
--------------------------------------------------------------------------------
Tl+        EMF KNO3   25°C  0.0  M   H                1981GLc  (2334)  15
                                        Kso=-5.459
Method: measurements with Tl(Hg) and Tl/TlBr elecrodes in 0.005-0.10 M
KNO3. Data for 10-70 C.
--------------------------------------------------------------------------------
Tl+        EMF non-aq 25°C 100%  C TIH              1981STb  (2335)  16
Method: Tl/Hg electrode. Medium: DMF. DH(K1)=-29.38 kJ mol-1, DS=15.95
J K-1 mol-1, Kso(TlCl)=-7.94. In PC: DH(K1)=-70.40, DS=-8.55, Kso=-10.84.
--------------------------------------------------------------------------------
Tl+        EMF none   25°C  0.0  C T H              1981STb  (2336)  17
Method: Tl/Hg electrode. DH(K1)=-34.57 kJ mol-1, DS=-3.13 J K-1 mol-1.
--------------------------------------------------------------------------------
Tl+        sol NaClO4 10°C 0.50M U TIH    K1=0.92        1974FRd  (2337)  18
                                        Kso=-5.60
```

Medium: LiClO4. K1=0.89(I=1); K1=0.86,B2=0.38(I=2); K1=0.88,B2=0.30,B3=-0.10 (I=3). Kso=-5.49(I=1), -5.34(I=3). Also at 10-60 C and I to 4 M LiClO4

Tl+ sol none 25°C 0.0 U T H K1=1.08 B2=0.60 1974FRd (2338) 19
Kso=-5.45
K1=1.2,Kso=-5.95(10 C); K1=0.98, B2=0.52, Kso=-5.03(40 C); K1=0.80, B2=0.40, Kso=-4.62(60 C)

Tl+ sol non-aq 25°C 100% U I 1974MUa (2339) 20
Kso=-8.08
Medium: DMF. In DMSO: Kso=-5.32. In propene carbonate: Kso=-11.11

Tl+ sol non-aq 25°C 100% U B2=6.4 1973BNa (2340) 21
Kso=-8.1
Medium: N,N-dimethylacetamide

Tl+ vlt NaClO4 25°C 1.0M U K1=0.93 B2=1.1 1972BHb (2341) 22

Tl+ sp none 25°C 0.0 U K1=0.79 1972CPa (2342) 23

Tl+ sol none 25°C 0.0 U T 1972KEa (2343) 24
Kso=-5.356
Kso=-5.882(10.1 C), -5.705(15 C), -5.528(20 C), -5.189(30 C), -5.001(35 C), -4.852(40 C), -4.730(45 C)

Tl+ sol none 25°C 0.0 U T 1972KEa (2344) 25
Kso=-5.596
In D2O;Kso=-6.179(10 C),-5.965(15 C),-5.802(20 C),-5.447(30 C),-5.292(35 C), -5.167(40 C),-4.999(45 C)

Tl+ EMF non-aq 25°C 100% U 1970SAc (2345) 26
Kso=-12.66
Medium: propene carbonate

Tl+ sol none 25°C 0.0 U K1=0.93 1969CPa (2346) 27

Tl+ sol non-aq 24°C 100% U K1=2.5 B2=3.0 1969LUb (2347) 28
B3=2.9
B12=2.6
Kso=-5.3
Medium: DMSO, 1 M LiClO4. TlHg electrode also used

Tl+ sol non-aq 275°C 100% U T K1=0.70 1965SPa (2348) 29
Medium: (Na,K)NO3. K1=0.48(300 C) m units

Tl+ sol none 20°C 0.0 U T H K1=0.98 B2=1.10 1964PCa (2349) 30
Kso(TlBr)=-5.60
At 30 C: K1=0.87, K2=-0.01; 40 C: K1=0.73, K2=-0.15. At I=0 corr.,25 C: K1= 0.93, K2=0.06. DH(K1)=-17.7 kJ mol-1,DS=-41 J K-1 mol-1; DH(K2)=22.9, DS=76

```
Tl+        sol none   25°C  0.0  U        K1=0.62   B2=1.14   1962SDc  (2350)  31
                                         Kso(TlBr)=-5.42
                                         K(TlBr(s)=TlBr)=-4.80
I=0 corr.   By solubility in KBr B4/B2=-1.20
-------------------------------------------------------------------------------
Tl+        sol NaClO4 25°C  4.0M U        K1=0.34   B2=0.18   1960KMa  (2351)  32
                                         K3=-0.23
-------------------------------------------------------------------------------
Tl+        sol oth/un 25°C  var  U  I     K1=1.05   B2=0.77   1958KMa  (2352)  33
                                         B3=0.24
                                         K(TlBr(s)=TlBr)=-4.34
                                         Kso(TlL)=-5.38
Medium: LiBr. In NaBr K1=0.92,B2=0.80,B3=0.31 and K(TlBr(s)=TlBr)=-4.45. In
KBr K1=0.92,B2=0.92,B3=0.40,K=-4.45; in CsBr K1=1.05,B2=1.00,B3=0.64,K=-4.31
-------------------------------------------------------------------------------
Tl+        sol NaClO4 25°C  4.0M U                      1958MIb  (2353)  34
                                         Kso=-4.82
In dilute solution: Kso=-5.38
-------------------------------------------------------------------------------
Tl+        sol NaClO4 25°C  4.0M U        K1=0.32   B2=0.15   1957NIa  (2354)  35
                                         K3=-0.45
                                         K4=-0.75
                                         K(TlBr(s)+2Br=TlBr3)=-5.10
                                         K(TlBr(s)+3Br=TlBr4)=-5.80
Kso(TlL)=-4.81, K(TlL(s)=TlL)=-4.48, K(TlL(s)+L=TlL2)=-4.62
By Tl/Hg electrode Kso=-4.81
-------------------------------------------------------------------------------
Tl+        sol none   25°C  0.0  U T H    K1=0.88        1957NNa  (2355)  36
                                         K(TlL(s)+TlL)=-1.55
I=0 corr. DH(K1)=-10.3 kJ mol-1, DS=-18 J K-1 mol-1. At 40 C: K1=0.80,
K(TlL(s)=TlL)=-1.19
-------------------------------------------------------------------------------
Tl+        sp  NaClO4   ?  2.20M U        K1=1.60        1956PVa  (2356)  37
-------------------------------------------------------------------------------
Tl+        sol none   25°C  0.0  U T H    K1=1.05        1955ANd  (2357)  38
                                         Kso(TlBr)=-5.47
I=0 corr. K1=1.26(5 C), 1.00(45 C). Kso=-6.23(5 C), -4.89(45 C). DH(K1)=-10
kJ mol-1, DS=-16; DH(so)=56.4, DS=84.5
-------------------------------------------------------------------------------
Tl+        sol none   25°C  0.0  U   H                  1953ADa  (2358)  39
I=0 corr. DH(K1)=-5.82 kJ mol-1; DS=0.4 J K-1 mol-1
-------------------------------------------------------------------------------
Tl+        ISE none   25°C  0.0  U                      1934ITa  (2359)  40
                                         Kso(TlBr)=-5.41
-------------------------------------------------------------------------------
Tl+        con none   26°C  0.0  U T                    1923BOa  (2360)  41
                                         Kso(TlBr)=-5.41
I=0 corr. Kso=-6.02(9.4 C), -5.68(18 C), -4.20(68.5 C)
-------------------------------------------------------------------------------
Tl+        con oth/un 20°C  dil  U                      1903BOb  (2361)  42
```

Kso(TlBr)=-5.60

****

BrO3- HL Bromate (6017)

Bromate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	sol	oth/un	45°C	0.0	U	T	K1=0.3 Kso=-3.34	1968KHa (2435)	43
Kso=-3.78(30 C),-3.62(35 C),-3.47(40 C)									
Tl+	sol	none	40°C	0.0	U		Kso(TlL)=-3.41	1923BOa (2436)	44
Tl+	con	oth/un	20°C	dil	U		Kso(TlL)=-4.07	1903BOb (2437)	45

****

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

Carbonate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	sol	NaClO4	20°C	3.40M	U		K1=0.51 B2=0.11	1980FPa (3400)	46

****

C6N6Fe---- H4L (2191)

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	ISE	oth/un	25°C	1.00M	U	TIH	K1=0.78	1984FIa (3608)	47
Medium: KF									
Tl+	ISE	NaClO4	25°C	3.0M	U	H	K1=0.82	1967MKc (3609)	48
Method: amalgam electrode. Medium: LiClO4. By solubility: K1=0.5 ? By calorimetry: DH(K1)=-7.4 kJ mol-1, DS=9.2 J K-1 mol-1									
Tl+	sol	oth/un	18°C	dil	U	M	Kso=-10.17 Ks(Ag3TlL)=-23.55 Ks(Ag2Tl2L)=-17.95	1958DTb (3610)	49
Tl+	sp	none	25°C	0.0	U	T H	K1=3.00	1958PWa (3611)	50
DH(K1)=4.6 kJ mol-1,DS=72.8 J K-1 mol-1(25 C). K1=3.05(35 C), 3.06(50 C)									
Tl+	sol	none	0°C	0.0	U	T H	K1=3.19	1953BGb (3612)	51
DH(K1)=3.4 kJ mol-1, DS=72.8 J K-1 mol-1(25 C). K1=3.22(25 C), 3.27(40 C)									

****

C6N6Fe--- H3L Ferricyanide (2491)

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	nmr	oth/un	25°C	0.30M	U		K1=1.83		1959GRa (3694)	52

****

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

Chloride;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	sp	NaCl	25°C	0.0	C	T H	K1=0.49 B4=-1.42	B2= 0.00	1998BSa (5801)	53

Calculated from data for 0.0012-3.0 M NaCl solution. Data for 25-200 C.
DH(K1)=-0.90 kJ mol-1, DS(K1)=6.37 J K-1 mol-1; DH(K2)=-6.08, DS(K2)=-29.8

Tl+	sol	KCl	25°C	0.0	C	I			1993KFb (5802)	54

Kso=-3.73. Solubility measured in 0.005-4.0 m LiCl and KCl.

Tl+	sol	NaCl	25°C	0.0	C	I			1992KFa (5803)	55

Kso=-3.73. Solubility measured in 0.005-4.0 m NaCl.

Tl+	sol	NaCl	25°C	0.0	U	I	K1=0.60 B4=-2.72	B2=0.28	1992RAb (5804)	56

I=0 to 6.0 M

Tl+	sol	NaCl	25°C	0.0	C	I	Kso(TlCl)=-3.73		1991KFb (5805)	57

Calculated from data for 0.1-3.2 m NaCl/HCl, using Pitzer equation.

Tl+	vlt	mixed	25°C	56%	U	I	K1=-0.66		1990BMb (5806)	58

In HF solution. HF=47%: B1=-0.21, B2=-0.92; HF=26, B1=0.15, B2=-0.68
HF=5%, B1=0.18, B2=-0.68

Tl+	ISE	NaClO4	25°C	1.50M	M	I	K1=1.11	B2=0.35	1989CIa (5807)	59

In 3.0 M NaClO4, K1=0.95, B2=0.32

Tl+	nmr	oth/un	25°C	4.00M	C		K1=0.0	B2=-0.60	1986GHa (5808)	60

Medium: 4 M KF

Tl+	ISE	oth/un	25°C	0.50M	U	I	K1=1.56	B2=1.94	1983EIa (5809)	61

Medium: Na-acetate

Tl+	ISE	oth/un	25°C	0.50M	U	I	K1=0.02	B2=-0.56	1983FIa (5810)	62

Tl+	nmr	NaClO4	25°C	4.0M	U	I	K1=7.18 B3=16.70 B4=19.68 B5=19.15 B6=19.04	B2=12.78	1981GHa (5811)	63

Medium: 1M NaClO4/3M HClO4. [Tl]=1.0 M. Also data for [Tl]=0.05 M

```
Tl+        EMF non-aq 25°C 100%  C TIH                    1981STb  (5812)  64
Method: Tl/Hg electrode. Medium: DMF. DH(K1)=-30.51 kJ mol-1, DS=18.46
J K-1 mol-1, Kso(TlCl)=-8.58. In PC: DH(K1)=-77.33, DS=-12.82, Kso=-11.31.
--------------------------------------------------------------------------------
Tl+        EMF none   25°C  0.0  C T H                    1981STb  (5813)  65
Method: Tl/Hg electrode. DH(K1)=-26.30 kJ mol-1, DS=-4.97 J K-1 mol-1.
--------------------------------------------------------------------------------
Tl+        vlt NaCl   25°C  1.0M C        B2=1.15         1975APd  (5814)  66
Method: polarography.
--------------------------------------------------------------------------------
Tl+        sol non-aq 25°C 100%  U  I                    1974MUa  (5815)  67
                                          Kso=-8.53
Medium: DMF. Kso=-5.58 (in DMSO), -11.45 (in propene carbonate)
--------------------------------------------------------------------------------
Tl+        sol non-aq 25°C 100%  U        B2=7.2         1973BNa  (5816)  68
                                          Kso=-8.9
Medium: N,N-dimethylacetamide
--------------------------------------------------------------------------------
Tl+        sol none     ?   0.0  U  I     K1=0.59   B2=0.32   1973POb  (5817)  69
0 corr from NaCl. K1=0.57,B2=0.36(0 corr from NH4Cl). K1=0.56,B2=0.38(0 corr
from HCl)
--------------------------------------------------------------------------------
Tl+        sol oth/un 25°C  var  U        K1=-0.6         1972AAb  (5818)  70
Medium: HCl
--------------------------------------------------------------------------------
Tl+        sol none   25°C  0.0  U        K1=0.65         1972CPa  (5819)  71
--------------------------------------------------------------------------------
Tl+        ISE NaClO4 25°C  1.0M U  I     K1=-0.02  B2=-0.39  1972FIb  (5820)  72
Medium: LiClO4. K1=0.4,B2=-0.2(I=0); K1=-0.08,B2=-1.0(I=2). TlHg electrode
--------------------------------------------------------------------------------
Tl+        sol none   25°C  0.0  U T                    1972KEa  (5821)  73
                                          Kso=-3.656
Kso=-4.046(10.1 C), -3.923(15 C), -3.811(20 C), -3.542(30 C), -3.436(35 C),
-3.312(40 C), -3.238(45 C)
--------------------------------------------------------------------------------
Tl+        sol none   25°C  0.0  U T                    1972KEa  (5822)  74
                                          Kso=-3.862
In D2O. Kso=-4.305(10 C), -4.139(15 C), -4.006(20 C), -3.764(30 C),
-3.637(35 C), -3.571(40 C), -3.403(45 C)
--------------------------------------------------------------------------------
Tl+        ISE NaClO4 25°C  3.0M U        K1=0            1971BSd  (5823)  75
Method: Tl amalgam electrode
--------------------------------------------------------------------------------
Tl+        ISE NaClO4 25°C  1.0M U  I     K1=0.08   B2=0.04   1971FRb  (5824)  76
Medium: LiClO4. K1=0.40,B2=-0.60(I=0); K1=0.11(I=0.5); K1=-0.12,B2=0.05
(I=2); K1=-0.10,B2=-1.1(I=3); K1=-0.08,B2=-1.2(I=4). TlHg electrode
--------------------------------------------------------------------------------
Tl+        sp  NaClO4 25°C 0.15M U        K1=0.31         1971MMg  (5825)  77
--------------------------------------------------------------------------------
Tl+        vlt NaClO4 30°C  1.0M U  I     K1=0.32         1970BOd  (5826)  78
```

Medium: Na(F,ClO4). K1=0.0, B2=-0.44(I=4)

Tl+ EMF non-aq 25°C 100% U 1970SAc (5827) 79
Kso=-12.39

Medium: propene carbonate

Tl+ cal none 25°C 0.0 U H 1969BPa (5828) 80
DH(K1)=-6.3 kJ mol-1

Tl+ con diox/w 25°C 20% U I K1=1.01 1969DFa (5829) 81
Medium: 19.8% w/w dioxan/H2O. K1=0.72(0%), 1.40(35.8%), 1.61(43.6%), 2.06(53.6%), 2.31(58.2%), 2.94(66.2%)

Tl+ sol non-aq 24°C 100% U K1=2.3 B2=3.4 1969LUb (5830) 82
B3=3.2
B(Tl2L)=3.0
Kso=-5.5

Medium: DMSO, 1 M LiClO4. TlHg electrode

Tl+ sol none 25°C 0.0 U K1=0.62 1969MPa (5831) 83
Using spect., K1 <0.3

Tl+ ISE non-aq 25°C 100% U 1969SBa (5832) 84
K(TlL(s)=TiL)=-4.6
K(TiL(s)+L=TiL2)=-2.1
Kso(TlL(s)=Tl+L)=-9.0

Medium: DMF. In DMSO: Ks1=-2.95, Ks2=-1.8, Kso=-6.4. In propene carbonate: Ks1=-6.4, Ks2=-4.1, Kso=-12.4

Tl+ sol none 30°C 0.0 U K1=0.60 1967KHa (5833) 85
Kso=-3.62

Tl+ sol none 25°C 0.0 U I K1=0.52 1967KPa (5834) 86
Kso=-3.74

In 16.7% MeOH: K1=0.70. K1=0.90(30%), 1.34(60%); Kso=-4.15(16.7%), -4.49(30%), -5.36(60%)

Tl+ ISE non-aq 25°C 100% U I K1=2.70 B2=3.95 1966CBa (5835) 87
Kso=-6.26

Medium: DMSO, 0.5 M LiClO4. Kso(TlCl(s)=Tl+Cl)=-7.21(I=0). TlHg electrode

---

Tl+ sol none 25°C 0.0 U K1=0.62 1966MPa (5836) 88
Kso=-3.74

Tl+ sol oth/un 25°C 0.0 M K1=0.6 1964MPa (5837) 89

Tl+ vlt oth/un 25°C var U B2=-0.80 1963KMd (5838) 90
B3=-1.68
B4=-2.64

Medium:LiCl var

Tl+ sol NaClO4 25°C 4.0M U T H K1=0.00 B2=-0.58 1963KMe (5839) 91
Medium:LiClO4. K1=0.04,B2=-0.74(15 C); -0.05,-0.55(40 C); -0.10,-0.40(60 C);
-0.12,-0.5(80 C). DH(K1)=-4.6 kJ mol-1,DS=-17 J K-1 mol-1; DH(B2)=9.6,DS=-17

Tl+ sol NaClO4 25°C 4.0M U T H 1963KMe (5840) 92
K(K+TlCl2)=-0.58
Medium: LiClO4. K=-0.37(15 C),-0.72(40 C),-0.69(60 C),-0.82(80 C)
DH(K)=-11 kJ mol-1. DS=-54 J K-1 mol-1(25 C)

Tl+ ISE none 25°C 0.0 U K1=0.80 1962APa (5841) 93

Tl+ vlt NaClO4 25°C 2.0M U K1=0.19 1962BSc (5842) 94

Tl+ sol non-aq 275°C 100% U T K1=0.3 1962SIc (5843) 95
Medium: liquid (Na/K)NO3, m units

Tl+ sol none 25°C 0.0 U K1=0.74 1962SMc (5844) 96
Kso(TlL(s))=-3.75

Tl+ dis non-aq 480°C 100% U I K1=0.85 1961KEb (5845) 97
Medium: liquid KNO3. Kd(TlL(in AgCl(l)) = TlL(in KNO3(l))=-1.7. In liquid
K2S2O7 K1=0.3, Kd=-1.4. In m units

Tl+ sol NaClO4 25°C 4.0M U K1=0.09 B2=0.74 1961KMb (5846) 98
Kso(TlL(s))=-2.8
Method: Tl/Hg electrode. Medium: LiClO4. Also data on addn. of Na, K, Rb, Cs
See: V Mironov, Zh.Neorg.Khim.,1963,8,764

Tl+ vlt none 25°C 0.0 U K1=0.46 1961NRa (5847) 99

Tl+ vlt NaClO4 25°C 1.0M U K1=0.64 1961NRa (5848) 100

Tl+ ISE none 25°C 0.0 U K1=0.60 B2=0.40 1958BOb (5849) 101

Tl+ ix none 25°C 0.0 U K1=0.46 B2=-0.02 1958HOa (5850) 102
K3=-0.9?

Tl+ ISE NaClO4 25°C 4.0M U K1=0.00 B2=-0.80 1957NIa (5851) 103
Kso(TlL(s))=-3.04
Method: Tl/Hg electrode. By solubility K1=-0.1, K2=-0.7, K3=-0.9, Kso=-3.04
Ks(TlL(s)=TlL)=-3.15, K(TlL(s)+L=TlL2)=-3.74, K(TlL(s)+2L=TlL3)=-4.70

Tl+ oth none 25°C 0.0 U H K1=0.49 1957NNa (5852) 104
extrapolated to zero ionic strength,
DS(K1)=-7.5 J K-1 mol-1

Tl+ oth none 40°C 0.0 U K1=0.44 1957NNa (5853) 105

Tl+ sp NaClO4 ? 2.20M U K1=-0.13 1956PVa (5854) 106

```
-------------------------------------------------------------------------------
Tl+        sol none   25°C  0.0  U T H    K1=0.68        1955ANd  (5855) 107
                                          Kso(TlL(s))=-3.76
I=0 corr. 5 C: K1=0.66, Kso=-4.33; 45 C: K1=0.67, Kso=-3.32
DH(K1)=0.4 kJ mol-1, DS=15 J K-1 mol-1; DH(Kso)=42.3, DS=70.3
-------------------------------------------------------------------------------
Tl+        sol none   25°C  0.0  U        K1=0.60   B2=0.17   1955HSa  (5856) 108
-------------------------------------------------------------------------------
Tl+        sol none   25°C  0.0  U   H                      1953ADa  (5857) 109
I=0 corr. DH(K1)=1.1 kJ mol-1, DS=17 J K-1 mol-1
-------------------------------------------------------------------------------
Tl+        sol none   25°C  0.0  U T      K1=0.68        1953BGb  (5858) 110
I=0 corr. K1=0.78(0 C), 0.64(40 C). DH(K1)=-6.0 kJ mol-1, DS=-7.1 J K-1 m-1
-------------------------------------------------------------------------------
Tl+        con none   25°C  0.0  U  I     K1=0.64        1945GVa  (5859) 111
I=0 corr. Also in (CH2OH)2/H2O mixtures
-------------------------------------------------------------------------------
Tl+        sol none   25°C  0.0  U        K1=0.66        1943BGa  (5860) 112
-------------------------------------------------------------------------------
Tl+        sol none   25°C  0.0  U        K1=0.66        1941HGb  (5861) 113
-------------------------------------------------------------------------------
Tl+        con none   18°C  0.0  U        K1=0.60        1937RDa  (5862) 114
-------------------------------------------------------------------------------
Tl+        con none   25°C  0.0  U        K1=0.47        1937RDa  (5863) 115
-------------------------------------------------------------------------------
Tl+        ISE none   25°C  0.0  U        K1=0.51        1934CMa  (5864) 116
-------------------------------------------------------------------------------
Tl+        sol none   18°C  0.0  U        K1=0.52        1930BDa  (5865) 117
-------------------------------------------------------------------------------
Tl+        ISE alc/w  25°C 100%  U                       1929BHa  (5866) 118
                                          Kso(TlL(s))=-4.54
Medium: MeOH
-------------------------------------------------------------------------------
Tl+        sol none   25°C  0.0  U                       1928RVa  (5867) 119
                                          Kso(TlL(s))=-3.726
-------------------------------------------------------------------------------
Tl+        con none   18°C  0.0  U        K1=0.51        1927ONa  (5868) 120
-------------------------------------------------------------------------------
Tl+        sol none   25°C  0.0  U T                     1926BHa  (5869) 121
                                          Kso(TlL(s))=-3.72
I=0 corr. Kso=-4.43(0 C), -3.16(50 C)
-------------------------------------------------------------------------------
Tl+        sol none   40°C  0.0  U                       1923BOa  (5870) 122
                                          Kso(TlL(s))=-3.32
-------------------------------------------------------------------------------
Tl+        con none   26°C  0.0  U T                     1923BOa  (5871) 123
                                          Kso(TlL(s))=-3.67
I=0 corr. Kso=-4.12(9.5 C)
-------------------------------------------------------------------------------
Tl+        sol none   25°C  0.0  U                       1923BOa  (5872) 124
```

						Kso(TlL(s))=-3.66			
Tl+	con	none	20°C	0.0	U		1903BOb	(5873)	125
						Kso(TlL(s))=-3.82			

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	sol	none	25°C	0.0	U		K1=0.47	1892NOa	(6064) 126

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	vlt	non-aq	22°C	100%	U		K1=3.3	1988BEb	(6383) 127
Medium: CH2Cl2									
Tl+	sol	NaClO4	25°C	?	U		K1=-0.5	1973JOa	(6384) 128
Tl+	vlt	oth/un	30°C	1.0M	U		K1=-0.49	1970BOd	(6385) 129
Medium: KF									
Tl+	con	non-aq	25°C	100%	U		K1=1.51	1970YKb	(6386) 130
Medium: MeCN, 0 corr									
Tl+	sp	oth/un	80°C	0.0	U	T	K1=-0.40	1967ZBa	(6387) 131
K1=-0.20(23 C), -0.26(40 C), -0.34(60 C)									
Tl+	oth	oth/un	25?°C	0.0	M		K1=0.2	1966MBb	(6388) 132
Tl+	con	none	25°C	0.0	U		K1=0.0	1937RDa	(6389) 133

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	sol	oth/un	20°C	2.40M	U			1974FEa	(6512) 134
							Kso=-10.0		
Tl+	sol	NaClO4	20°C	3.00M	U			1974FGe	(6513) 135
							Kso=-9.85		
Tl+	sol	oth/un	20°C	dil	U			1958KGb	(6514) 136
							Kso=-11.70		
Tl+	ISE	none	25°C	0.0	U			1953SUa	(6515) 137

Kso=-12.01

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	con	oth/un	25°C	1.00M	U	I	K1=-0.07	B2=-0.25	1976FRa (7263)	138

At I=4.0, K1=-0.13. Data also at I=2.0 and 3.0 M

Tl+	vlt	oth/un	25°C	0.10M	C		K1=2.88		1975APd (7264)	139

Method: polarography. Medium: 0.10 M NaF.

Tl+	sol	NaClO4	25°C	0.50M	U		K1 < -1.22		1973JOa (7265)	140

Tl+	EMF	non-aq	0°C	100%	U		K1=-0.02		1966CPb (7266)	141

Medium: HF

Tl+	EMF	non-aq	0°C	100%	U		K1=3.33		1961CZa (7267)	142

Medium: liquid HF, I=0

Tl+	sol	none	25°C	0.0	U		K1=0.10		1953BGb (7268)	143

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	sol	oth/un	25°C	var	U	M	B(TlClBr)=0.80		1962FSa (7436)	144
							B(TlClBr2)=0.93			
							B(TlBrI)=2.24			
							B(TlBrI2)=2.42			

****

H2O L Water CAS 7732-18-5 (6115)
Water

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	vlt	alc/w	25°C	100%	U		K2=-1.48		1958VAa (7613)	145
							K3=-1.66			

Medium: EtOH, 0.1 M KNO3

****

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

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

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```
Tl+        EMF oth/un 25°C  0.0  C T                    1993MCb  (8386) 146
                                        Kso(TlI)=-7.354
Method: Tl(Hg)/Tl(I) electrode. At 40 C, Kso=-6.729; at 55 C, Kso=-6.198.
Medium 0.10 M KI. Cell emf independent of [I].
-------------------------------------------------------------------------------
Tl+        EMF non-aq 25°C 100%  C TIH                  1981STb  (8387) 147
Method: Tl/Hg electrode. Medium: DMF. DH(K1)=-26.86 kJ mol-1, DS=12.28
J K-1 mol-1, Kso(TlCl)=-6.86. In PC: DH(K1)=-46.62, DS=10.36, Kso=-9.99.
-------------------------------------------------------------------------------
Tl+        EMF none   25°C  0.0  C T H                  1981STb  (8388) 148
Method: Tl/Hg electrode. DH(K1)=-70.05 kJ mol-1, DS=-29.69 J K-1 mol-1.
-------------------------------------------------------------------------------
Tl+        sp  NaClO4 25°C 0.02M U T H    K1=2.86        1975PFa  (8389) 149
L=the triiodide ion.  K1=2.70 (5 C); 2.80 (15 C); 2.87 (35 C); 2.83 (45 C)
-------------------------------------------------------------------------------
Tl+        sol non-aq 25°C 100%  U  I                   1974MUa  (8390) 150
                                        Kso=-7.01
Medium: DMF. In DMSO: Kso=-4.78. In propene carbonate: Kso=-9.99
-------------------------------------------------------------------------------
Tl+        sol non-aq 25°C 100%  U        B2=6.2        1973BNa  (8391) 151
                                        Kso=-6.8
Medium: N,N-dimethylacetamide
-------------------------------------------------------------------------------
Tl+        EMF non-aq 25°C 100%  U                      1970SAc  (8392) 152
                                        Kso=-12.22
Medium: propene carbonate
-------------------------------------------------------------------------------
Tl+        ISE non-aq 24°C 100%  U        K1=1.9    B2=2.3    1969LUb  (8393) 153
                                        B3=2.4
                                        B(Tl2I)=1.0
                                        B(Tl3I)=1.9
                                        Kso(TlI(s)=Tl+I)=-4.9
Medium: DMSO, 1 M LiClO4. TlHg electrode
-------------------------------------------------------------------------------
Tl+        con non-aq 140°C 100%  U        K1=2.91       1967BNb  (8394) 154
                                        K(TlI+Tl)=3.10
Medium: liquid I2
-------------------------------------------------------------------------------
Tl+        EMF NaClO4 25°C  7.0M U                      1966JOa  (8395) 155
                                        Kso(Tl(I3))=-7.74
Medium:3 M HClO4,4 M NaClO4. Kso(TlI)=-6.77, Ks(TlI0.83(I3)0.17)=-6.16
-------------------------------------------------------------------------------
Tl+        sol oth/un 25°C  var  U   H                  1963KMd  (8396) 156
Medium:KI. DH(K1)=-17 kJ mol-1,DS=-29 J K-1 mol-1; DH(B2)=-30, DS=-67
-------------------------------------------------------------------------------
Tl+        sol NaClO4 25°C  4.0M U        K1=0.76   B2=0.90   1960KMa  (8397) 157
                                        K3=0.14
                                        K4=-0.19
                                        B4=0.85
-------------------------------------------------------------------------------
```

```
Tl+        sol oth/un 20°C  var  U T H    B2=2.20        1958KMb  (8398) 158
                                          B3=1.95
                                          B4=1.54
                                          Kso(AgL)=-7.49
Medium:KI. DH(B2)=-35 kJ m-1,DH(B3)=-39,DH(B4)=45.2. 30 C:Kso=-7.07,K(TlL(s)
=TlL)=-5.40,B2=2.03,B3=1.80,B4=1.29. 40 C:Kso=-6.69,K=-5.05,B2=1.72,B3=1.51
-------------------------------------------------------------------------------
Tl+        sol oth/un 50°C  var  U T      K1=1.38   B2=1.58   1958KMb  (8399) 159
                                          B3=1.31
                                          B4=0.80
                                          Kso(TlL)=-6.31
                                          K(TlL(s)=TlL)=-4.92
Medium KI. At 60 C: Kso=-5.96, K=-4.74, K1=1.21, B2=1.40, B3=1.12, B4=0.58.
At 70 C: Kso=-5.63, K=-4.43, K1=1.17, B2=1.28, B3=0.94, B4=0.37
-------------------------------------------------------------------------------
Tl+        EMF NaClO4 25°C  4.0M U                       1958MIa  (8400) 160
                                          Kso=-6.73
-------------------------------------------------------------------------------
Tl+        sol oth/un 70°C  dil  U T                     1958MIa  (8401) 161
                                          Kso=-5.63
Kso=-7.49(20 C), -7.24(25 C), -6.69(40 C), -6.31(50 C), -5.96(60 C)
-------------------------------------------------------------------------------
Tl+        sol oth/un 25°C  var  U                       1958MIa  (8402) 162
                                          B4=-0.92
Medium:ZnI2
-------------------------------------------------------------------------------
Tl+        sol oth/un 25°C  var  U  I     K1=1.52   B2=1.94   1957KMa  (8403) 163
                                          B3=1.72
                                          B4=1.24
                                          Kso(TlL)=-7.24
Medium: LiI. In NaI K1=1.50, B2-1.96, B3=1.71, B4=1.32. In NH4I K1=1.45,
B2=1.92, B3=1.86, B4=1.44. In RbI: K1=1.52, B2=2.00, B3=1.87, B4=1.51
-------------------------------------------------------------------------------
Tl+        sol NaClO4 25°C  4.0M U        K1=0.72   B2=0.90   1957NIa  (8404) 164
                                          K3=0.18
                                          K4=-0.38
                                          Kso(TlL)=-6.72
                                          K(TlL(s)=TlL)=-6.00
K(TlL(s)+L=TlL2)=-5.82, K(TlL(s)+2L=TlL3)=-5.64, K(TlL(s)+3L=TlL4)=-6.00.
By Tl/Hg electrode Kso=-6.73
-------------------------------------------------------------------------------
Tl+        con none   25°C  0.0  U                     1937DRa  (8405) 165
                                          Kso(TlL)=-7.19
-------------------------------------------------------------------------------
Tl+        con none   26°C  0.0  U T                   1923BOa  (8406) 166
                                          Kso(TlL)=-7.20
I=0 corr. Kso=-7.93(9.9 C), -7.55(18 C)
-------------------------------------------------------------------------------
Tl+        EMF oth/un 25°C  dil  U                       1912SPa  (8407) 167
                                          Kso(TlL)=-7.51
```

```
------------------------------------------------------------------------------
Tl+        con oth/un 20°C  dil  U                       1903BOb  (8408) 168
                                          Kso(TlL)=-7.44
******************************************************************************
IO3-                    HL    Iodate           CAS 7782-68-5  (1257)
Iodate;
------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
------------------------------------------------------------------------------
Tl+        sol oth/un 20°C 2.40M U                       1974FEa  (8562) 169
                                          Kso(TlL(s))=-4.66
Medium: Na2SO4
------------------------------------------------------------------------------
Tl+        sol NaClO4 20°C  3.0M U                       1974FGe  (8563) 170
                                          Kso(TlL(s))=-4.31
------------------------------------------------------------------------------
Tl+        vlt NaClO4 25°C  1.0M U        K1=0.15        1972BHb  (8564) 171
------------------------------------------------------------------------------
Tl+        sol none   25°C  0.0  U T H                   1953BGb  (8565) 172
                                          Kso(TlL)=-5.51
I=0 corr. DH(so)=55.6 kJ mol-1, DS=81 J K-1 m-1. Kso=-6.40(0 C), -5.09(40 C)
------------------------------------------------------------------------------
Tl+        sol none   25°C  0.0  U                       1929MGa  (8566) 173
                                          Kso(TlL)=-5.51
------------------------------------------------------------------------------
Tl+        EMF oth/un 25°C  dil  U                       1912SPa  (8567) 174
                                          Kso(TlL)=-5.34
------------------------------------------------------------------------------
Tl+        con oth/un 20°C  dil  U                       1903BOb  (8568) 175
                                          Kso(TlL)=-5.66
******************************************************************************
MoO4--                 H2L    Molybdate          (443)
Molybdate;
------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
------------------------------------------------------------------------------
Tl+        sol NaClO4 20°C 3.00M U                       1974FGe  (8760) 176
                                          Kso(Tl2L(s))=-6.02
******************************************************************************
NH3                     L    Ammonia           CAS 7664-41-7  (414)
Ammonia
------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
------------------------------------------------------------------------------
Tl+        vlt oth/un 25°C  1.0M C        B2=2.48        1975APd  (9215) 177
Method: polarography. Medium: 1.0 M NH4OH.
------------------------------------------------------------------------------
Tl+        gl  R4N.X  23°C  2.0M U        K1=-0.9        1941BJa  (9216) 178
Medium: NH4NO3
------------------------------------------------------------------------------
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```
Tl+        sol oth/un 16°C  var  U        K1=-0.92       1928JOa  (9217) 179
K1=-0.87 by spec. (Job's method)
********************************************************************************
NO2-                   HL    Nitrite          CAS 7782-77-6  (635)
Nitrite;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        con oth/un 25°C  0.0  U        K1=0.80        1957NBa  (9407) 180
By Tl electrode K1=0.85
********************************************************************************
NO3-                   HL    Nitrate          CAS 7697-37-2  (288)
Nitrate;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        oth oth/un 20°C 3.00M U        K1=-0.57       1979FEa  (9947) 181
Method: densimetry
--------------------------------------------------------------------------------
Tl+        oth NaClO4 20°C  3.0M U        K1=-0.55       1979FEb  (9948) 182
Method: densitometry
--------------------------------------------------------------------------------
Tl+        vlt oth/un 25°C 0.20M C        K1=1.18   B2= 2.30  1975APd  (9949) 183
                                          B3=3.0
Method: polarography. Medium: 0.20 M NaNO3.
--------------------------------------------------------------------------------
Tl+        cal oth/un 25°C  0.5M U        K1=-0.3        1975FRa  (9950) 184
Background salt: LiClO4;  For: I=1.0 M, K1=-0.32
--------------------------------------------------------------------------------
Tl+        sol NaClO4 20°C 0.40M U    M                  1975GFa  (9951) 185
                                          B(Tl(S2O3)(NO3))=-0.08
                                          B(Tl(S2O3)(NO3)2)=-0.37
--------------------------------------------------------------------------------
Tl+        sol NaClO4 20°C  3.0M U        K1=-0.6   B2=-1.5   1974FGe  (9952) 186
--------------------------------------------------------------------------------
Tl+        con oth/un 25°C  0.0  U        K1=0.29        1974MWc  (9953) 187
--------------------------------------------------------------------------------
Tl+        oth oth/un 25°C  var  U                       1971JCa  (9954) 188
                                          K(Tl(H2O)2+L=Tl(H2O)L)=-0.4
Method: dilatometry,densometry
--------------------------------------------------------------------------------
Tl+        vlt oth/un 30°C  1.0M U  I     K1=-0.19       1970BOd  (9955) 189
Medium: KF. K1=-0.43(I=4)
--------------------------------------------------------------------------------
Tl+        sol NaNO3  30°C 0.10M U  I     K1=0.41        1969KMd  (9956) 190
In LiNO3: K1=0.30; KNO3: 0.53; CsNO3: 0.65; Mg(NO3)2: 0.75
--------------------------------------------------------------------------------
Tl+        con diox/w 25°C  16%  U  I     K1=0.69        1968DFa  (9957) 191
Medium: 16% dioxan. K1=0.51(0%), 0.60(7.8%), 1.04(36.2%), 1.54(52.5%),
1.81(59.2%), 2.61(70.0%), 3.27(76.4%)
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```
--------------------------------------------------------------------------------
Tl+        oth oth/un 25?°C  0.0  U        K1=0.5        1966MBb  (9958) 192
--------------------------------------------------------------------------------
Tl+        ISE NaClO4 25°C  3.0M U   H    K1=-0.48       1965KMb  (9959) 193
Method: amalgam electrode. Medium: LiClO4. DH(K1)=-25.9 kJ mol-1, DS=-96
--------------------------------------------------------------------------------
Tl+        vlt oth/un 25°C  0.0  U        K1=0.38        1961NRa  (9960) 194
--------------------------------------------------------------------------------
Tl+        sol oth/un 25°C  0.0  U T H    K1=0.33        1957NNa  (9961) 195
K1=0.38(0 C), 0.31(40 C). DH(K1)=-2.7 kJ mol-1, DS=-4 J K-1 mol-1 (25 C)
--------------------------------------------------------------------------------
Tl+        con oth/un 25°C  0.0  U        K1=0.38        1937ROa  (9962) 196
--------------------------------------------------------------------------------
Tl+        con oth/un 18°C  0.0  U        K1=0.26        1927ONa  (9963) 197
********************************************************************************
N3-                   HL    Azide            CAS 7782-79-8  (441)
Azide;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        sol non-aq 25°C 100%  U                         1973BNa (10260) 198
Medium: MeCONMe2. Kso=-6.9
--------------------------------------------------------------------------------
Tl+        vlt NaClO4 25°C  2.0M U        K1=0.40        1962BSc (10261) 199
--------------------------------------------------------------------------------
Tl+        sol oth/un 25°C  0.0  U T H    K1=0.39        1957NNa (10262) 200
K1=0.45(10 C), 0.35(40 C). DH(K1)=-5.6 kJ mol-1, DS=-11 J K-1 mol-1
--------------------------------------------------------------------------------
Tl+        cal oth/un 25°C  0.0  U   H                   1956GWc (10263) 201
DH(Kso(TlL(s))=46.6 kJ mol-1
--------------------------------------------------------------------------------
Tl+        ISE oth/un 25°C  0.0  U                       1952SUa (10264) 202
                                          Kso(TlL(s))=-3.66
********************************************************************************
OH-                   HL    Hydroxide          (57)
Hydroxide;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        nmr NaClO4 25°C  2.0M C  I                    1997SCa (12305) 203
                                          *K1=-0.03
                                          *B2=-1.2
Additional method: spectrophotometry. Data for I=2.0-8.0 M NaClO4.
--------------------------------------------------------------------------------
Tl+        cal NaClO4 25°C 3.00M U   H    K1=0.09   B2=-0.86  1973KKg (12306) 204
Medium: LiClO4. DH(K1)=7.5 kJ M-1, DS=26.8 J K-1 M-1; DH(K2)=20.9, DS=52.3
--------------------------------------------------------------------------------
Tl+        sp  oth/un 25°C 1.00M U                       1971CHa (12307) 205
                                          K(Tl+ + TlOH++ = Tl2O+H)=1.7
--------------------------------------------------------------------------------
```

```
Tl+        sp  NaClO4 25°C 0.50M U  I     K1=0.30        1970KYa (12308) 206
K1=0.25(I=1), K1=0.09, B2=-0.8(I=3);  K1=0.30(I=5)
In LiClO4: K1=0.09, B2=-0.82(I=3); K1=-0.08(I=5)). At I=0, K1=0.69
--------------------------------------------------------------------------------
Tl+        oth none   25°C  0.0  U        K1=0.48        1962LIc (12309) 207
--------------------------------------------------------------------------------
Tl+        kin none   25°C  0.0  U        K1=0.85        1956BPa (12310) 208
--------------------------------------------------------------------------------
Tl+        sol none   25°C  0.0  U T H    K1=0.82        1953BGb (12311) 209
DH(K1)=1.5 kJ mol-1,DS=21 J K-1 mol-1. K1=0.81(0 C), 0.85(40 C)
--------------------------------------------------------------------------------
Tl+        kin oth/un 25°C 0.08M U  I     K1=0.22        1949BPb (12312) 210
Medium:0.08 to 0.25 M. At I=0: K1=0.42. By conductivity, I=0, K1=0.49
********************************************************************************
PO4---                H3L    Phosphate        CAS 7664-38-2  (176)
Phosphate;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        sp  NaClO4 25°C 0.15M U        K1=2.41        1971MMg (13348) 211
                                         K(Tl+HL)=0.73
********************************************************************************
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
--------------------------------------------------------------------------------
Tl+        sp  NaClO4 25°C 1.30M U        K1=2.20   B2=3.40   1984FEa (13663) 212
--------------------------------------------------------------------------------
Tl+        sp  NaClO4 25°C 0.15M U        K1=3.05        1971MMg (13664) 213
                                         K(Tl+HL)=2.34
--------------------------------------------------------------------------------
Tl+        vlt KNO3   35°C 2.00M U        K1=1.69   B2=1.9    1952SDa (13665) 214
********************************************************************************
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
--------------------------------------------------------------------------------
Tl+        sol oth/un 20°C 2.40M U        K1=1.3    B2=2.3    1974FEa (13914) 215
Medium:Na2SO4
********************************************************************************
ReO4-                  HL    Perrhenate         (2581)
Rhenate(VII), Perrhenate;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        sol none   25°C  0.0  C                      1988HHb (14111) 216
                                         Kso(TlReO4)=-4.92
Method: perrhenate ion selective electrode.
```

****

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

Sulfide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	oth	none	?	0	U			1990DKa (14485)	217
							*Ks(Tl2S+H=2Tl+HS)=-7.22		
From recalculation of literature data.									
Tl+	oth	none	25°C	0	U			1988LIa (14486)	218
							Kso(Tl2S)=-24.5		
							*Kso(Tl2S)=-7.2		
Derived from thermodynamic data and K(H+S=HS)=17.3.									
Tl+	ISE	NaClO4	25°C	1.0M	U			1972GRa (14487)	219
							K(Tl+HL)=2.27		
							K(2Tl+HL)=8.04		
							K(2Tl+OH+3HL)=14.96		
							K(2Tl+2OH+2HL)=16.7		
Kso=-21.15									
Tl+	sol	NaClO4	25°C	3.0M	U			1966GKc (14488)	220
							*Kso(.5Tl2S(s))=1.36		
Tl+	vlt	none	25°C	0.0	U			1959KKa (14489)	221
							Kso(Tl2L)=-20.0		
I=0 corr. K(0.5Tl2L(s)+H=Tl+0.5H2S(g))=0.46									
Tl+	oth	none	25°C	0.0	U			1952GGc (14490)	222
							Kso(Tl2L)=-19.15		
From thermodynamic data									
Tl+	oth	none	25°C	0.0	U			1952LAb (14491)	223
							Kso(Tl2L)=-21		
From thermodynamic data									
Tl+	sol	none	20°C	0.0	U			1936RAa (14492)	224
							Kso(Tl2L)=-22.19		
I=0 corr. K(0.5Tl2L(s)+H=Tl+0.5H2S(g))=0.37									
Tl+	sol	oth/un	18°C	var	U			1931KOa (14493)	225
							Kso(Tl2L)=-22.16		
At 20 C: Kso=-23.92, K(0.5Tl2L+H=Tl+0.5H2S(g))=-0.48									
Tl+	sol	oth/un	25°C	var	U	T		1909BZa (14494)	226
							K=0.41		
							Kso(Tl2L)=-22.15		
K: K(0.5Tl2L(s)+H=Tl+0.5H2L). K=-0.17(0 C), 0.69(40 C). Kso=-22.35(18 C)									

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	sp	non-aq	25°C	100%	C		K1=0.15		1998AEa (15281)	227

Medium: N,N-Dimethylthioformamide. Methods: IR and FT Raman spectroscopy. Ligand is S-bonded (thiocyanate). For N-bonding (isothiocyanate), K1=-0.52

Tl+	oth	NaClO4	25°C	3.0M	U	I	R	K1=0.10		1997BPa (15282)	228

IUPAC evaluation

Tl+	sol	none	25°C	0.0	C			Kso(TlSCN)=-3.74		1975PTe (15283)	229

Method: SCN ion selective electrode. Data for 10-40 C.

Tl+	ISE	NaClO4	25°C	3.0M	U	I		K1=0.08 B3=-0.96 B4=-1.22	B2=-0.08	1972FIb (15284)	230

Medium:LiClO4;K1=0.15,B2=-0.06,B3=-0.39(I=1);K1=0.12,B2=-0.11,B3=-0.47(I=2); K1=0.13, B2=-0.03, B3=-0.50, B4=-1.4(I=4). Method: Tl amalgam electrode

Tl+	oth	none	25°C	0.0	U			K1=0.56 B3=-0.30	B2=0.37	1972FIb (15285)	231

Tl+	ix	oth/un	25°C	var	U			K1=0.46 B3=0.30 B4=0.40	B2=0.92	1971BSj (15286)	232

Tl+	ISE	NaClO4	25°C	4.0M	U	I	T	K1=0.15 B3=-0.42 B4=-1.4	B2=-0.06	1971FRb (15287)	233

Medium: LiClO4; K1=0.17, B2=-0.05, B3=-0.36(I=1); 0.12, -0.12, -0.47(I=2); K1=0.10, B2=-0.10, B3=-0.55, B4=-1.40(I=3). Method: Tl amalgam electrode

Tl+	ISE	none	25°C	0.0	U		T	K1=0.58 B3=-0.5	B2=0.36	1971FRb (15288)	234

Medium: LiClO4, extrapolated to zero conc. Method: Tl amalgam electrode

Tl+	ISE	NaClO4	25°C	1.0M	U	I	M	B(TlClL)=-0.05 B(TlClL2)=-0.09		1971FRb (15289)	235

Medium: LiClO4. B(TlClL)=-0.15(I=0.5),-0.22(I=2),-0.15(I=3),-0.17(I=4); I=0 corr:0.26. B(TlClL2)=-0.27(I=2),-0.35(I=3),-0.68(I=4); I=0 corr: 0.18. Tl/Hg

Tl+	vlt	KNO3	25°C	2.50M	U			K1=0.19 B3=-0.44	B2=-0.04	1966OLa (15290)	236

Tl+	sol	NaClO4	25°C	4.0M	U		T	K1=0.20 B3=-0.58	B2=-0.05	1965KMa (15291)	237

B4=-0.80
K(K+TlL4)=-0.1

Medium: LiClO4

Tl+ ISE NaClO4 25°C 3.0M U I T K1=0.11 B2=-0.06 1962KCb (15292) 238
B3=-0.43
B4=-1.35

Medium: LiClO4. By solubility K1=0.19, B2=-0.03, B3=-0.43, B4=-1.44. In 80% MeOH/H2O, 3 M LiClO4: K1=0.31, B2=0.35, B3=0.13. Also in 20, 40, 60% MeOH

Tl+ sol NaClO4 20°C 4.60M U T B2=0.49 1961GSb (15293) 239
B3=0.17
Kso(TlL)=-3.27
K(TlL(s)=TlL)=-2.61
K(TlL(s)+L=TlL2)=-2.72

Method: Tl/Hg electrode. K(TlL(s)+2L=TlL3)=-3.10, At 40 C: B2=0.41, B3=0.04, Kso(TlL)=-2.72, K(TlL(s)+L=TlL2)=-2.32, K(TlL(s)+2L=TlL3)=-2.77

Tl+ oth KNO3 25°C 2.0M U I K1=0.49 1961PRa (15294) 240

K1=0.53(I=3)

Tl+ sol oth/un 25°C var U I K1=0.62 B2=0.57 1960KMb (15295) 241
B3=0.13
B4=-0.34

Medium: LiL. In NaL K1=0.66, B2=0.60, B3=0.18, B4=-0.39. In KL: 0.74, 0.58, 0.25,-0.32. In CsL: 0.68,0.68,0.22,-0.48. In 8 M NaClO4:0.42,0.36,0.01,-0.53

Tl+ sol none 25°C 0.0 U K1=0.85 1958BCa (15296) 242
K(TlL(s)=Tl+L)=-3.80
K(TlL(s)=TlL)=-2.94
B3=0.62

Tl+ vlt NaClO4 25°C 3.0M U T K1=0.64 B2=0.88 1958HTa (15297) 243
K3=-0.18
K4=0.03
K5=-0.21
K6=-0.06

B6=0.46

Tl+ sol oth/un 25°C dil U 1958MIb (15298) 244
Kso=-3.77

Tl+ vlt KNO3 25°C 3.0M U T K1=0.19 B2=-0.20 1958PDa (15299) 245
K3=-0.42
K4=-0.34
B4=-0.96

Tl+ ISE NaClO4 25°C 4.0M U K1=0.15 B2=0.00 1957NIa (15300) 246
K3=-0.46
K4=-0.46

```
                                        K(TlL(s)=Tl+L)=-3.15
--------------------------------------------------------------------------------
Tl+        sol NaClO4 25°C  4.0M U                      1957NIa (15301) 247
                                        K(TlL(s)=Tl+L)=-3.16
                                        K(TlL(s)=TlL)=-3.00
                                        K(TlL(s)+L=TlL2)=-3.15
                                        K(TlL(s)+2L=TlL3)=-3.60
K(TlL(s)+3L=TlL4)=-3.97, K1=0.15, K2=-0.15, K3=-0.48, K4=-0.37
--------------------------------------------------------------------------------
Tl+        vlt NaNO3  25°C  2.0M U        K1=0.42        1956LSa (15302) 248
--------------------------------------------------------------------------------
Tl+        sol none   30°C  0.0  U                      1956SSb (15303) 249
                                        K(TlL(s)=Tl+L)=-3.64
Additional method: polarography
--------------------------------------------------------------------------------
Tl+        sol none   25°C  0.0  U T H    K1=0.80        1953BGb (15304) 250
DH(K1)=-12.38 kJ mol-1, DS(K1)=-26.8(25 C); K1=0.94(0 C), 0.64(40 C)
--------------------------------------------------------------------------------
Tl+        ISE none   25°C  0.0  U                      1952SUa (15305) 251
                                        K(TlL(s)=Tl+L)=-3.77
--------------------------------------------------------------------------------
Tl+        oth oth/un 20°C  dil  U                      1903BOb (15306) 252
                                        K(TlL(s)=Tl+L)=-3.92
********************************************************************************
SO3--                  H2L    Sulfite          CAS 7782-99-2  (801)
Sulfite;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        oth oth/un 20°C 3.00M U        K1=0.02        1979FEa (15478) 253
Method: densimetry
--------------------------------------------------------------------------------
Tl+        oth NaClO4 20°C  3.0M U        K1=-0.02       1979FEb (15479) 254
Method: densitometry
********************************************************************************
SO4--                  H2L    Sulfate          CAS 7664-93-9  (15)
Sulfate;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        vlt oth/un 25°C 0.20M C        B2=1.90        1975APd (16596) 255
Method: polarography. Medium: 0.20 M Na2SO4.
--------------------------------------------------------------------------------
Tl+        cal oth/un 25°C  0.5M U        K1=0.65        1975FRa (16597) 256
Background salt: LiClO4;  For: I=1.0 M, K1=0.34;
--------------------------------------------------------------------------------
Tl+        ISE oth/un 25°C  3.0M U        K1=-0.48  B2=-0.89  1965KYd (16598) 257
Method:amalgam electrode. Medium: LiClO3. K1=-0.52 in summary
--------------------------------------------------------------------------------
Tl+        vlt NaClO4 25°C  2.0M U        K1=0.34        1962BSc (16599) 258
```

Tl+ EMF oth/un 25°C 0.0 U K1=1.8 1960CRa (16600) 259

Tl+ kin NaClO4 25°C 3.68M U K1=0.3 1957BMa (16601) 260

Tl+ sol oth/un 25°C 0.0 U T H K1=1.37 1953BGb (16602) 261

K1=1.38(0 C), 1.36(40 C). DH(K1)=-1 kJ mol-1, DS=23 J K-1 mol-1

Tl+ con oth/un 25°C 0.0 U K1=1.44 1930BDa (16603) 262

Tl+ con oth/un 18°C 0.0 U K1=1.33 1930RDa (16604) 263

Tl+ con oth/un 18°C var U K1=1.85 1920DRa (16605) 264

****

S2O3-- H2L Thiosulfate CAS 73686-28-7 (177)

Thiosulfate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	oth	oth/un	20°C	2.70M	U		K1=0.79	B2=1.11	1979FEa (16902)	265

Method: densimetry

Tl+	oth	NaClO4	20°C	2.7M	U		K1=0.79	B2= 1.13	1979FEb (16903)	266

Method: densitometry

Tl+	ISE	NaClO4	25°C	1.00M	U		K1=1.57	B2=1.94	1977PGa (16904)	267

Tl+	EMF	NaClO4	25°C	4.00M	U		K1=0.86	B2=0.72	1958NIa (16905)	268
							K3=-0.54			
							B(Tl2L4)=2.54			

Method: Tl/Hg electrode. By solubility Kso(Tl2L)=-4.54, K1=0.86

Tl+	sol	oth/un	25°C	var	U		K1=2.00		1954NRa (16906)	269
							Kso(Tl2L)=-6.70			

Tl+	vlt	none	rt	0.0	U		K1=1.91		1954NRb (16907)	270

Tl+	ISE	oth/un	?	var	U		B2=3.1		1904EUa (16908)	271

****

Se-- H2L Selenide (6335)

Selenide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	oth	none	25°C	0.0	U				1964BUe (16950)	272
							Kso=-33.1			

****

SeCN- HL Selenocyanate CAS 73102-11-2 (440)

Selenocyanate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	vlt	NaNO3	27°C	2.0M	U		K1=0.97	B2=0.88 B3=1.12	1973RTb (16996)	273

****

SeO4-- H2L Selenate CAS 7783-08-6 (459)
Selenate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	sol	none	25°C	0.0	U	T H	Kso(Tl2L)=-4.00	1958SEb (17113)	274

I=0 corr. Kso=-4.40(10 C), -4.13(20 C), -3.88(30 C), -3.67(40 C).
DH(so)=43.1 kJ mol-1

****

VO4--- H3L CAS 15457-75-7 (1586)
Vanadate; VO2(OH)3-- or polymers

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	sol	oth/un	28°C	dil	U		Ks(Tl(VO3))=-8.26 Ks(Tl4(V2O7))=-18.59	1964SMb (17393)	275

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	con	NaClO4	25°C	1.00M	U		K1=0.3		1998GZa (17861)	276
Tl+	vlt	KNO3	25°C	1.5M	C		K1=0.60	B2= 1.15 B3=1.68	1978DKb (17862)	277

Method: polarography.

****

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
Tl+	vlt	KNO3	30°C	1.00M	U	M		1982GSa (19107)	278

B(Tl(2-mercaptobenzoate)L) = 5.22

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	gl	NaClO4	25°C	0.15M	U		K1=0.86	1971MMg (19108)	279
Tl+	vlt	NaClO4	25°C	0.10M	U		K1=1.70	1969VPa (19109)	280

Method : amperometry

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	EMF	oth/un	25°C	0.20M	U		K1=2.03	1905ASa (19110)	281

****

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
Tl+	con	oth/un	25°C	->0	U		K1=-0.11	1937RDa (20204)	282

****
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
Tl+	gl	NaClO4	25°C	0.10M	U		K1=1.51	1974KUc (21735)	283

Medium: LiClO4
****
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
Tl+	sol	oth/un	16°C	var	U		K1=0.4	1928JOa (23237)	284

By spectrophotometry K1=0.3
****
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
Tl+	sp	NaClO4	25°C	0.15M	U		K1=0.54	1971MMg (24571)	285

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	EMF	KNO3	20°C	0.10M	U	T	K1=2.78	1968SGd (25230)	286

K1(30 C)=2.85, K1(40 C)=2.94
****
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
Tl+	gl	NaClO4	25°C	0.10M	U	T	K1=1.48	1974KUc (26280)	287

Medium: LiClO4
****
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

---

Tl+ gl NaCl 37°C 0.15M C K1=3.26 1989BCa (26844) 288
B(TlHL)=11.28

****

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
Tl+	gl	NaClO4	25°C	0.10M	U		K1=1.53	1974KUc (27187)	289

Medium: LiClO4

****

C3H7NS2 HL CAS 128-04-1 (2125)
Dimethyldithiocarbamic acid; (CH3)2N.CSSH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	EMF	non-aq	25°C	100%	U		B2=6.4	1987USa (27279)	290

Medium: DMF, 0.1 M LiClO4

****

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
Tl+	gl	KNO3	30°C	0.10M	U T H		K1=3.58	1968SGa (30368)	291

K1(35C)=3.71, K1(40C)=3.78. DH=-24.0 kJ mol-1, DS=-7.1 J K-1 mol-1

****

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
Tl+	con	oth/un	28°C	?	U		K1=1.39	1965SBa (31376)	292

****

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
Tl+	gl	oth/un	25°C	0.1M	U		K1=2.5 B2= 4.00	1975KUb (31955)	293

In 0.1 M LiClO4

****

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
Tl+	vlt	oth/un	25°C	0.30M	U		K1=1.32	1970FUb (32379)	294

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	sp	oth/un	20°C	?	U		K1=11.58		1972KVa (33115)	295
							K(Tl+HL)=5.54			

****
C4H8O2S HL CAS 623-51-8 (4265)
Ethyl-2-mercaptoacetate; HS.CH2.CO2.C2H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	vlt	alc/w	20°C	40%	U	T	K1=1.74	B2=2.00	1972SCf (33368)	296
							B3=3.25			

Medium: 40% EtOH, 0.5 M NaClO4. 30 C: K1=1.70, B2=1.95, B3=3.20
****
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
Tl+	vlt	NaClO4	25°C	0.10M	C		K1=0.90	B2= 1.95	1986SPb (34330)	297

Method: polarography.
****
C4H10N2O2 HL EDMA (2784)
Diaminoethane-N-ethanoic acid; H2N.CH2.CH2.NH.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	vlt	NaClO4	25°C	0.30M	U		K1=1.30	1970FUb (34594)	298

****
C4H11O2PS2 H3L CAS 298-06-6 (210)
O,O'-Diethyldithiophosphoric acid; (C2H5O)2P(S)SH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	dis	KNO3	25°C	0.30M	C		K1=1.40	1986HSb (35237)	299
Tl+	sp	alc/w	25°C	100%	U		K1=4.65	1979SJd (35238)	300

****
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
Tl+	vlt	oth/un	25°C	0.30M	U		K1=1.28	1970FUb (35818)	301

****
C5H9NO3S H2L N-Acetyl-Cys CAS 616-91-1 (1187)

N-Acetylcysteine; CH3.CO.NH.CH(CH2.SH)COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	gl	NaCl	37°C	0.15M	C		K1=2.27	1989BCa (38818)	302

****

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
Tl+	gl	oth/un	25°C	0.1M	U		K1=2.35 B2= 4.05	1975KUb (39132)	303

In 0.1 M LiClO4

****

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
Tl+	gl	NaCl	37°C	0.15M	C		K1=3.58 B(TlHL)=12.00	1989BCa (41284)	304

****

C5H11NS2 HL CAS 147-84-2 (2126)
Diethyldithiocarbamic acid; (CH3.CH2)2N.CSSH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	EMF	non-aq	25°C	100%	U		B2=6.5	1987USa (41372)	305

Medium: DMF, 0.1 M LiClO4

Tl+	sp	non-aq	?	100%	U	M	K(TlHA+HL=TlL+H2A)=3.53	1968SRg (41373)	306

Medium: CCl4. H2A=dithizone

****

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
Tl+	sp	NaClO4	25°C	0.15M	U		K1=0.87	1971MMg (41426)	307

****

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
Tl+	gl	KCl	?	0.10M	U		K1=7.05	1966TBa (43852)	308

****

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
Tl+	sp	NaClO4	25°C	0.15M	U		K1=1.36		1971MMg (46283)	309
Tl+	con	oth/un	28°C	?	U		K1=2.82		1965SBa (46284)	310
Tl+	ix	oth/un	25°C	0.10M	U	I	K1=1.04		1956SAb (46285)	311

K1=0.97(I=0.3 M), 0.65(I=0.5)

****

C6H9NO6 H3L CAS 41035-84-1 (4367)

N-Carboxymethyl-L-aspartic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	gl	KNO3	25°C	0.1M	U		K1=4.59	B2= 6.29	2005SNa (46381)	312
							K(Tl+HL)=1.42			

****

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
Tl+	gl	KNO3	20°C	0.10M	C	TIH R	K1=4.74		1982ANa (47054)	313

IUPAC evaluation

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	sp	NaClO4	25°C	0.15M	U		K1=4.42		1971MMg (47055)	314
Tl+	ix	oth/un	?	?	U		K1=5.00		1969KKf (47056)	315
Tl+	gl	KNO3	20°C	0.10M	U	T	K1=4.75		1967ABc (47057)	316
Tl+	gl	R4N.X	20°C	0.10M	U	T	K1=4.74		1963IFb (47058)	317

Medium: Me4NNO3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	vlt	oth/un	25°C	1.0M	U		K1=3.44		1957BVa (47059)	318

****

C6H10O4S2 H2L CAS 1119-62-6 (3697)

3,3'-Di(thiopropanoic acid); HOOC.CH2.CH2.S.S.CH2.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	gl	oth/un	30°C	0.10M	U		K1=2.75	B2=5.42	1984SGa (48271)	319

By polarography, B2=5.40

****

C6H12O2S HL CAS 20600-61-7 (4375)

(Butylthio)ethanoic acid; CH3.(CH2)3.S.CH2.COOH

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

Tl+ vlt alc/w 30°C 50% U T H K1=1.25 B2=1.62 1976SSg (49446) 320
B3=2.41
Medium: 50% EtOH, 0.1 M. At 40 C: K1=1.23, B2=1.60, B3=2.40
****
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
---
Tl+ vlt NaClO4 30°C 0.10M C T H 1983SDb (50838) 321
K(Tl+HL)=1.64
K(Tl+2HL)=3.07
Method: polarography. Medium pH 8.0. At 40 C, K(Tl+HL)=1.55,
K(Tl+2HL)=3.01. DH(Tl+HL)=-14.6 kJ mol-1, DH(Tl+2HL)=-10.7.
****
C6H15O2PS2 HL (2059)
O,O'-Dipropyl dithiophosphoric acid; (C3H7O)2P(S)SH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ sp alc/w 25°C 100% U I K1=4.63 1979SJd (51491) 322
Medium: = methanol; log K1 in other solvents: acetonitrile 4.35,
dioxan 5.16, tetrahydrofuran 6.38
****
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
---
Tl+ vlt NaClO4 25°C 0.5M C TI K1=2.33 1983PBa (52813) 323
Method: polarography. Also data for 15 C and 10% MeOH/H2O.
****
C7H5O3Br HL CAS 85-55-4 (1194)
5-Bromosalicylic acid; Br.C6H3(OH).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ gl alc/w 30°C 50% M K1=8.28 B2=13.48 1978KDb (53311) 324
Medium: 50% v/v EtOH/H2O, 0.10 M NaClO4.
****
C7H5O3Cl H2L CAS 321-14-2 (1113)
5-Chlorosalicylic acid; Cl.C6H3(OH).COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ gl alc/w 30°C 50% M K1=8.55 B2=13.70 1978KDb (53347) 325
Medium: 50% v/v EtOH/H2O, 0.10 M NaClO4.
****
C7H5O3I H2L CAS 119-30-2 (1114)
2-Hydroxy-5-iodobenzoic acid, 5-Iodosalicylic acid; I.C6H3(OH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	gl	alc/w	30°C	50%	M		K1=8.00 B2=13.00	1978KDb (53363)	326

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

****

C7H6O2S H2L Thiosalicylic CAS 147-93-3 (236)

2-Mercaptobenzoic acid; HS.C6H4.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	gl	alc/w	25°C	50%	U		K1=4.68	1971RFa (53919)	327
Tl+	gl	alc/w	17°C	50%	U		K1=3.66	1970RBc (53920)	328

Medium: 50% EtOH, 0.05 M NaClO4

****

C7H6O3 H2L Salicylic acid CAS 69-72-7 (14)

2-Hydroxybenzoic acid, Salicylic acid; HO.C6H4.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	gl	alc/w	17°C	50%	U		K1=3.90	1970RBc (54313)	329

Medium: 50% EtOH, 0.05 M NaClO4

Tl+	con	oth/un	28°C	?	U		B2=5.32	1967SBe (54314)	330

****

C7H6O4 H3L Protocatechuic CAS 99-50-3 (875)

3,4-Dihydroxybenzoic acid; C6H3(OH)2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	con	oth/un	28°C	?	U			1964SBc (54704)	331
							K(Tl+HL)=2.38(?)		

****

C7H6O5 H4L Gallic acid CAS 149-91-7 (446)

3,4,5-Trihydroxybenzoic acid; C6H2(OH)3.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	con	oth/un	28°C	?	U			1964SBc (54767)	332
							K(Tl+H2L)=2.55(?)		

****

C7H6O6S H3L CAS 5965-83-3 (399)

5-Sulfosalicylic acid, 2-Hydroxy-5-sulfobenzoic; HO3S.C6H3(OH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	con	oth/un	25°C	0.01M	U			1962SSb (55058)	333
							K(Tl+HL=TlL+H)=2.38(?)		

****

C7H13NO3S H2L CAS 59-53-0 (1269)
N-Acetyl-penicillamine; CH3.CO.NH.CH(COOH)C(CH3)2SH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	gl	NaCl	37°C	0.15M	C		K1=2.45	1989BCa (57493)	334

****
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
Tl+	dis	oth/un	?	?	U		K1=0.65	1969KKf (58687)	335

****
C8H9NO2S HL CAS 6310-11-8 (4576)
3-Mercaptoacetamidophenol; HS.CH2.CO.NH.C6H4.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	gl	oth/un	17°C	?	U		K1=3.46	1973KPd (60384)	336
Tl+	oth	alc/w	20°C	50%	U		K1=3.45	1972KPe (60385)	337

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

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	cal	R4N.X	20°C	0.1M	C		DH1= -24.2 kJ/mol	1976ANb (60659)	338

in Me4NCl

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	gl	KNO3	39°C	0.10M	U	TIH	K1=5.33	1963IFb (60660)	339

K1=5.99(20 C),5.76(27 C),5.41(34 C). DH(K1)=-64.4 kJ mol-1, DS=104 J K-1 m-1
At I=0 corr:K1=6.70(20 C)

****
C8H11NO8 H4L CAS 24868-49-3 (2572)
2-Amino(N,N-diethanoic)-1,4-butanedioic acid;HOOCCH(N(CH2COOH)2)CH2COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	gl	KNO3	25°C	0.1M	U		K1=4.38 B2= 6.11 K(Tl+HL)=3.01	2005SNa (61187)	340

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

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

```
Tl+        vlt KNO3   25°C 0.10M U        K1=3.75        1973GSd (61527) 341
                                          K(Tl+HL)=2.48
--------------------------------------------------------------------------------
Tl+        gl  KNO3   25°C 0.10M U        K1=3.80        1972KGc (61528) 342
                                          K(Tl+HL)=2.22
                                          B(Tl2L)=1.0
********************************************************************************
C8H12O4               H2L                      CAS 1687-30-5  (3805)
Cyclohexane-1,2-dicarboxylic acid; C6H10(COOH)2
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        con oth/un 28°C    ?  U        K1=1.74        1966SBa (61703) 343
********************************************************************************
C8H14O2S              H2L                        (6038)
Cyclohexylthioglycolic acid; C6H11.CH(SH)COOH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        vlt KNO3   20°C 0.50M U T H    K1=1.73   B2=3.176  1987GRb (62062) 344
At 30 C: K1=1.77, B2=3.342. At 40 C: K1=1.87, B2=3.398. DH(K1)=6.8 kJ mol-1
DS=57. DH(B2)=29.3; DS=159.
********************************************************************************
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
--------------------------------------------------------------------------------
Tl+        vlt R4N.X  25°C  0.2M C        K1=9.1         1999BBc (62730) 345
Medium: 0.2 M Bu4NPF6.
--------------------------------------------------------------------------------
Tl+        con non-aq 25°C 100%  C  I     K1=3.12        1993JHa (62731) 346
Medium: acetone. Data for acetonitrile and DMF media.
--------------------------------------------------------------------------------
Tl+        ISE non-aq 25°C 100%  U        K1=3.71        1982MDa (62732) 347
Medium: propylene carbonate
********************************************************************************
C8H19O2PS2             HL                     CAS 2253-44-3  (2060)
O,O'-Dibutyl dithiophosphoric acid; (C4H9O)2P(S)SH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        sp  alc/w  25°C 100%  U        K1=4.67        1979SJd (63160) 348
********************************************************************************
C9H7NO                 HL    Oxine            CAS 148-24-3  (504)
8-Hydroxyquinoline (8-quinolinol);
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        dis oth/un   ?     ?  U        K1=2.34        1969KKf (64360) 349
```

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	EMF	oth/un	?	?	U		K1=4.6	1968ABa (64431)	350

****

C9H7N3O2S H2L TAR CAS 2246-46-0 (707)
4-(2'-Thiazolylazo)-resorcinol; C3H2NS.N:N.C6H3(OH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	gl	alc/w	25°C	50%	U			1967NPb (64730)	351
							K(Tl+HL) < 3		

Medium: 50% MeOH, 0.1 M NaClO4

****

C9H11NO5 H2L CAS 57362-11-5 (3876)
N-(2'-Furfuryl)iminodiethanoic acid; C4H3O.CH2.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	gl	KNO3	20°C	0.10M	U		K1=3.11	1963IFa (66452)	352

****

C9H11N3O7 H3L (3877)
N-(1-Methyl-2,4,6-trioxo-perhydropyrimidinyl)iminodiethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	gl	R4N.X	20°C	0.10M	U		K1=5.79	1963IFb (66529)	353

Medium: Me4NNO3

****

C9H14N2O9 H4L CAS 56360-11-3 (2576)
2-Hydroxy-1,3-diaminopropane-N,N'-di(1,3-propanedioic acid)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	EMF	KNO3	25°C	0.10M	U		K1=3.29	1976DGc (67139)	354
							K(Tl+HL)=2.02		
							K(Tl+TlL)=1.48		

****

C9H19NS2 HL CAS 150-11-8 (1154)
N,N-Di(n-butyl)dithiocarbamate; (C4H9)2N.CSSH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	EMF	non-aq	25°C	100%	U		B2=7.3	1987USa (67992)	355

Medium: DMF, 0.1 M LiClO4

****

C10H8N2 L 2,2'-Bipyridyl CAS 366-18-7 (25)

2,2'-Bipyridine; (C5H4N)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	vlt	NaNO3	25°C	1.0M	C	I	K1=2.50	1983AMa (69655)	356

Method: polarography. Medium pH 8.0. Also values for 50% DMF/H2O (K1=2.63), EtOH/H2O (2.70), dioxane/H2O (2.92), ethyl acetate/H2O (2.75).

****

C10H11NO5 H3L CAS 100844-86-8 (2108)

N-(2-Hydroxyphenyl)iminodiethanoic acid; HO.C6H4.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	gl	KNO3	20°C	0.10M	U		K1=4.79	1963IFb (71048)	357
							K(Tl+HL)=2.34		

****

C10H12N2O4 H2L CAS 16598-05-3 (967)

2-Pyridylmethyliminodiethanoic acid; C5H4N.CH2.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	gl	KNO3	20°C	0.10M	U		K1=3.84	1963IFc (71277)	358

****

C10H13N3O7 H3L (3912)

1,3-Dimethyluramil-N,N-diethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	gl	R4N.X	20°C	0.10M	U		K1=5.73	1963IFb (71809)	359

Medium: Me4NNO3

****

C10H15N5O10P2 H3L ADP CAS 20398-34-9 (2181)

Adenosine-5'-diphosphoric acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	gl	R4N.X	25°C	0.10M	C	T	K1=1.7	1991SMa (73019)	360

IUPAC evaluation

Tl+	sp	NaClO4	25°C	0.15M	U		K1=1.32	1971MMg (73020)	361

****

C10H16N2O8 H4L EDDS CAS 52759-67-8 (1100)

1,2-Diaminoethane-N,N'-di-1,4-butanedioic acid; (CH2.NH.CH(COOH)CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	vlt	KNO3	25°C	0.10M	U		K1=3.30	1973GKc (73188)	362
							K(Tl+HL)=2.33		
Tl+	oth	KNO3	25°C	0.10M	U		K1=3.26	1972KGc (73189)	363

K(Tl+HL)=2.14

****

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
Tl+	nmr	NaClO4	25°C	1.00M	C	M		1992BGa	(74232) 364
							K(TlL+CN)=8.72		
							K(TlL+SCN)=2.70		
Tl+	cal	KNO3	20°C	0.1M	C			1976ANb	(74233) 365
							DH1= -36.6 kJ/mol		
Tl+	sp	NaClO4	25°C	0.15M	U			1971MMg	(74234) 366
							K1>5		
Tl+	ix	oth/un	?	?	U		K1=6.11	1969KKf	(74235) 367
Tl+	gl	KNO3	20°C	0.10M	U	T	K1=6.53	1967ABc	(74236) 368
Tl+	gl	R4N.X	20°C	0.10M	U	T	K1=6.55	1963IFb	(74237) 369
							K(Tl+HL)=2.06		

Medium: Me4NNO3

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	gl	R4N.X	25°C	0.10M	C	T	K1=2.5	1991SMa	(74832) 370

IUPAC evaluation

Tl+	gl	NaClO4	25°C	0.15M	U		K1=1.99	1971MMg	(74833) 371

****

C10H17NO4 H2L CAS 2848-06-8 (3916)
N-(Cyclohexyl)iminodiethanoic acid; C6H11.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	gl	KNO3	20°C	0.10M	U		K1=3.40	1963IFb	(74978) 372

****

C10H17NO5 H2L CAS 6243-06-7 (3326)
N-(2-Hydroxycyclohexyl)iminodiethanoic acid; HO.C6H10.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	gl	KNO3	20°C	0.10M	U		K1=3.07	1963IFb	(74992) 373

****

C10H17NO5 H2L (3917)

N-(Tetrahydropyran-2-ylmethyl)iminodiethanoic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	gl	KNO3	20°C	0.10M	U		K1=4.06		1963IFa (75007)	374

****

C10H20O5 L 15-Crown-5 CAS 33100-27-5 (576)
1,4,7,10,13-Pentaoxacyclopentadecane; cyclo(-(O.CH2.CH2)5-)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	con	mixed	25°C	90%	C	TIH	K1=6.14		1998MTa (76138)	375

Medium: 90% CH3CN/H2O. Data for 20-35 C. DH(K1)=23.2 kJ mol-1, DS(K1)=39.8 J K-1 mol-1. In 50% CH3CN/H2O, K1=4.99, DH(K1)=31.1, DS(K1)=8.8.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	sp	non-aq	20°C	100%	C		K1=3.91		1993PSc (76139)	376

Method: spectrofluorescence. Medium: MeOH.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	cal	non-aq	25°C	100%	C	H	K1=3.31		1986ICa (76140)	377

Medium: MeOH. DH(K1)=-36.4 kJ mol-1, DS(K1)=-60 J K-1 mol-1.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	vlt	KNO3	25°C	0.10M	C		K1=2.63		1985KTb (76141)	378

Method: d.c. polarography. Medium: 0.10 M HNO3.
By a.c. polarography, K1=2.72

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	ISE	non-aq	25°C	100%	U		K1=5.29	B2=6.74	1982MDa (76142)	379

Medium: propylene carbonate

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	oth	oth/un	25°C	?	U		K1=1.23		1977RLa (76143)	380

Method: ultrasound absorption

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	cal	oth/un	25°C	0.10M	U	H T	K1=1.23		1976ITb (76144)	381

DH=-16.8 kJ mol-1.

****

C10H22N2O3 L Cryptand 2,1 CAS 31249-95-3 (835)
4,7,13-Trioxa-1,10-diazacyclopentadecane (Trioxa(2,1)cryptand);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	gl	R4N.X	25°C	0.05M	C		K1=2.2		1997BCc (76342)	382

Medium: 0.05 M Me4NClO4

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+	sp	non-aq	20°C	100%	C		K1=3.56		1993PSc (76343)	383

Method: spectrofluorescence. Medium: MeOH.

****

C10H22O5 L Tetraglyme CAS 143-24-8 (121)
2,5,8,11,14-Pentaoxapentadecane; (CH3.O.CH2.CH2.O.CH2.CH2.)2O

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

Tl+ con alc/w 25°C 100% U K1=1.57 1975CJa (76476) 384
Medium: MeOH
****
C10H23O2PS2 HL CAS 2253-54-5 (2061)
O,O'-Dipentyl dithiophosphoric acid; (C5H11O)2P(S)SH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ sp alc/w 25°C 100% U K1=4.61 1979SJd (76536) 385
****
C10H24N4 L Cyclam CAS 295-37-4 (8)
1,4,8,11-Tetraazacyclotetradecane; cyclo(-(HN.CH2.CH2.NH.(CH2)3)2-)

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ vlt R4N.X 25°C 0.2M U K1=12.3 1999BBc (76675) 386
Medium: 0.2 M Bu4NPF6
****
C11H11NO6 H3L CAS 1147-65-5 (425)
N-(2'-Carboxyphenyl)iminodiethanoic acid; HOOC.C6H4.N(CH2.COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ gl R4N.X 20°C 0.10M U K1=2.93 1963IFb (77838) 387
Medium: Me4NNO3
****
C11H13NO5 H2L CAS 4596-54-7 (3945)
N-(2'-Methoxyphenyl)iminodiethanoic acid; CH3O.C6H4.N(CH2.COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ gl R4N.X 20°C 0.10M U K1=2.46 1963IFb (78603) 388
Medium: Me4NNO3
****
C11H18N2O8 H4L CAS 4408-81-5 (923)
1,3-Diaminopropane-N,N,N',N'-tetraethanoic acid; ((HOOC.CH2)2N.CH2.)2.CH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ gl KNO3 20°C 0.10M U K1=3.90 1967ABc (79472) 389
K(Tl+HL)=2.7
****
C11H18N2O9 H4L CAS 668-21-1 (2562)
2-Hydroxy-1,3-diaminopropane-N,N'-di(1,4-butanedioic) acid

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ EMF KNO3 25°C 0.10M U K1=3.12 1976DGc (79606) 390
K(Tl+HL)=1.95
K(Tl+TlL)=1.58

****
C11H22O5 L 16-Crown-5 CAS 55477-28-8 (1592)
1,4,7,10,13-Pentaoxacyclohexadecane; cyclo(-(O.CH2.CH2)5.CH2.CH2-)

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ con none 25°C 0.0 C K1=0.73 1991TKa (79876) 391
Self medium (ca. 0.008M).

Tl+ dis none 25°C 0.0 C M 1989TKc (79877) 392
K(TlL+A=TlAL(org))=2.22
Method: extraction of metal picrate/L from H2O into benzene.
K(Tl+HA(org)+L(org)=TlAL(org)+H)=0.96. HA is picric acid.
****
C12H20N2O8 H4L CAS 40623-42-5 (1101)
1,2-Diaminoethane-N,N'-di(2-pentane-1,5-dioic acid); (CH2NHCH(COOH)CH2CH2COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ vlt KNO3 25°C 0.10M U K1=2.40 1973GKc (82102) 393
K(Tl+HL)=1.80

Tl+ gl KNO3 25°C 0.10M U K1=2.20 1972KGc (82103) 394
K(Tl+HL)=1.66
****
C12H20N2O8S H4L TEDTA CAS 923-74-0 (3394)
2,2'-Thiobis(ethyliminodiethanoic acid); S(CH2.CH2.N(CH2.COOH)2)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ gl KNO3 20°C 0.10M U K1=4.47 1967ABc (82477) 395
K(Tl+HL)=3.85
****
C12H20N2O9 H4L EEDTA CAS 923-73-9 (2112)
Oxa-bis(ethyleneimino)diethanoic acid; ((HOOC.CH2)2N.CH2.CH2)2O

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ gl KNO3 20°C 0.10M U K1=4.47 1967ABc (82569) 396
K(Tl+HL)=4.0
****
C12H24N2O6 L CAS 57721-99-0 (2508)
1,14-Diacetamido-3,6,9,12-tetraoxatetradecane; (CH2.O.CH2.CH2.O.CH2.CH2.CO.NH2)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ con alc/w 25°C 100% U K1=1.35 1975CJa (83054) 397
Medium: MeOH
****
C12H24O4S2 L CAS 296-39-9 (4938)

1,4,10,13-Tetraoxa-7,16-dithiacyclooctadecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	nmr	non-aq	25°C	100%	U	M	K(TlClO4+L) > 5	1981RPa (83144)	398

Medium: MeNO2. K(TlClO4+L)=0 in DMSO; 1.24 in DMF; 2.98 in acetone;
>5 in MeCN; 0.93 in H2O

****

C12H24O6 L 18-Crown-6 CAS 17455-13-9 (577)
1,4,7,10,13,16-Hexaoxacyclooctadecane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	ISE	alc/w	25°C	100%	C	IH R	K1=5.27	2003ADa (83651)	399

IUPAC Recommended. Medium: 0-0.1 M various. DH(K1)=-44 kJ mol-1
In H2O: K1=2.2, DH(K1)=-20. In PC: K1=7.13

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	con	non-aq	25°C	25%	C	TIH	K1=3.98	2003RZa (83652)	400

Medium: 25 mol % MeOH/benzonitrile. Data for 15-55 C. DH(K1)=23 kJ mol-1
DS(K1)=155 J K mol-1. Data for 40, 50 and 75 mol %

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	con	non-aq	25°C	100%	C	T H	K1=3.82	2001SKc (83653)	401

Medium: DMF. Data for 15-45 C. DH(K1)=-27.2 kJ mol-1,
DS(K1)=-18 J K-1 mol-1. Also data for 40-80% w/w DMF/acetonitrile.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	vlt	mixed	20°C	0.02M	U	I	K1=4.75	2000RCb (83654)	402
							K1=1.71 in 100%H2O		

Medium: 0.025 M Et4NCl in 75.78 %mass CH3CN in H2O
For 0.025 M Et4NCl in 79.17% mass DMFA/H2O K1=3.06

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	vlt	mixed	20°C	78%	U		K1=1.31	2000RCb (83655)	403
							K1=1.71 in 100% H2O		

Medium:0.025 M Et4NCl in 34.78%(mass) propanol in H2O.
for 0.025 M Et4NCl in 34.21% CH3CN in H2O K1=2.52;for 38.8%DMFA K1=1.78

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	vlt	R4N.X	20°C	0.02M	C	I	K1=1.71	2000RCc (83656)	404

Method: SW polarography. Medium: 0.025 M Et4NCl. By DPP, K1<1.
Data for 0-76% w/w PrOH/H2O, 0-76% w/w AN/H2O and 0-79% w/w DMF/H2O.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	cal	none	50°C	0.00	C	T H	K1=2.01	1995WIa (83657)	405

Method: isothermal flow calorimetry. Measurements at 1.52 MPa. Data for
55-125 C. DH(K1)=-19.4 kJ mol-1, DS(K1)=-22 J K-1 mol-1.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	con	non-aq	25°C	100%	C	I	K1=4.99	1993JHa (83658)	406

Medium: acetone. Data for acetonitrile and DMF media.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	sp	non-aq	20°C	100%	C		K1=4.95	1993PSc (83659)	407

Method: spectrofluorescence. Medium: MeOH.

Tl+ vlt non-aq 23°C 100% U K1=5.00 1992LLa (83660) 408
Several mixtures of MeCN/H2O, acetone/H2O, THF/H2O and DMSO/H2O

Tl+ ix none 25°C 0.0 U K1=2.0 1991BMb (83661) 409

Tl+ vlt non-aq 23°C 100% U I K1=4.90 1991LKa (83662) 410
Medium: acetone; 0.05 M Bu4NClO4. Also in other solvents

Tl+ vlt R4N.X 22°C 0.03M C I K1=<2 1991PSa (83663) 411
Medium: 0.025 M Et4NClO4. Method: differential pulse polarography. Data
for 15-75% w/w CH3CN/H2O, 0.025 M Et4NClO4.

Tl+ vlt non-aq 25°C 100% C I K1=7.73 1991SSb (83664) 412
Method: polarography. Medium: acetonitrile, 0.05 M Et4NClO4.
In DMF, K1=3.65.

Tl+ vlt alc/w 25°C 100% U K1=5.55 1988LFa (83665) 413
Medium: MeOH. In Me2NCHO, K1=3.42

Tl+ cal non-aq 25°C 100% C H K1=5.34 1986ICa (83666) 414
Medium: MeOH. DH(K1)=-45.65 kJ mol-1, DS(K1)=-50.7 J K-1 mol-1.

Tl+ vlt KNO3 25°C 0.10M C K1=2.98 1985KTb (83667) 415
Method: d.c. polarography. Medium: 0.10 M HNO3.
By a.c. polarography, K1=3.06

Tl+ oth alc/w 25°C 100% U K1=5.04 1980WJa (83668) 416
Method: fluorimetry in CH3OH

Tl+ cal oth/un 25°C 0.10M U H T K1=2.27 1976ITb (83669) 417
DH=-18.6 kJ mol-1.

Tl+ vlt R4N.X 25°C 0.10M C H T K1=2.2 1976KKf (83670) 418
DH(K1)=-22.6 kJ mol-1, DS=-34 J K-1 mol-1
****
C12H25NO5 L CAS 33941-15-0 (4939)
1,4,7,10,13-Pentaoxa-16-azacyclooctadecane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ con mixed 25°C 40% C TIH K1=5.97 2003KSc (83713) 419
Medium: 40% w/w dimethylformamide/AN. Data for 15-45 C.
DH(K1)=-29.7 kJ mol-1, DS=14.5 J K-1 mol-1. Also data for 60-100% DMF/AN

Tl+ vlt non-aq 22°C 100% C I K1=3.3 2001MRa (83714) 420
Medium: DMF, 0.025 M Et4NClO4. Method: differential pulse polarography.
Data for binary mixtures of DMF with MeOH, nitromethane, PrOH, AN.
****
C12H26N2O4 L CAS 41775-36-4 (2470)
1,4,7,13-Tetraoxa-10,16-diazacyclooctadecane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ con non-aq 25°C 100% C I K1=>6.5 1993JHa (83730) 421
Medium: acetone. Data for acetonitrile and DMF media.
****
C12H26N2O4 L Cryptand 2,2 CAS 23978-55-4 (925)
4,7,13,16-Tetraoxa-1,10-diazacyclooctadecane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ con non-aq 25°C 100% C T H K1=4.00 2001SKc (83905) 422
Medium: DMF. Data for 15-45 C. DH(K1)=-14 kJ mol-1,
DS(K1)=29 J K-1 mol-1. Also data for 40-80% w/w DMF/acetonitrile.

Tl+ gl R4N.X 25°C 0.05M C K1=2.3 1997BCc (83906) 423
Medium: 0.05 M Me4NClO4

Tl+ sp non-aq 20°C 100% C K1=3.69 1993PSc (83907) 424
Method: spectrofluorescence. Medium: MeOH.

Tl+ vlt R4N.X 22°C 0.03M C I K1=2.19 1991PSa (83908) 425
Medium: 0.025 M Et4NClO4. Method: differential pulse polarography. Data
for 15-75% w/w CH3CN/H2O, 0.025 M Et4NClO4.

Tl+ ISE non-aq 25°C 100% U I K1=7.54 1983CFa (83909) 426
Medium: CH3NO2. K1=6.81 in acetone; 3.41 in DMF; K1=2.38 in DMSO; 7.94 in
MeCN; 3.54 in MeOH; 7.05 in propylene carbonate

Tl+ gl R4N.X 24°C 0.10M C K1=1.1 1975ANa (83910) 427
****
C12H26O6 L Pentaglyme CAS 1191-87-3 (2498)
2,5,8,11,14,17-Hexaoxaoctadecane; (CH3.O.CH2.CH2.O.CH2.CH2.O.CH2.)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ con alc/w 25°C 100% U K1=1.90 1975CJa (84025) 428
Medium: MeOH
****
C12H27O2PS2 HL CAS 78-64-8 (2062)
O,O'-Dihexyl dithiophosphoric acid; (C6H13O)2P(S)SH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ sp alc/w 25°C 100% U K1=4.64 1979SJd (84114) 429
****
C12H30N6 L CAS 296-35-5 (143)
1,4,7,10,13,16-Hexaazacyclooctadecane; cyclo(-(NH.CH2.CH2)6-)

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

```
--------------------------------------------------------------------------------
Tl+        con non-aq 25°C 100%  C T H    K1=5.48        2001SKc (84358) 430
Medium: DMF. Data for 15-45 C. DH(K1)=-20 kJ mol-1,
DS(K1)=39 J K-1 mol-1. Also data for 40-80% w/w DMF/acetonitrile.
********************************************************************************
C13H22N2O8            H4L                    CAS 1798-14-7  (921)
(Pentamethylenedinitrilo)tetraethanoic acid; ((HOOC.CH2)2N.CH2.CH2)2CH2
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        gl  KNO3   20°C 0.10M U        K1=3.73        1967ABc (86208) 431
                                         K(Tl+HL)=2.88
********************************************************************************
C13H26O5               L                       (6410)
15,15-Dimethyl-1,4,7,10,13-pentaoxacyclohexadecane;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        con none   25°C  0.0  C        K1=0.55        2001KMb (86489) 432
********************************************************************************
C13H26O6               L    19-Crown-6       CAS 55471-27-7  (8943)
1,4,7,10,13,16-Hexaoxacyclononadecane;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        con oth/un 25°C  dil  C        K1=1.08        1999TMa (86506) 433
Self medium (TlNO3).
********************************************************************************
C14H20O5               L    Benzo15-crown-5  CAS 14098-44-3  (608)
2,3-Benzo-1,4,7,10,13-pentaoxacyclopentadeca-2-ene;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        vlt non-aq 20°C 100%  C        K1=1.4         1999OBa (88380) 434
Medium: DMF, 0.10 M Bu4N[BPh4].
--------------------------------------------------------------------------------
Tl+        con non-aq 25°C 100%  C  I     K1=2.90        1993JHa (88381) 435
Medium: acetone. Data for acetonitrile and DMF media.
--------------------------------------------------------------------------------
Tl+        sp  non-aq 20°C 100%  C        K1=3.65        1993PSc (88382) 436
Method: spectrofluorescence. Medium: MeOH.
--------------------------------------------------------------------------------
Tl+        vlt non-aq 25°C 100%  C  I     K1=5.41        1991SSb (88383) 437
Method: polarography. Medium: acetonitrile, 0.05 M Et4NClO4.
In DMF, K1=<2.5.
--------------------------------------------------------------------------------
Tl+        vlt alc/w  25°C 100%  U  I     K1=3.05        1989LKb (88384) 438
Medium: 0.05 M (C4H9)4NO4 in methanol. Data also in ethanol, propanol
butanol, 2-methylpropanol, 4-hydroxy-4-methyl-2-pentanone and others
--------------------------------------------------------------------------------
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```
Tl+        vlt KNO3   25°C 0.10M C        K1=2.27        1985KTb (88385) 439
Method: d.c. polarography. Medium: 0.10 M HNO3.
By a.c. polarography, K1=2.30
********************************************************************************
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
--------------------------------------------------------------------------------
Tl+        gl  KNO3   20°C 0.10M U        K1=6.7         1979ABa (88800) 440
                                         K(Tl+HL)=1.7
                                         K(TlL+H)=7.3
--------------------------------------------------------------------------------
Tl+        vlt NaClO4 25°C 0.30M U        K1=3.85        1969KTc (88801) 441
                                         K(TlL+H)=11.29
--------------------------------------------------------------------------------
Tl+        gl  KNO3   20°C 0.10M U        K1=6.7         1967ABc (88802) 442
--------------------------------------------------------------------------------
Tl+        vlt KNO3   30°C 0.10M U        K1=5.84        1967SSe (88803) 443
--------------------------------------------------------------------------------
Tl+        vlt KNO3   25°C 0.50M U        K1=5.33        1966PAc (88804) 444
--------------------------------------------------------------------------------
Tl+        gl  alc/w  25°C  10%  U        K1=5.58        1966PAc (88805) 445
Medium: 10% MeOH, 0.5 M KNO3
********************************************************************************
C14H23N3O10           H5L    DTPA             CAS 67-43-6  (238)
Diethylenetriamine-pentaethanoic acid; HOOC.CH2.N(CH2.CH2.N(CH2.COOH)2)2
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        gl  KNO3   20°C 0.10M U        K1=5.97        1979ABa (89414) 446
                                         K(Tl+HL)=4.2
                                         K(TlL+H)=8.8
--------------------------------------------------------------------------------
Tl+        vlt NaClO4 25?°C 0.40M U        K1=5.45       1968KNa (89415) 447
                                         K(TlL+H)=8.81
By d.c. polarography. By a.c.: K1=5.53, K(TlL+H)=8.78
--------------------------------------------------------------------------------
Tl+        gl  KNO3   20°C 0.10M U        K1=5.97        1967ABc (89416) 448
                                         K(Tl+HL)=4.2
********************************************************************************
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
--------------------------------------------------------------------------------
Tl+        vlt NaClO4 25°C 0.30M U        K1=4.0         1969KTc (89950) 449
                                         K(TlL+H)=9.09
--------------------------------------------------------------------------------
Tl+        gl  KNO3   25°C 0.50M U        K1=5.63        1966PAc (89951) 450
```

K(Tl+HL)=3.38
By polarography: K1=5.37

Tl+ gl KNO3 20°C 0.10M U K1=4.38 1963FCa (89952) 451
K(Tl+HL)=3.85
****
C14H26N2O8 H2L (6658)
1,4,10,13-Tetraoxa-7,16-diaza-2,3-dicarboxycyclooctadecane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ gl R4N.X 25°C 0.10M U K1=2.7 1990AFa (90226) 452
****
C14H28N2O4 L Cryptand 2,1,1 CAS 31250-06-3 (836)
1,10-Diaza-4,7,13,18-tetraoxabicyclo[8,5,5]eicosane (2,1,1);

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ gl R4N.X 25°C 0.05M C K1=5.1 1997BCc (90448) 453
Medium: 0.05 M Me4NClO4

Tl+ EMF non-aq 25°C 100% U I K1=2.97 1993LRa (90449) 454
Medium: triethylphosphate, 0.05 M Et4NClO4
Data also for tri-n-butylphosphate: K1=3.36

Tl+ gl R4N.X 25°C 0.05M U K1=3.95 1991LRc (90450) 455

Tl+ ISE alc/w 25°C 100% C I K1=5.65 1989CSa (90451) 456
Medium: MeOH. Also in water (3.19), and EtOH (5.12).

Tl+ ISE non-aq 25°C 100% U K1=7.0 1988CSc (90452) 457
In acetonitrile

Tl+ ISE non-aq 25°C 100% C I K1=1.44 1985CKa (90453) 458
Medium: DMSO. In propylenecarbonate K1=6.58; in DMF K1=3.15
****
C14H28N2O4 L Cryptand 2,2,0 CAS 95334-31-9 (6544)
4,7,13,16-Tetraoxa-1,10-diazabicyclo[8.8.2]eicosane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ ISE non-aq 25°C 100% U I K1=10.4 1991LSb (90464) 459
Medium: MeCN, 0.05 M Et4NClO4. In MeOH: K1=7.8; in DMF: K1=6.7
****
C14H28N2O7 L (2509)
1,17-Diacetamido-3,6,9,12,15-pentaoxaheptadecane; O((CH2.CH2.O)2.CH2.CH2.CO.NH2)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ con alc/w 25°C 100% U K1=1.82 1975CJa (90494) 460

Medium: MeOH
****
C14H28O7 L 21-Crown-7 CAS 33089-36-0 (2264)
1,4,7,10,13,16,19-Heptaoxacycloheneicosane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ cal non-aq 25°C 100% C H K1=4.55 1986ICa (90542) 461
Medium: MeOH. DH(K1)=-40.1 kJ mol-1, DS(K1)=-47.3 J K-1 mol-1.
****
C14H30O7 L CAS 1072-40-8 (2499)
2,5,8,11,14,17,20-Heptaoxaheneicosane; CH3.O.(CH2.CH2.O)6.CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ con alc/w 25°C 100% U K1=2.30 1975CJa (90713) 462
Medium: MeOH
****
C15H10N3OCl HL CAS 16195-35-0 (27)
5-(4-Chlorophenylazo)-8-hydroxyquinoline; Cl.C6H4.N:N.C9H5N.OH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ sp oth/un 25°C 0.10M U B2=7.81 1978KIa (90949) 463
****
C15H11N3O HL CAS 4312-09-8 (989)
5-Phenylazo-8-hydroxyquinoline; C6H5.N:N.C9H5N.OH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ sp oth/un 25°C 0.10M U B2=8.03 1978KIa (91271) 464
****
C15H30N2O3 L CAS 72640-82-5 (6040)
4,7,13-Trioxa-1,10-diazabicyclo[8.5.5]eicosane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ EMF non-aq 25°C 100% U K1=2.18 1993LRa (92528) 465
Medium: triethylphosphate, 0.05 M Et4NClO4

Tl+ gl R4N.X 25°C 0.05M U H K1=2.42 1991LRc (92529) 466
DH(K1)=-61.2 kJ mol-1, DS=13.6 J K-1 mol-1
****
C16H24O6 L Benzo18-crown-6 CAS 14098-24-9 (513)
2,3-Benzo-1,4,7,10,13,16-hexaoxacyclooctadeca-2-ene;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ con non-aq 25°C 100% C T H K1=2.76 2001SKc (94467) 467
Medium: DMF. Data for 15-35 C. DH(K1)=-25 kJ mol-1,

DS(K1)=-30 J K-1 mol-1. Also data for 40-80% w/w DMF/acetonitrile.

Tl+ con none 20°C 0.0 C T H K1=1.71 1990TAa (94468) 468
Data for 15-32 C. At 15 C, K1=1.75; at 30 C, K1=1.66
At 25 C, DH(K1)=-9.7 kJ mol-1, DS(K1)=-0.13 J K-1 mol-1.

Tl+ con none 25°C 0.0 U K1=1.68 1989TKa (94469) 469

Tl+ cal non-aq 25°C 100% C H K1=4.37 1986ICa (94470) 470
Medium: MeOH. DH(K1)=-39.1 kJ mol-1, DS(K1)=-47.7 J K-1 mol-1.

****

C16H24O14 H4L CAS 61696-54-6 (6104)
1,4,7,10,13,16-Hexaoxacyclooctadeca-2,3,11,12-tetracarboxylic acid;

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

---

Tl+ gl R4N.X 25°C 0.10M M K1=3.9 1991FGb (94503) 471
B(TlHL)=8.3
Medium: 0.10 M Et4NNO3.

****

C16H25NO4 L (7444)
1-Aza-4,7,10,13-tetraoxa-1-phenyl-cyclopentadecane;

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

---

Tl+ con mixed 25°C 90% C TIH K1=4.05 1998MTa (94521) 472
Medium: 90% CH3CN/H2O. Data for 20-35 C. DH(K1)=18.6 kJ mol-1, DS(K1)=14.8
J K-1 mol-1. In 50% CH3CN/H2O, K1=3.58, DH(K1)=7.9, DS(K1)=41.9.

****

C16H26N2O12 H4L (6659)
1,4,10,13-Tetraoxa-7,16-diaza-2,3,11,12-tetracarboxycyclooctadecane;

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

---

Tl+ gl R4N.X 25°C 0.10M U K1=3.7 1990AFa (94593) 473
B(TlHL)=13.3

****

C16H26N2O12 H4L CAS 130190-52-2 (6660)
1,4,10,13-Tetraoxa-7,16-diaza-2,3,7,16-tetracarboxycyclooctadecane;

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

---

Tl+ gl R4N.X 25°C 0.10M U K1=5.4 1990AFa (94607) 474
B(TlHL)=14.2

****

C16H26O6 L CAS 57721-93-4 (2502)
2,5,8,11,14,17-Hexaoxa-9,10-benzo-octadeca-9-ene; C6H4(O.(CH2.CH2.O)2.CH3)2

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

---

Tl+ con alc/w 25°C 100% U K1=1.73 1975CJa (94634) 475
Medium: MeOH
****
C16H32N2O5 L Cryptand 2,2,1 CAS 31364-42-8 (837)
1,10-Diaza-4,7,13,16,21-pentaoxabicyclo[8,8,5]tricosane (2,2,1);

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ gl R4N.X 25°C 0.05M C K1=7.0 1997BCc (95298) 476
Medium: 0.05 M Me4NClO4

Tl+ sp non-aq 20°C 100% C K1=>6 1993PSc (95299) 477
Method: spectrofluorescence. Medium: MeOH.

Tl+ ISE alc/w 25°C 100% C I K1=10.76 1989CSa (95300) 478
Medium: MeOH. Also in EtOH (11.01).

Tl+ sp non-aq 25°C 100% U K1=11.9 1988CSc (95301) 479
In acetonitrile

Tl+ ISE non-aq 25°C 100% C I K1=6.80 1985CKa (95302) 480
Medium: DMSO. In DMF K1=8.61; in propylenecarbonate K1=12.13

Tl+ kin R4N.X 25°C 0.10M U K1=6.8 1980GBa (95303) 481
****
C16H34N4O2 L CAS 60598-04-1 (1530)
4,7-Dimethyl-1,4,7,10-tetraaza-13,18-dioxabicyclo[8,5,5]eicosane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ gl R4N.X 25°C 0.10M U K1=3.9 1978LMa (95473) 482
****
C16H34O6 L CAS 57721-92-3 (2501)
2,5,8,15,18,21-Hexaoxadocosane; CH3.O.(CH2.CH2.O)2.(CH2)6.O.(CH2.CH2.O)2.CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ con alc/w 25°C 100% U 1975CJa (95487) 483
Medium: MeOH
****
C16H34O8 L CAS 1191-91-9 (2500)
2,5,8,11,14,17,20,23-Octaoxatetracosane; CH3.O.(CH2.CH2.O)7.CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ con alc/w 25°C 100% U K1=2.55 1975CJa (95496) 484
Medium: MeOH
****
C16H35O2PS2 HL CAS 83296-49-5 (2063)
O,O'-Dioctyl dithiophosphoric acid; (C8H17O)2P(S)SH

```
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        sp  alc/w  25°C 100%  U        K1=4.63        1979SJd (95504) 485
********************************************************************************
C17H34N2O4              L                      CAS 142565-14-8  (6562)
4,7,13,16-Tetraoxa-1,10-diazabicyclo[8.8.5]tricosane;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        gl  R4N.X  25°C 0.05M C  I     K1=4.10        1992CGb (96752) 486
Medium: Et4NClO4. In MeOH: K1=6.48; in DMF K1=5.05
********************************************************************************
C18H28O5                L                      CAS 15196-73-3  (2359)
2,3-(4'-Dimethylethylbenzo)-1,4,7,10,13-pentaoxacyclopentadeca-2-ene;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        gl  non-aq 25°C 100%  U        K1=4.13   B2=6.35   1982MDa (97815) 487
Medium: propylene carbonate
********************************************************************************
C18H30N4O12           H6L    TTHA             CAS 869-52-3  (694)
Triethylenetetraaminehexaethanoic acid;((HOOC.CH2)2N.CH2.CH2.N(CH2.COOH).CH2)2
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        vlt NaClO4 25°C 0.50M U        K1=4.91        1977CNa (98097) 488
                                        B(TlHL)=14.64
********************************************************************************
C18H34O9                L                      CAS 57721-61-7  (2510)
3,6,9,12,15-Pentaoxaheptadecane-1,17-dioic acid diethyl ester
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        con alc/w  25°C 100%  U        K1=1.44        1975CJa (98399) 489
Medium: MeOH
********************************************************************************
C18H36N2O6              L    Cryptand 2,2,2   CAS 23978-09-8  (514)
1,10-Diaza-4,7,13,16,21,24-hexaoxabicyclo[8.8.8]hexacosane;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+        vlt non-aq 25°C 100%  C  I     K1=12.3        1999FKb (98751) 490
Medium: acetonitrile, 0.10 M Et4NClO4. Method: cyclic voltammetry.
Also in: DMF (K1=7.8), DMSO (6.2), MeOH (10.0), acetone (10.3) etc.
--------------------------------------------------------------------------------
Tl+        gl  R4N.X  25°C 0.05M C        K1=6.2         1997BCc (98752) 491
Medium: 0.05 M Me4NClO4
--------------------------------------------------------------------------------
Tl+        sp  non-aq 20°C 100%  C        K1=>7          1993PSc (98753) 492
```

Method: spectrofluorescence. Medium: MeOH.

Tl+ vlt R4N.X 22°C 0.03M C I K1=6.55 1991PSa (98754) 493
Medium: 0.025 M Et4NClO4. Method: differential pulse polarography. Data for 15-75% w/w CH3CN/H2O, 0.025 M Et4NClO4.

Tl+ ISE non-aq 25°C 100% U IH K1=12.4 1988CSc (98755) 494
In CH3CN. In CH3CN/water mixtures:mole fraction 0.8, K=10.9; 0.5, K=9.2; 0.3, K=8.4; 0.0, K=6.6

Tl+ ISE alc/w 25°C 100% C K1=8.06 1985CKa (98756) 495

Tl+ kin R4N.X 25°C 0.10M U K1=6.4 1980GBa (98757) 496

Tl+ EMF non-aq 25°C 100% C I K1=6.2 1979BLb (98758) 497
Method: Tl electrode. Medium: MeOH, 0.05 M Me4NClO4.
Also K1=6.3 (H2O), 6.2 (DMSO), 13.4 (CH3CN).

Tl+ EMF oth/un 25°C 0.05M C I K1=6.4 1978YTa (98759) 498
Method: Tl amalgam electrode. Electrolyte not stated.
In MeOH, 0.05 M: K1=10.1. In DMSO, 0.10 M: K1=6.1

Tl+ gl R4N.X 25°C 0.10M C H K1=5.5 1975ANa (98760) 499
Medium: Me4NNO3. DH(K1)=-55.2 kJ mol-1, DS=-61.9

Tl+ gl R4N.X 25°C 0.05M C K1=6.8 1975LSc (98761) 500
****
C19H39N3O5 L CAS 60598-00-7 (1537)
4-Methyl-1,4,10-triaza-7,13,16,21,24-pentaoxa-bicyclo[8,8,8]hexacosane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ gl R4N.X 25°C 0.10M U K1=6.3 1978LMa (99498) 501
****
C20H24O6 L DiBz-18-Crown-6 CAS 14187-32-7 (604)
2,3:11,12-Dibenzo-1,4,7,10,13,16-hexaoxacyclooctadeca-2,11-diene
---
Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ con non-aq 25°C 100% C TIH K1=2.45 2001RKa (100246) 502
Medium: DMF. Data for 15-55 C. Also data for 25-75% mol% DMF/AN.
DH(K1)=-29 kJ mol-1, DS(K1)=-146 J K-1 mol-1.

Tl+ con non-aq 25°C 100% C I K1=4.73 1993JHa (100247) 503
Medium: acetone. Data for acetonitrile and DMF media.

Tl+ sp non-aq 20°C 100% C K1=4.42 1993PSc (100248) 504
Method: spectrofluorescence. Medium: MeOH.

Tl+ vlt non-aq 23°C 100% U K1=4.60 1991LKa (100249) 505

medium: acetone; 0.05 M Bu4NClO4. Also in other solvents

Tl+ vlt non-aq 25°C 100% C I K1=4.78 1991SSb (100250) 506
Method: polarography. Medium: acetonitrile, 0.05 M Et4NClO4.
In DMF, K1=<2.5.

Tl+ vlt alc/w 25°C 100% U K1=3.38 1988LFa (100251) 507
Medium: MeOH, In Me2NCHO, K1=1.96

Tl+ vlt non-aq 25°C 100% U I K1=4.90 1978HKc (100252) 508
Medium: CH3CN, 0.05M Bu4NClO4

Tl+ nmr non-aq 29°C 100% U K1=2.48 1977SZa (100253) 509
Medium: DMF

Tl+ sol none 25°C 0.0 U I K1=1.50 1975SNa (100254) 510
****
C20H34O8 L (2504)
2,5,8,11,14,17,20,23-Octaoxa-12,13-benzotetracosa-12-ene; C6H4(O.(CH2.CH2.O)3.CH3)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ con alc/w 25°C 100% U K1=2.45 1975CJa (100527) 511
Medium: MeOH
****
C20H36O6 L DiCy-18-crown-6 CAS 16069-36-6 (1653)
2,3:11,12-Dicyclohexyl-1,4,7,10,13,16-hexaoxacyclooctadecane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ vlt non-aq 22°C 100% C I K1=3.2 2002RYa (100712) 512
Method: DPP in DMF, 0.025 M Et4NClO4. By conductivity, K1=3.30.
Data for 0-100 mol% DMF/H2O, and MeOH/H2O, AN/H2O and PrOH/H2O mixtures.

Tl+ con non-aq 25°C 100% C TIH K1=3.3 2001RKa (100713) 513
Medium: DMF. Data for 15-55 C. Also data for 25-75% mol% DMF/AN.
DH(K1)=121 kJ mol-1, DS(K1)=339 J K-1 mol-1.

Tl+ con non-aq 25°C 100% C T H K1=3.53 2001SKc (100714) 514
Medium: DMF. Data for 15-45 C. DH(K1)=-28 kJ mol-1,
DS(K1)=-28 J K-1 mol-1. Also data for 40-80% w/w DMF/acetonitrile.

Tl+ con non-aq 25°C 100% C I K1=6.23 1993JHa (100715) 515
Medium: acetone. Data for acetonitrile and DMF media.

Tl+ sp non-aq 20°C 100% C K1=4.67 1993PSc (100716) 516
Method: spectrofluorescence. Medium: MeOH.

Tl+ vlt non-aq 25°C 100% C I K1=7.54 1991SSb (100717) 517
Method: polarography. Medium: acetonitrile, 0.05 M Et4NClO4.

In DMF, K1=3.55.

Tl+ vlt alc/w 25°C 100% U K1=4.95 1988LFa (100718) 518
Medium: MeOH, In Me2NCHO, K1=3.30

Tl+ vlt KNO3 25°C 0.10M C K1=3.20 1985KTb (100719) 519
Method: d.c. polarography. Medium: 0.10 M HNO3.
By a.c. polarography, K1=3.18

Tl+ cal oth/un 25°C 0.10M U H 1976ITb (100720) 520
K1=2.44 (cis-syn-cis isomer)
K1=1.83 (cis-anti-cis isomer)
DH(Syn)=-15.1 and DH(Anti)=-17.9 kJ mol-1.
****
C20H40N2O4 L (6625)
1,10-Diaza-4,7,13,16-tetraoxabicyclo[8.8.8]hexacosane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ gl non-aq 25°C 100% C I K1=6.19 1992LSc (100779) 521
Medium: MeCN, 0.05 M Et4NClO4. In DMF K1=3.1
****
C20H42N4O4 L CAS 39678-14-3 (1543)
4,7-Dimethyl-1,4,7,10-tetraaza-13,16,21,24-tetraoxa-bicyclohexacosane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ gl R4N.X 25°C 0.10M U K1=5.5 1978LMa (100894) 522
K(Tl+HL)=1.9
****
C20H43O2PS2 HL CAS 2253-89-0 (2064)
O,O'-Didecyl dithiophosphoric acid; (C10H21O)2P(S)SH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ sp alc/w 25°C 100% U K1=4.64 1979SJd (100904) 523
****
C22H28O7 L Dibenzo-21-Cr-7 CAS 14098-41-0 (2876)
2,3:11,12-Dibenzo-1,4,7,10,13,16,19-heptaoxacycloheneicosane-2,11-diene;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ con mixed 25°C 40% C TIH K1=3.29 2003KSc (102060) 524
Medium: 40% w/w dimethylformamide/AN. Data for 15-45 C.
DH(K1)=-48 kJ mol-1, DS(K1)=-101 J K-1 mol-1. Also data for 60-100% DMF/AN

Tl+ con non-aq 25°C 100% C I K1=5.07 1993JHa (102061) 525
Medium: acetone. Data for acetonitrile media.

Tl+ cal non-aq 25°C 100% C H K1=4.03 1986ICa (102062) 526

Medium: MeOH. DH(K1)=-36.9 kJ mol-1, DS(K1)=-46.3 J K-1 mol-1.
****
C22H30O6 L (2506)
2,5,8,13,16,19-Hexaoxa-9,10:11,12-dibenzoeicosa-9,11-diene;
(-C6H4.O.(CH2.CH2.O)2.CH3)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	con	alc/w	25°C	100%	U		K1=1.13	1975CJa (102136)	527

Medium: MeOH
****
C22H36N2O6 L Bz-Cryptand 222 CAS 31250-18-7 (2269)
5,6-Benzo-4,7,13,16,21,24-hexaoxa-1,10-diazabicylo[8:8:8]hexacosa-5-ene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	ISE	alc/w	25°C	100%	C	I	K1=8.71	1989CSa (102285)	528

Medium: MeOH. Also in water (5.84), EtOH (8.58), propylene carbonate(10.73)
and dimethylformamide (6.79).

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	ISE	non-aq	25°C	100%	U		K1=10.3	1988CSc (102286)	529

In acetonitrile
****
C22H48N6O2 L CAS 39678-22-3 (1542)
4,7,13,16-Tetramethyl-1,4,7,10,13,16-hexaaza-21,24-dioxabicyclohexacosane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	gl	R4N.X	25°C	0.10M	U		K1=4.1 K(Tl+HL)=1.9	1978LMa (102493)	530

****
C23H23NO5 L CAS 218619-58-0 (7808)
Dibenzo-pyridino-18-crown-6;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	vlt	non-aq	22°C	100%	C	I	K1=<1	2001MRa (102667)	531

Medium: DMF, 0.025 M Et4NClO4. Method: differential pulse polarography.
Data for binary mixtures of DMF with MeOH, nitromethane, PrOH, AN.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+	EMF	alc/w	25°C	100%	C	T H	K1=3.74	2001SZb (102668)	532

Medium: methanol, 0.5 M Bu4NClO4. Method: Ag electrode, using competitive
complexation with Ag+. Data for 5-35 C. DH=-52.0 kJ mol-1, DS=-97
****
C23H32N2O5 L (7368)
9-(2'-Hydroxy-5'-methylbenzyl)-3,6,12,15-Tetraoxa-9,21-diazabicyclo[15.3.1]heneicos
atriene;

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

Tl+ cal alc/w 25°C 100% U T H K1=4.34 1997ZBa (102782) 533
Medium: MeOH. Data also for several similar 5'-substituted ligands
****
C23H32N2O5 L (7369)
9-(2'-Pyridylmethyl)-3,6,12,15-tetraoxa-19-methyl-21-hydroxy-9-azabicyclo[15.3.1]he
neicosatriene;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ cal alc/w 25°C 100% U H K1=4.45 1997ZBa (102787) 534
Medium: MeOH
****
C24H32O8 L DiBz-24-Crown-8 CAS 14174-09-5 (580)
2,3:14,15-Dibenzo-1,4,7,10,13,16,19,22-octaoxacyclotetracosa-2,14-diene;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ con non-aq 25°C 100% C I K1=4.90 1993JHa (103180) 535
Medium: acetone. Data for acetonitrile media.

Tl+ cal non-aq 25°C 100% C H K1=3.40 1986ICa (103181) 536
Medium: MeOH. DH(K1)=-30.0 kJ mol-1, DS(K1)=-35.6 J K-1 mol-1.
****
C24H36O21 H6L CAS 71735-94-9 (7414)
1,4,7,10,13,16,19,22,25-Nonaoxacycloheptacosane-2,3,11,12,20,21-hexacarboxylic
acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ gl R4N.X 25°C 0.10M M K1=3.4 1991FGb (103311) 537
B(TlHL)=8.0
Medium: 0.10 M Et4NNO3.
****
C24H42O10 L (2505)
2,5,8,11,14,17,20,23,26,29-Decaoxa-15,16-benzo-triconta-15-ene;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ con alc/w 25°C 100% U K1=2.80 1975CJa (103401) 538
Medium: MeOH
****
C25H40O12 L CAS 239470-22-5 (8948)
4'-Carboxybenzo-30-crown-10;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ con non-aq 25°C 100% C T H K1=5.52 1999RGa (103778) 539
Medium: acetonitrile. Data for 5-35 C. DH(K1)=-70.6 kJ mol-1, DS(K1)=
-132 J K-1 mol-1.
****

C26H36N2O6 L DiBzCryptand222 (746)
5,6,14,15-Dibenzo-4,7,13,16,21,24-hexaoxa-1,10-diazabicyclo[8.8.8]hexacosan-5,14-di
ene;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ ISE non-aq 25°C 100% U K1=10.2 1988CSc (104148) 540
In acetonitrile

Tl+ ISE alc/w 25°C 100% C I K1=7.9 1985CKa (104149) 541
Medium: MeOH. In propylenecarbonate K1=9.81; in DMF K1=6.14; in DMSO K1=4.58
****
C26H38N2O4 L CAS 80757-23-9 (2450)
N,N'-Bis(benzyl)-1,10-diaza-4,7,13,16-tetraoxacyclooctadecane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ con non-aq 25°C 100% C T H K1=3.51 2001SKc (104192) 542
Medium: DMF. Data for 15-35 C. DH(K1)=-44 kJ mol-1,
DS(K1)=-81 J K-1 mol-1. Also data for 40-80% w/w DMF/acetonitrile.
****
C26H38O8 L (2507)
2,5,8,11,16,19,22,25-Octaoxa-12,13:14,15-dibenzohexacosa-12,14-diene;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ con alc/w 25°C 100% U K1=1.81 1975CJa (104221) 543
Medium: MeOH
****
C28H40O10 L DiBz-30-crown10 CAS 104946-67-0 (1776)
2,3:17,18-Dibenzo-1,4,7,10,13,16,19,22,25,28-decaoxacyclotriaconta-2,17-diene;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ con mixed 25°C 40% C TIH K1=2.89 2003KSc (104914) 544
Medium: 40% w/w dimethylformamide/AN. Data for 15-45 C.
DH(K1)=-47 kJ mol-1, DS(K1)=-101 J K-1 mol-1. Also data for 60-100% DMF/AN

Tl+ con mixed 25°C 40% C TIH K1=3.81 2003KSc (104915) 545
Medium: 40% w/w dimethylformamide/AN. Data for 15-45 C.
DH(K1)=-77 kJ mol-1, DS(K1)=-189 J K-1 mol-1. Also data for 60-100% DMF/AN

Tl+ con non-aq 25°C 100% C I K1=5.39 1993JHa (104916) 546
Medium: acetone. Data for acetonitrile media.

Tl+ sp non-aq 20°C 100% C K1=4.53 1993PSc (104917) 547
Method: spectrofluorescence. Medium: MeOH.

Tl+ con non-aq 25°C 100% U I K1=6.30 1991ASb (104918) 548
Medium: 1,2-dichlorethane. In nitromethane: K1=5.48; in MeCN: K=5.15;

in acetone: K=5.03

Tl+ vlt non-aq 25°C 100% C I K1=5.47 1991SSb (104919) 549
Method: polarography. Medium: acetonitrile, 0.05 M Et4NClO4.
In DMF, K1=<2.5.

Tl+ ISE non-aq 25°C 100% U K1=5.35 1982MDa (104920) 550
Medium: propylene carbonate
****
C29H40O10 L Bis(15-crown-5) (6879)
Methylene-bis(4'-(2,3-benzo-1,4,7,10,13-pentaoxacyclopentadeca-2-ene));
CH2(C14H19O5)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ cal alc/w 25°C 80% U H K1=2.04 1990LTa (105140) 551
Medium: 80% v/v MeOH/H2O. DH(K1)=-102.0 kJ mol-1. Also data for a large
range of benzo-15-crown-5 dimers with 4'-bridging groups up to 10 carbons.
****
C30H40N2O4 L Anthracene-22 (3329)
6,9,17,20-Tetraoxa-3,12-diaza[14:8](9,10)anthracenophane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ sp alc/w 25°C 100% U K1=8.52 1989FDa (105282) 552
Medium: MeOH, 0.1 M Bu4NClO4
****
C32H44N2O4 L (6164)
7,10,17,20-Tetraoxa-4,13-diaza[16:8](9,10)anthracenophane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ sp alc/w 25°C 100% U K1=7.07 1989FDa (105763) 553
Medium: MeOH, 0.1 M Bu4NClO4
****
C34H46O10 L CAS 210485-26-0 (3146)
15,31-Diethylhexadecahydroanthra[2,3-b:6,7-b']bis[1,4,7,10,13]pentaoxacyclopentadec
in;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ vlt non-aq 20°C 100% C K1=2.8 1999OBa (106082) 554
Medium: DMF 0.10 M Bu4N[BPh4]. Data for other 15,31-dialkyl derivatives.
****
C34H54O8 H2L Lasalocid CAS 25999-20-6 (2335)
Lasalocid acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ nmr non-aq 20°C 100% C 1998MLa (106162) 555

K(Tl+HL)=1.8
Medium: CD3OD. Method: 13C nmr.
****
C36H62O11 HL Monensin CAS 17090-79-8 (737)
Monensin, 1,6-dioxaspiro[4,5]decane derivative;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ con non-aq 25°C 100% C K1=4.30 1997PBb (106539) 556
Medium: acetonitrile. Additional method: potentiometry with ISE.
By calorimetry, DH(K1)=-24 kJ mol-1, DS(K1)=0 J K-1 mol-1

Tl+ vlt non-aq 23°C 100% U I K1=10.6 1994FRa (106540) 557
Medium: MeCN. In PrCN: K1=9.9; acetone: 9.9; DMF: 7.2; N-Me-pyrrolidinone:
6.0; NN-DMA: 6.0; DMSO: 4.5; Diethylformamide: 4.1; Di-Et-acetamide: 4.1

Tl+ vlt non-aq 23°C 100% U I K1=4.5 1994RCa (106541) 558
In DMSO/MeCN mixt: mol. fract. DMSO=1. At mf: K1=10.6, 0.2: 6.0; 0.5: 5.1.
In DMSO/acetone: mf DMSO=0: K1=9.9; 0.5: 5.6. DMSO/HMPT: mf 0:1.9, 0.5: 2.2

Tl+ vlt alc/w 25°C 100% U K1=3.31 1978HPa (106542) 559
Method: Cyclic voltametry
****
C38H54O10 L CAS 210485-29-3 (3260)
Hexadecahydro-15,31-bis(2-methylpropyl)anthra[2,3:6,7]bis[1,4,7,10,13]pentaoxacyclo
pentadecin;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+ vlt non-aq 20°C 100% C K1=1.6 1999OBa (106702) 560
Medium: DMF 0.10 M Bu4N[BPh4]. Data for other 15,31-dialkyl derivatives.
****
Cl- HL Chloride CAS 7647-01-0 (50)
Chloride;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl++ oth NaClO4 23°C 1.00M U K1=4.79 B2=8.07 1974DSa (5874) 561
K3=1.11
Method: Pulse radiolysis.

Tl++ oth NaClO4 ? 1.0M U K1=4.8 B2=8.10 1974DSa (5875) 562
K3=1.1
Method: pulse radiolysis
****
C8H16O2S2 L CAS 294-95-1 (8604)
1,7-Dioxa-4,10-dithiacyclododecane;

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

Tl++ cal non-aq 25°C 100% C H K1=3.87 B2= 3.87 1986BUe (62627) 563
DH(K1)=-2.9 kJ mol-1, DS(K1)=64.1 J K-1 mol-1; DH(K2)=-7.7.
Medium: MeOH.
****
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
---
Tl++ cal non-aq 25°C 100% C H K1=3.22 B2= 3.22 1986BUe (62733) 564
DH(K1)=-9.4 kJ mol-1, DS(K1)=30 J K-1 mol-1; DH(K2)=-10.6.
Medium: MeOH.
****
C8H18N2O2 L CAS 294-92-8 (654)
1,7-Dioxo-4,10-diazacyclododecane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl++ cal non-aq 25°C 100% C H K1=2.48 B2= 2.48 1986BUe (62851) 565
DH(K1)=-28.5 kJ mol-1, DS(K1)=-48.3 J K-1 mol-1; DH(K2)=8.
Medium: MeOH.
****
C12H24O4S2 L CAS 296-39-9 (4938)
1,4,10,13-Tetraoxa-7,16-dithiacyclooctadecane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl++ cal non-aq 25°C 100% C H K1=3.93 1986BUe (83145) 566
Medium: MeOH. DH(K1)=-11.2 kJ mol-1, DS(K1)=37.3 J K-1 mol-1.
****
C12H24O6 L 18-Crown-6 CAS 17455-13-9 (577)
1,4,7,10,13,16-Hexaoxacyclooctadecane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl++ cal non-aq 25°C 100% C H K1=5.22 1986BUe (83671) 567
Medium: MeOH. DH(K1)=-50.9 kJ mol-1, DS(K1)=-71.1 J K-1 mol-1.
****
C12H26N2O4 L Cryptand 2,2 CAS 23978-55-4 (925)
4,7,13,16-Tetraoxa-1,10-diazacyclooctadecane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl++ cal non-aq 25°C 100% C H K1=3.06 1986BUe (83911) 568
Medium: MeOH. DH(K1)=-21.2 kJ mol-1, DS(K1)=-43.0 J K-1 mol-1.
****
e- HL Electron (442)
Electron;

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

```
--------------------------------------------------------------------------------
Tl+++      kin NaClO4 25°C 0.30M U  I                    1974FFb   (980) 569
                                       K(Tl+e)=5.6 (330mV)
                                       K(Tl(II)+e)=37.5 (2.22V)
--------------------------------------------------------------------------------
Tl+++      EMF oth/un 135°C 100%  U                      1969APa   (981) 570
                                       K(Tl + 2Tl(s)=3Tl+) > 51.2
Medium: (Na,K,Al)Cl
--------------------------------------------------------------------------------
Tl+++      EMF NaClO4 25°C 3.00M U                       1966JOa   (982) 571
                                       K(Tl+2I=Tl+ + I2)=25.34
--------------------------------------------------------------------------------
Tl+++      EMF oth/un 25°C 0.50M U  I                    1962BBc   (983) 572
                                       K(Tl+2e=Tl(I))=26.0(770 mV)
Medium:0.5-1.0 M HCl. In 0.5 to 5 M H2SO4 K=41.1(1215 mV). In 0.5 to 5M HNO3
K=41.4(1225 mV). In 0.5 to 5 M HClO4 K=42.8(1260 mV)
--------------------------------------------------------------------------------
Tl+++      EMF NaClO4 25°C  3.0M U                       1953BIa   (984) 573
                                       K(Tl+2e=Tl(I))=43.28(1280 mV)
--------------------------------------------------------------------------------
Tl+++      EMF none   25°C  0.0  U                      1952KJa   (985) 574
                                       K=0.7(20 mV)
Method: amperometry. K: 0.5Tl2O3(s)+1.5H2O+2e=Tl(I)+3OH
--------------------------------------------------------------------------------
Tl+++      EMF none   25°C  0.0  U                      1943STa   (986) 575
                                       K(Tl+2e=Tl(I))=43.3(1280 mV)
--------------------------------------------------------------------------------
Tl+++      EMF oth/un  0°C  1.0M U TI                   1936NGa   (987) 576
                                       K(Tl+2e=Tl(I))=44.04(1193 mV)
Medium: HNO3. Data also for 0.5-2 M HNO3. At  25 C K=41.61(1230.3 mV)
********************************************************************************
Br-                    HL    Bromide          CAS 10035-10-6  (19)
Bromide;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+++      nmr NaClO4 25°C  3.0M C                       1990BGc  (2362) 577
                                       B3=21.9
                                       B4=25.7
Medium: 3.0 M HClO4. Method: 206Tl nmr.
--------------------------------------------------------------------------------
Tl+++      EMF NaClO4 25°C  3.0M U        K1=9.28   B2=16.70  1967YKa  (2363) 578
                                       K3=5.4
                                       K4=3.6
                                       K5=1.5
                                       K(TlL+H2O=TlOHL+H)=-1.84
--------------------------------------------------------------------------------
Tl+++      cal NaClO4 25°C  7.0M U        K1=9.51   B2=16.88  1964LRa  (2364) 579
                                       B3=22.30
                                       B4=26.43
```

```
--------------------------------------------------------------------------------
Tl+++      EMF NaClO4 20°C  7.0M U   H    K1=9.62   B2=17.06  1963AGa  (2365) 580
                                         K3=5.53
                                         K4=4.14
                                         B4=26.73
                                         K5< -0.4
Medium:4 M NaClO4,3 HClO4. By calorimetry: DH(K1)=-37.5 kJ mol-1, DS=56.0
J K-1 mol-1. DH(K2)=-25.5,DS=55.6; DH(K3)=-19.1,DS=40.5; DH(K4)=-8.9,DS=48.8
--------------------------------------------------------------------------------
Tl+++      EMF oth/un   ?   var  U                       1961EVa  (2366) 581
                                         B4=19.7
--------------------------------------------------------------------------------
Tl+++      EMF NaClO4 20°C 0.40M U       K1=8.3    B2=14.6   1960BTc  (2367) 582
                                         K3=4.6
                                         K4=3.1
                                         K5=2.5
                                         K6=1.7
--------------------------------------------------------------------------------
Tl+++      EMF NaClO4 25°C 2.20M U       K1=8.9    B2=16.4   1956PVa  (2368) 583
                                         K3=5.7
                                         K4=4.0
                                         K5=3.1
                                         K6=2.4
--------------------------------------------------------------------------------
Tl+++      EMF oth/un 25°C  var  U                       1950BJa  (2369) 584
                                         B4=20.2
--------------------------------------------------------------------------------
Tl+++      EMF none   18°C  0.0  U       K1=9.7    B2=16.6   1949BEa  (2370) 585
                                         K3=4.6
                                         K4=2.7
********************************************************************************
CN-                    HL    Cyanide          CAS 74-90-8  (230)
Cyanide;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+++      nmr NaClO4 25°C  1.0M C                       1998MGb  (2765) 586
                                         K(Pt(CN)4+Tl+CN)=19.9
                                         K(Pt(CN)4+Tl+2CN)=30.7
                                         K(Pt(CN)4+Tl+3CN)=38.6
                                         K(Pt(CN)4+Tl+4CN)=44.8
Method: 195Pt and 205Tl nmr. K(2Pt(CN)4+Tl+2CN)=32.1.
--------------------------------------------------------------------------------
Tl+++      nmr oth/un 25°C 3.00M U    M   K1=12.7   B2=25.5   1996BBc  (2766) 587
                                         B3=34.0
                                         B4=41.3
                                         B(TlLCl)=19.1
                                         B(TlLCl2)=22.3
Medium: LiClO4/HClO4. B(TlLCl3)=24.6, B(Tl(L)2Cl)=28.6, B(Tl(L)2Cl2)=30.9,
B(Tl(L)3Cl)=36.4.
```

```
--------------------------------------------------------------------------------
Tl+++      nmr NaClO4 25°C  4.0M C        K1=13.21  B2=26.50  1989BGb  (2767) 588
                                         B3=35.17
                                         B4=42.61
Method: 205Tl and 13C nmr. Medium: 3 M LiClO4/1 M NaClO4.
--------------------------------------------------------------------------------
Tl+++      kin NaClO4 30°C 0.50M U                      1955PDa  (2768) 589
                                         K2/K1=-0.82
Medium: 0.5 M(H,NaClO4)
--------------------------------------------------------------------------------
Tl+++      con oth/un 25°C  var  U                      1950BJa  (2769) 590
                                         B4=35
********************************************************************************
Cl-                    HL    Chloride         CAS 7647-01-0  (50)
Chloride;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+++      nmr oth/un 25°C  3.0M C                      1989BGc  (5876) 591
                                         K5=ca. -0.30
Method: 205Tl nmr. Medium: 3.0 M HClO4/HCl.
--------------------------------------------------------------------------------
Tl+++      EMF NaClO4 25°C  3.0M U        K1=7.04   B2=12.32  1971BSd  (5877) 592
                                         B3=15.30
                                         B4=17.36
                                         K(TlL+H2O=TlL(OH)+H)=-1.87
--------------------------------------------------------------------------------
Tl+++      sp  oth/un 23°C    ?  U                      1970SCb  (5878) 593
                                         K5=-0.07
--------------------------------------------------------------------------------
Tl+++      EMF oth/un 25°C  1.0M U        K1=5.88   B2=10.40  1969CPd  (5879) 594
                                         B3=12.94
                                         B4=14.58
Medium: H2SO4
--------------------------------------------------------------------------------
Tl+++      oth non-aq 26°C 100%  U                      1968WSb  (5880) 595
                                         K5=0.66
Method:Raman spectra.   Medium:MeNO2
--------------------------------------------------------------------------------
Tl+++      ISE NaClO4 25°C  4.0M U   H    K1=7.10   B2=12.50  1965KMd  (5881) 596
                                         B3=16.00
                                         B4=18.50
Medium:3 M LiClO4,1 HClO4. By calorimetry:DH(K1)=-32.6 kJ mol-1, DH(K2)=
-15.5,DH(K3)=DH(K4)=0; DS(K1)=29.3 J K-1 mol-1,DS(K2)=50.2,DS3=66.9,DS4=25.1
--------------------------------------------------------------------------------
Tl+++      oth oth/un       var  U                      1965SPb  (5882) 597
                                         B6/B4=-0.7
Method:Raman spectra
--------------------------------------------------------------------------------
Tl+++      dis oth/un 25°C  0.0  U TIH                  1964NUa  (5883) 598
```

```
                                        K3=3.03
                                        K4=1.47
K4=1.51(0 C),1.32(35 C); DH(K4)=-21.3 kJ mol-1, DS=-41.8 J K-1 mol-1
In 0.5 M NaClO4:K4=1.38(25 C). In 96% D2O, I=0: K4=1.31(25 C)
-------------------------------------------------------------------------------
Tl+++      dis NaCl   25°C  var  U                      1964PFa  (5884) 599
                                        K(TlCl4+H)=1
-------------------------------------------------------------------------------
Tl+++      ix  NaClO4 20°C 1.50M U                      1964PMa  (5885) 600
                                        K4=0.6
-------------------------------------------------------------------------------
Tl+++      cal NaClO4 25°C  3.0M U  IH    K1=7.16   B2=12.60  1964WGa  (5886) 601
                                        K3=3.55
                                        K4=2.17
                                        B4=18.33
Also solubility, redox. DH(K1)=-22.8 kJ mol-1,DH(K2)=-18.4,DH(K3)=-4.6,
DH(K4)=-1.3; DS(K1)=60.6 J K-1 mol-1,DS(K2)=42.2,DS(K3)=52.7,DS(K4)=37.2
-------------------------------------------------------------------------------
Tl+++      EMF NaClO4 20°C  7.0M U T      K1=7.54   B2=13.38  1963AGa  (5887) 602
                                        K3=3.41
                                        K4=2.79
                                        B4=19.58
                                        K5 < -1.2
Medium:4 M NaClO4),3 M HClO4. At 25 C:K1=7.48, B2=13.26, B3=16.65, B4=19.45
-------------------------------------------------------------------------------
Tl+++      cal NaClO4 25°C  7.0M U   H                  1963AGa  (5888) 603
Medium:4 M NaClO4,3 M HClO4, DH(K1)=-25.2 kJ mol-1,DH(K2)=-16.9,DH(K3)=-4.5,
DH(K4)=-0.7. DS(K1)=58.1 J K-1 mol-1, DS(K2)=53.9, DS(K3)=49.7, DS(K4)=51.0
-------------------------------------------------------------------------------
Tl+++      EMF oth/un 25°C  3.0M U  I     K1=7.78   B2=12.87  1963KIa  (5889) 604
                                        K3=3.29
                                        K4=2.16
                                        B4=18.32
At I=0.5:K1=7.05, K2=4.97, K3=2.41, K4=1.89, B4=16.32
-------------------------------------------------------------------------------
Tl+++      EMF NaClO4 25°C  3.0M U  IH    K1=7.18   B2=12.94  1961WGa  (5890) 605
                                        K3=3.15
                                        K4=2.22
Medium: HClO4. K1 by solubility. In 0.5 M HClO4 K1=6.78, K2=5.26, K3=2.52,
K4=1.72. In 3 M : DS(K1)=62 J K-1 mol-1, DS(K2)=46, DS(K3)=45, DS(K4)=42
-------------------------------------------------------------------------------
Tl+++      ISE NaClO4 30°C  3.0M U        K1=7.30   B2=12.48  1960BAb  (5891) 606
                                        K3=3.08
                                        K4=2.36
-------------------------------------------------------------------------------
Tl+++      ISE NaClO4 20°C 0.40M U        K1=7.50   B2=12.00  1960BTc  (5892) 607
                                        K3=2.75
                                        K4=2.25
                                        K5=1.95
                                        K6=1.75
```

```
--------------------------------------------------------------------------------
Tl+++      cal NaClO4 25°C  3.0M U   H                  1960GAc  (5893) 608
Medium: HClO4. DH(K1)=-22.8 kJ mol-1, DH(B2)=-41.8, DH(B3)=DH(B4)=-46.4
--------------------------------------------------------------------------------
Tl+++      ix  none   25°C  0.0  U        K2=3.04        1958HOa  (5894) 609
                                         K3=2.08
                                         K4=0.52
--------------------------------------------------------------------------------
Tl+++      dis none   30°C  0.0  U                       1957HVa  (5895) 610
                                         B5=17.47
--------------------------------------------------------------------------------
Tl+++      ISE NaClO4 21°C 2.20M U        K1=6.25   B2=11.40  1956PVa  (5896) 611
                                         K3=3.10
                                         K4=2.5
                                         K5=2.15
                                         K6=1.80
--------------------------------------------------------------------------------
Tl+++      dis none   30°C  0.0  U                       1955HVa  (5897) 612
                                         B5=17.56
--------------------------------------------------------------------------------
Tl+++      con oth/un 25°C  var  U                       1950BJa  (5898) 613
                                         B4=15.4
--------------------------------------------------------------------------------
Tl+++      ISE none   18°C  0.0  U        K1=8.1    B2=13.60  1949BEa  (5899) 614
                                         K3=2.2
                                         K4=ca.2.2
********************************************************************************
F-                     HL    Fluoride         CAS 7644-39-3  (201)
Fluoride;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+++      sol non-aq  0°C 100%  U                       1961CZa  (7269) 615
                                         Ks(TlF3(s)=TlF3)=-3.68
                                         Ks(TlF3(s)+F=TlF4)=-1.89
Medium: liquid HF, I=0 corr
********************************************************************************
I-                     HL    Iodide           CAS 10034-85-2  (20)
Iodide;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+++      EMF NaClO4 25°C  7.0M U                       1966JOa  (8409) 616
                                         B4=35.66
Medium:3 M HClO4,4 M NaClO4
--------------------------------------------------------------------------------
Tl+++      sol none   25°C  0.0  U                       1957KMa  (8410) 617
                                         B4=32.15
                                         K(TlL3(s)+L=TlL4)=0.0
                                         Kso(TlL3)=-31.85
```

```
--------------------------------------------------------------------------------
Tl+++      EMF oth/un 25°C  var  U                        1906MAa  (8411) 618
                                          B4=30.29
********************************************************************************
NH3                      L    Ammonia          CAS 7664-41-7  (414)
Ammonia
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+++      gl  R4N.X  25°C 10.0M U                          1968LVa  (9218) 619
                                          B(Ti(OH)2L)=35.3
                                          B(Ti(OH)2L2)=40.0
                                          B(Ti(OH)2L3)=42.3
                                          B(Ti(OH)2L4)=43.8
Medium: 10 M NH4NO3
--------------------------------------------------------------------------------
Tl+++      gl  R4N.X  25°C 10.0M U        K1=4.6    B2=9.30   1967LKb  (9219) 620
                                          K3=2.3
                                          K4=1.5
                                          B4=13.0
Metal: Tl(OH)2+. Medium: NH4NO3
********************************************************************************
NO2-                     HL    Nitrite          CAS 7782-77-6  (635)
Nitrite;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+++      kin NaClO4 25°C 0.30M U                          1977TGb  (9408) 621
                                          K(TlL+HL=TlL2+H)=2.81
                                          K(TlL2+HL=TlL3+H)=0.84
********************************************************************************
NO3-                     HL    Nitrate          CAS 7697-37-2  (288)
Nitrate;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+++      cal NaClO4 25°C  3.0M U   H    K1=0.90          1967MKb  (9964) 622
(H/Li)ClO4. DH(K1)=0 kJ mol-1, DS=17 J K-1 mol-1
--------------------------------------------------------------------------------
Tl+++      gl  NaClO4 25°C  3.0M U        K1=0.90   B2=0.12   1965KYc  (9965) 623
                                          B3=1.10
                                          B(TlH-2L)=-2.10
                                          B(TlH-1L2)=-0.32
                                          B(TlH-1L3)=-0.40
Medium: LiClO4
--------------------------------------------------------------------------------
Tl+++      sp  NaClO4 22°C  2.0M U  I     K1=0.45          1957BWa  (9966) 624
K1=0.30(I=3), 0.67(I=1.15), 0.92(I=0.57)
--------------------------------------------------------------------------------
Tl+++      sp  oth/un 18°C  var  U T      K1=0.18          1954PEb  (9967) 625
```

K1=0.41(10 C)

****

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

Azide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	EMF	NaClO4	50°C	3.0M	U	T	K1=2.81 B2=4.98 B3=5.70	1965VOa (10265)	626

K1=3.08(12.7 C), 3.0(20 C), 2.90(35 C); B2=5.60(12.7 C), 5.38(20 C), 5.18(35 C); B3=7.04(12.7 C), 6.90(20 C), 6.40(35 C)

****

OH- HL Hydroxide (57)

Hydroxide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	oth	none	25°C	0.0	M		*K1=-0.18	1986BGe (12313)	627

Application of specific ion interaction theory (SIT) to literature data.
Ks(0.5Tl2O3(s)+3H=Tl+1.5H2O)=-2.95

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	EMF	oth/un	25°C	1.00M	U		K1=14.41 B2=27.08	1979YRa (12314)	628

Medium: 0.56 mol.parts CH3CN in H2O K1=15.40, B2=28.85

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	sp	none	20°C	0.0	U		K2=7.7	1976BAa (12315)	629

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	kin	none	25°C	0.00	U		K(Me2Tl + OH)=1.05 K(2Me2TlOH=(Me2TlOH)2)=10.18	1974LPb (12316)	630

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	cal	NaClO4	25°C	3.00M	U	H	*K1=-1.41 *K2=-1.15	1973KKg (12317)	631

Medium: LiClO4. DH(*K1)=100 kJ M-1, DS=310 J K-1 M-1; DH(*K2)=109, DS=343

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	sp	diox/w	25°C	70%	U	I	*K1=-0.5	1972KKh (12318)	632

Medium: 70% w/w dioxan/H2O, 3 M LiClO4> In 0.5 to 1 M DMSO, 3 M LiClO4, *K1=-0.6

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	sp	oth/un	20°C		U		*K1=-1.51	1971KYb (12319)	633

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	sol	oth/un	25°C		U		K(TlL3(s)+L)=-5.4 K(TlL3(s)+2L)=-5.6 K(TlL3(s)+3L)=-6.4	1970IEb (12320)	634

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	sol	oth/un	22°C	0.02M	U	I		1970VTa (12321)	635

```
                                        Kso(Tl(OH)3)=-36.7
Medium: Tl(NO3)3 at I=0.025(hydrolysis neglected); Kso=-38.3(I=0)
-------------------------------------------------------------------------------
Tl+++      sp  NaClO4 25°C 0.10M U  I     K1=12.82  B2=25.27  1969BNc (12322) 636
                                        B3=37.46
K1 12.96, B2=25.45, B3=37.70(I=0.3);  K1=13.10, B2=25.65, B3=37.98(I=0.5);
K1=13.52, B2=26.33, B3=38.80(I=1)
-------------------------------------------------------------------------------
Tl+++      EMF R4N.X  25°C       U        K1=15.7   B2=30.7   1968LVa (12323) 637
Medium: NH4NO3. Also data in presence of py, en
-------------------------------------------------------------------------------
Tl+++      gl  R4N.X  25°C 10.0M U  I     K1=15.7   B2=30.7   1967LKc (12324) 638
Medium: 10 M NH4NO3. In 2 M Mg(NO3)2: K1=15.40, B2=28.66. In 2 M en(HNO3)2:
K1=15.45, B2-28.64
-------------------------------------------------------------------------------
Tl+++      EMF NaClO4 25°C 3.00M U                        1964KYb (12325) 639
                                        *K1=-1.18
                                        *K2=-1.42
Medium: 3 M LiClO4
-------------------------------------------------------------------------------
Tl+++      EMF NaClO4 25°C 3.00M U                        1963KOb (12326) 640
                                        *K1=-1.14
                                        *K2=-1.43
-------------------------------------------------------------------------------
Tl+++      sp  NaClO4 25°C  3.0M U TI                     1961RWa (12327) 641
                                        *K1=-1.16
*K1=-1.10(40 C). Same in H2O & D2O. 1.5 M NaClO4 *K1=-1.07(25 C),-1.01(40 C)
-------------------------------------------------------------------------------
Tl+++      kin none   25°C  0.0  M                      1959LPa (12328) 642
                                        K(Me2Tl+L)=1.04
                                        K(2Me2TlOH=(Me2TlOH)2)=0.3
-------------------------------------------------------------------------------
Tl+++      oth oth/un 32°C satd  U                        1958VRa (12329) 643
                                        K=-6.90(?)
Medium:saturated Na2SO4. K:TlCl3+3H2O=Tl(OH)3+3H+3Cl). Method:freezing point
-------------------------------------------------------------------------------
Tl+++      oth none   25°C  0.0  U                      1958VSa (12330) 644
                                        *Kso(Tl(OH)3)=-2.15
                                        *Kso(Tl2O3)=-2.60
Method:combination of thermodynamic data
-------------------------------------------------------------------------------
Tl+++      EMF NaClO4 25°C  3.0M U                        1957SCd (12331) 645
                                        Kso=-45.0
                                        *Kso=-2.34
-------------------------------------------------------------------------------
Tl+++      oth oth/un   ?   var  U                        1957SKa (12332) 646
                                        Kso=-38
Medium: H2SO4. Method: tyndallometry
-------------------------------------------------------------------------------
Tl+++      EMF NaClO4 25°C  3.0M U                        1953BIa (12333) 647
```

```
                                        *K1=-1.14
                                        *K2=-1.49
--------------------------------------------------------------------------------
Tl+++      gl  oth/un 25°C    ?  U                      1953MKa (12334) 648
                                        Kso=-37
--------------------------------------------------------------------------------
Tl+++      kin NaClO4 25°C 3.68M U T                    1952JOa (12335) 649
                                        *K1=0.81
*K1=0.97(35 C),1.10(45 C)
--------------------------------------------------------------------------------
Tl+++      kin NaClO4 25°C  6.0M U T                    1951HDa (12336) 650
                                        *K1=0.51
*K1=0.72(32.2 C),0.84(41.8 C)
--------------------------------------------------------------------------------
Tl+++      EMF none   25°C  0.0  U                      1951SUa (12337) 651
                                        Kso=-45.20
--------------------------------------------------------------------------------
Tl+++      gl  none   18°C  0.0  U                      1949BEa (12338) 652
                                        Kso=-43.6
                                        *K1=-0.2
--------------------------------------------------------------------------------
Tl+++      gl  oth/un 25°C  dil  U                      1938OKa (12339) 653
                                        Kso=-34.1
--------------------------------------------------------------------------------
Tl+++      sol NaClO4 25°C  var  U                      1936SHa (12340) 654
                                        Kso=-43.81
                                        *Kso=-1.81
--------------------------------------------------------------------------------
Tl+++      EMF oth/un 25°C  var  U                      1905SAa (12341) 655
                                        Kso=-42.90
                                        *Kso=-1.13
********************************************************************************
SCN-                    HL    Thiocyanate      CAS 463-56-9  (106)
Thiocyanate;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+++      kin NaClO4 20°C  2.0M U                      1990GKb (15307) 656
                                        K(TlL+Tl)=1.65
                                        K(TlL+L+H)=1.38
--------------------------------------------------------------------------------
Tl+++      vlt NaClO4 25°C  2.0M U                      1969TFa (15308) 657
                                        K(Tl2L+L=Tl2L2)=2.4
********************************************************************************
SO3--                  H2L    Sulfite          CAS 7782-99-2  (801)
Sulfite;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+++      EMF oth/un 25°C  var  U                      1957BJa (15480) 658
```

B4=ca.34

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+++	cal	NaClO4	25°C	3.0M	U	H	K1=2.27		1967MKb (16606)	659

2nd method:redox. Medium: 3 M LiClO4, 0.5 M HClO4. DH(K1)=-11 kJ mol-1, DS=4.6 J K-1 mol-1

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+++	EMF	NaClO4	25°C	3.0M	U		K1=1.95	B2=3.74	1965KYd (16607)	660
							K(Tl+HL)=1.23			
							K(Tl+2HL)=2.12			
							K(Tl+HL+L)=3.00			

Medium: LiClO4

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+++	sol	oth/un	25°C	var	U		K1=1		1960HEa (16608)	661
Tl+++	kin	NaClO4	25°C	3.68M	U		K1=0.3		1957BMa (16609)	662

****

S2O3-- H2L Thiosulfate CAS 73686-28-7 (177)
Thiosulfate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+++	EMF	oth/un	25°C	var	U				1950BJa (16909)	663
							B4=41			

****

SeO3-- H2L Selenite CAS 7783-00-8 (2391)
Selenite;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+++	sol	oth/un	20°C	var	U				1959MIa (17076)	664
							Kso(Tl2L3)=-38.7			

****

C2H2O2 L Glyoxal CAS 107-22-2 (2017)
Ethanedial; OHC.CHO

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+++	kin	NaClO4	18°C	0.22M	U	TI	K1=0.56	B2=1.53	1980IAa (18372)	665

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+++	sp	oth/un	15°C	0.50M	C		K1=0.72		1984CDb (18401)	666

Medium: 0.50 M LiCl.

****

C2H2O3 HL Glyoxylic acid CAS 298-12-4 (1142)

Glyoxylic acid; OHC.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	sp	none	30°C	0.0	C		K1=2.93	1984GSf (18431)	667

****

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
Tl+++	dis	NaClO4	20°C	0.10M	U			1963STc (19111)	668
							B3=16.9		

****

C2H3O2Cl HL Chloroacetic CAS 79-11-8 (34)

Chloroethanoic acid; ClCH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	sp	oth/un	15°C	0.50M	C		K1=1.38	1984CDb (19387)	669

Medium: 0.50 M LiCl.

****

C2H4O2 L CAS 141-46-8 (2016)

2-Hydroxyethanal; HO.CH2.CHO

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	kin	NaClO4	50°C	0.68M	U	TI	K1=0.26	1980IAa (19514)	670

****

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
Tl+++	sp	oth/un	15°C	0.50M	C		K1=2.59	1984CDb (20205)	671

Medium: 0.50 M LiCl.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	EMF	NaClO4	25°C	3.0M	U		K1=6.17 B2=11.28	1965KYe (20206)	672
							B3=15.10		
							B4=18.3		
							B(Tl(OH)L)=18.41		
							B(Tl(OH)L2)=22.9		

Medium: LiClO4. K(Tl+HL+L)=7.97, B(Tl(OH)2L)=30.1

****

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
-------------------------------------------------------------------------
Tl+++      sp  none   30°C  0.0  C        K1=3.40   B2= 5.00  1984GSf (20638) 673
-------------------------------------------------------------------------
Tl+++      kin NaClO4 75°C 0.20M U TI     K1=0.77        1980IAa (20639) 674
*************************************************************************
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
-------------------------------------------------------------------------
Tl+++      gl  NaCl   37°C 0.15M C    M                   1988BGa (21736) 675
                                          K(Tl(CH3)2+L)=1.189
*************************************************************************
C2H6OS                 L    DMSO             CAS 67-68-5  (329)
Dimethylsulfoxide; (CH3)2.SO
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
Tl+++      vlt non-aq 25°C 100%  U        K1=1.3         1976GBa (22126) 676
Medium: CH2Cl2, 0.1M Bu4NClO4; Metal ion (C6F5)2Tl+
-------------------------------------------------------------------------
Tl+++      vlt non-aq 25°C 100%  U        K1=0.9         1976GBa (22127) 677
Medium: CH2Cl2, 0.1M Bu4NClO4; Metal ion (m-CH3C6H4)2Tl+
*************************************************************************
C2H6O2                 L    Ethyleneglycol   CAS 107-21-1  (924)
1,2-Dihydroxyethane (Ethane-1,2-diol); HO.CH2.CH2.OH
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
Tl+++      kin NaClO4 75°C 0.56M U TI     K1=-0.49       1980IAa (22158) 678
*************************************************************************
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
-------------------------------------------------------------------------
Tl+++      nmr non-aq 25°C 100%  U        K1=7.6    B2=12.80  2001MIa (23238) 679
                                         K3=2.64
Method: 205Tl and 1H NMR spectroscopy. Medium: pyridine, 0.5 M NaClO4.
-------------------------------------------------------------------------
Tl+++      vlt non-aq 25°C 100%  U        K1=4.6         1976GBa (23239) 680
Medium: CH2Cl2, 0.1M Bu4NClO4; Metal ion (m-CH3C6H4)2Tl+
-------------------------------------------------------------------------
Tl+++      vlt non-aq 25°C 100%  U        K1=6.3         1976GBa (23240) 681
Medium: CH2Cl2, 0.1M Bu4NClO4; Metal ion (C6F5)2Tl+
-------------------------------------------------------------------------
Tl+++      gl  oth/un 25°C  2.0M U                       1967LKa (23241) 682
                                         K(Tl(OH)2+L)=13.0
                                         K(Tl+2OH+L)=41.64
```

Medium: 2M L(HNO3)2

****

C3H7NO L DMF CAS 68-12-2 (598)

N,N-Dimethylformamide; HCO.N(CH3)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+++	vlt	non-aq	25°C	100%	U		K1=0.7		1976GBa (25667)	683

Medium: CH2Cl2, 0.1M Bu4NClO4; Metal ion (m-CH3C6H4)2Tl+

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+++	vlt	non-aq	25°C	100%	U		K1=1.0		1976GBa (25668)	684

Medium: CH2Cl2, 0.1M Bu4NClO4; Metal ion (C6F5)2Tl+

****

C3H7NO2 HL B-Alanine CAS 107-95-9 (575)

3-Aminopropanoic acid; H2N.CH2.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+++	EMF	NaClO4	25°C	1.00M	U		K1=13.28	B2=24.90	1977YKc (26484)	685
							B3=37.98			

Medium: LiClO4

****

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
Tl+++	gl	NaCl	37°C	0.15M	C	M		1988BGa (26845)	686
							K(Tl(CH3)2+L)=3.621		
							K(Tl(CH3)2+H+L)=11.850		
							K(Tl(CH3)2+2L)=5.349		

****

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
Tl+++	EMF	NaClO4	20°C	1.0M	U		K1=11.57	B2=12.81	1962BTb (31377)	687
							B3=13.34			

****

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

Pyridine, Azine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	vlt	non-aq	25°C	100%	U		K1=1.3	1976GBa (36686)	688

Medium: CH2Cl2, 0.1M Bu4NClO4; Metal ion (m-CH3C6H4)2Tl+

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	vlt	non-aq	25°C	100%	U		K1=2.0	1976GBa (36687)	689

Medium: CH2Cl2, 0.1M Bu4NClO4; Metal ion (C6F5)2Tl+

```
------------------------------------------------------------------------------
Tl+++      gl  oth/un 25°C  4.0M U                      1966LKb (36688) 690
                                       K(Tl(OH)2+L)=0.7
                                       B(Tl(OH)2L)=29.1
                                       K(Tl(OH)2+2L)=2.4
                                       B(Tl(OH)2L2)=30.8
Medium: C5H5NHNO3.  K(Tl(OH)2+4L)=2.5, B(Tl(OH)2L4)=31.0
******************************************************************************
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
------------------------------------------------------------------------------
Tl+++      dis NaClO4 20°C 0.10M U        K1=8.88   B2=16.88  1969BFb (38105) 691
                                       K3=7.82
******************************************************************************
C5H9NO3S             H2L    N-Acetyl-Cys     CAS 616-91-1  (1187)
N-Acetylcysteine; CH3.CO.NH.CH(CH2.SH)COOH
------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
------------------------------------------------------------------------------
Tl+++      gl  NaCl   37°C 0.15M C    M                  1988BGa (38819) 692
                                       K(Tl(CH3)2+L)=2.622
******************************************************************************
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
------------------------------------------------------------------------------
Tl+++      gl  NaCl   37°C 0.15M C    M                  1988BGa (41285) 693
                                       K(Tl(CH3)2+L)=3.814
                                       K(Tl(CH3)2+H+L)=11.853
                                       K(Tl(CH3)2+2L)=5.217
******************************************************************************
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
------------------------------------------------------------------------------
Tl+++      EMF NaClO4 20°C  1.0M U  I   T K1=20.9          1967ABc (47060) 694
Medium: HClO4. In 1 M NaClO4: B2=32.5
------------------------------------------------------------------------------
Tl+++      sp  oth/un 20°C    ?  U                      1966KAc (47061) 695
                                       K(Tl+H2L)=4.38
                                       K(TlL+H3L)=5.37
------------------------------------------------------------------------------
Tl+++      gl  oth/un 25°C  1.0M U  I     K1=18          1965KMc (47062) 696
                                       K(Tl+3H2L)=17.64
Medium: HNO3. In 1 M NaCl: K(TlCln+H)=2.5
******************************************************************************
```

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	gl	KCl	20°C	0.10M	U		1978VMa (48799)		697
							K(TlH-1L2+H)=7.53		
							K(TlH-2L2+H)=10.11		
Tl+++	sp	oth/un	20°C	?	U		B2=19.24	1971KOc (48800)	698
							K(Tl+2HL)=5.66		

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	sp	NaClO4	20°C	1.00M	U		1974KPc (52366)		699
							K(Tl+H5L)=5.74		

C7H6O2 HL Tropolone CAS 533-75-5 (3129)
2-Hydroxycyclohepta-2,4,6-trien-1-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	dis	non-aq	25°C	100%	C		2001NCa (53696)		700
							K(TlL3+TOPO)=1.35		

TOPO is trioctylphosphane oxide. Medium: CCl4.

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	gl	alc/w	25°C	50%	U		K1=8.96 B2=17.61	1971RFa (53921)	701
							K3=5.42		

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	gl	alc/w	25°C	50%	U		K1=12.73 B2=24.74	1971RFa (54315)	702
Tl+++	gl	KNO3	25°C	0.10M	U		K1=12.96	1967ASa (54316)	703

C7H6O6S H3L CAS 5965-83-3 (399)
5-Sulfosalicylic acid, 2-Hydroxy-5-sulfobenzoic; HO3S.C6H3(OH).COOH

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

```
--------------------------------------------------------------------------------
Tl+++      gl  KNO3   25°C 0.10M U        K1=12.41       1967ASa (55059) 704
********************************************************************************
C7H13NO3S             H2L                    CAS 59-53-0  (1269)
N-Acetyl-penicillamine; CH3.CO.NH.CH(COOH)C(CH3)2SH
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+++      gl  NaCl   37°C 0.15M C    M                   1988BGa (57494) 705
                                       K(Tl(CH3)2+L)=2.628
********************************************************************************
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
--------------------------------------------------------------------------------
Tl+++      dis NaClO4 20°C 0.10M U        K1=9.11   B2=17.39  1969BFb (58688) 706
                                       K3=7.63
********************************************************************************
C8H12N2O8             H4L                    CAS 35039-85-1  (4537)
1,2-Diaminoethane-N,N'-dimalonic acid; (HOOC)2.CH.NH.CH2.CH2.NH.CH(COOH)2
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+++      EMF KNO3   25°C 0.10M U        K1=35.78       1973GSd (61529) 707
                                       K(Tl+HL)=27.80
Using glass/Pt electrodes, values are 35.78, 27.80
********************************************************************************
C9H6NO4IS             H2L    Ferron          CAS 547-91-1  (275)
7-Iodo-8-hydroxyquinoline-5-sulfonic acid; (HO)(HO3S)C9H4NI
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+++      sp  oth/un 25°C 0.10M U                        1968BNb (63831) 708
                                       K(TlOH+L)=30.1
********************************************************************************
C9H7NO                 HL    Oxine           CAS 148-24-3  (504)
8-Hydroxyquinoline (8-quinolinol);
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+++      sp  alc/w  25°C  20%  U                        1968BNb (64361) 709
                                       K(Tl(OH)2+L)=10.34
Medium: EtOH
--------------------------------------------------------------------------------
Tl+++      oth oth/un   ?     ?  U                        1957PKa (64362) 710
                                       Kso=-32.4
********************************************************************************
C9H7N3O2S             H2L    TAR             CAS 2246-46-0  (707)
4-(2'-Thiazolylazo)-resorcinol; C3H2NS.N:N.C6H3(OH)2
```

```
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+++      sp  NaClO4   ?  0.10M U                        1969HSd (64731) 711
                                      K(Tl+HL)=13.41
                                      K(TlHL+HL)=12.35 in 30%ethanol
--------------------------------------------------------------------------------
Tl+++      sp  alc/w  25°C  50%  U                        1967NPb (64732) 712
                                      K(Tl+HL)=12.0
Medium: 50% MeOH, 0.1 M NaClO4
********************************************************************************
C9H11NOS                L                         (6884)
4-Phenylthiourethane; C6H5.NH.CO.S.C2H5
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+++      kin diox/w 25°C   1%  U        K1=2.35        1992SSd (65671) 713
Constants also for related R.C6H4.NHCOS.Et and R.C6H5.NHCOS.C6H4.R'
********************************************************************************
C9H14N2O9             H4L                      CAS 56360-11-3  (2576)
2-Hydroxy-1,3-diaminopropane-N,N'-di(1,3-propanedioic acid)
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+++      EMF KNO3   25°C 0.10M U        K1=34.95       1976DGf (67140) 714
                                      K(Tl+HL)=27.12
********************************************************************************
C10H8N2                 L    2,2'-Bipyridyl   CAS 366-18-7  (25)
2,2'-Bipyridine; (C5H4N)2
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+++      dis NaNO3  25°C  1.0M U        K2=5.5         1962KMb (69656) 715
                                      K3=4.89
                                      B3=20.05
--------------------------------------------------------------------------------
Tl+++      EMF oth/un 25°C  1.0M U        K1=9.40   B2=16.10  1961KMa (69657) 716
********************************************************************************
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
--------------------------------------------------------------------------------
Tl+++      dis NaClO4 20°C 0.10M U        K1=11.92  B2=22.84  1969BFb (70778) 717
                                      K3=9.76
********************************************************************************
C10H16N2O8             H4L    EDDS             CAS 52759-67-8  (1100)
1,2-Diaminoethane-N,N'-di-1,4-butanedioic acid; (CH2.NH.CH(COOH)CH2.COOH)2
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
```

```
-------------------------------------------------------------------------------
Tl+++      EMF KNO3   25°C 0.10M U        K1=35.12       1973GKe (73190) 718
                                         K(Tl+HL)=28.10
*******************************************************************************
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
-------------------------------------------------------------------------------
Tl+++      gl  NaClO4 25°C 1.00M C    M                    1995MAa (74238) 719
                                         K(TlL+OH)=7.90
                                         K(TlL+Cl)=2.52
                                         K(TlL+Br)=3.70
                                         K(TlL+I)=5.47
K(TlL+SCN)=2.94, K(TlL+N3)=3.56, K(TlL+py)=2.58, K(TlL+en)=8.65,
K(TlL+phen)=4.75, K(TlL+bpy)=3.21, K(TlL+Gly)=5.9, K(TlL+IDA)=4.72
-------------------------------------------------------------------------------
Tl+++      gl  NaClO4 25°C 1.00M C    M                    1989TBa (74239) 720
                                         K(TlL(OH)+H)=6.0
                                         K(TlL+Cl)=2.3
                                         K(TlBr)=3.5
                                         K(TlL+I)=5.9
-------------------------------------------------------------------------------
Tl+++      gl  KNO3   25°C 0.10M U        K1=35.30       1973GKe (74240) 721
                                         K(Tl+HL)=27.54
-------------------------------------------------------------------------------
Tl+++      EMF NaClO4 25°C 1.00M U                       1971KMe (74241) 722
                                         K(Tl+CoL)=5.10
                                         K(Tl+2CoL)=9.97
By spectrophotometry: K(Tl+CoL)=5.02.
-------------------------------------------------------------------------------
Tl+++      oth NaClO4 25°C  1.0M U                       1971KMe (74242) 723
                                         K(Tl+CrL)=5.45
                                         K(Tl+2CrL)=10.0
Method: platinum electrode. By spectrophotometry, K(Tl+CrL)=5.31
-------------------------------------------------------------------------------
Tl+++      EMF NaClO4 20°C  1.0M U    M T K1=37.8        1967ABc (74243) 724
-------------------------------------------------------------------------------
Tl+++      sp  oth/un 19°C  dil  U    M   K1=24.0        1966KAb (74244) 725
                                         K(FeL+Tl=TlL+Fe)=0.086
T:18-20
-------------------------------------------------------------------------------
Tl+++      gl  oth/un 20°C 0.40M U                       1960BTa (74245) 726
                                         K(TlLOH+H)=7.8
-------------------------------------------------------------------------------
Tl+++      gl  oth/un 20°C 0.10M U        K1=22.5        1960BTd (74246) 727
                                         K(TlL+H)=2.30
-------------------------------------------------------------------------------
Tl+++      vlt oth/un 20°C  1.0M U        K1=5.81        1957BVb (74247) 728
-------------------------------------------------------------------------------
```

```
Tl+++      gl  none   15°C  0.0  U        K1=24.95       1956STa (74248) 729
                                          K(TlL+H)=1.7
********************************************************************************
C10H18N2O7            H3L    HEDTA            CAS 150-39-0  (392)
N-(Hydroxyethyl)diaminoethane-N,N',N'-triethanoic acid;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+++      sp  oth/un 20°C    ?  U    M   K1=19.72       1967KAe (75519) 730
                                          K(Tl+FeL=TlL+Fe)=0.66
********************************************************************************
C10H28N6                L    PENTEN           CAS 4097-90-9  (3315)
N,N,N',N'-Tetra-(2-aminoethyl)diaminoethane;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+++      gl  NaClO4 25°C  1.0M C        K1=37.1        2001GLb (76881) 731
                                          B(TlHL)=39.7
********************************************************************************
C11H9N3O2             H2L    PAR              CAS 1141-59-9  (636)
4-(2'-Pyridylazo)-1,3-dihydroxybenzene; C5H4N.N:N.C6H3(OH)2
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+++      sp  oth/un   ?     ?  U                          1971BRd (77590) 732
                                          K(Tl(OH)2+HL)=24.17
--------------------------------------------------------------------------------
Tl+++      sp  NaClO4   ?  0.10M U                          1969HSd (77591) 733
                                          K(Tl+HL)=17.93
--------------------------------------------------------------------------------
Tl+++      sp  oth/un 25°C    ?  U                          1966DMf (77592) 734
                                          K(?)=9.9
********************************************************************************
C11H18N2O8            H4L                   CAS 38539-29-0  (2573)
1,3-Diaminopropane-N,N'-di(1,4-butanedioic acid)
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+++      EMF KNO3   25°C 0.10M U        K1=26.32       1976DGf (79374) 735
                                          K(M+TlL)=20.45
********************************************************************************
C11H18N2O8            H4L                   CAS 4408-81-5  (923)
1,3-Diaminopropane-N,N,N',N'-tetraethanoic acid; ((HOOC.CH2)2N.CH2.)2.CH2
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Tl+++      EMF NaClO4 20°C  1.0M U        K1=30.9        1967ABc (79473) 736
********************************************************************************
C11H18N2O9            H4L                   CAS 668-21-1  (2562)
2-Hydroxy-1,3-diaminopropane-N,N'-di(1,4-butanedioic) acid
```

```
------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
------------------------------------------------------------------------------
Tl+++      EMF KNO3   25°C 0.10M U        K1=29.90       1976DGf (79607) 737
                                          K(M+TlL)=22.04
******************************************************************************
C12H8N2                 L    Phenanthroline   CAS 66-71-7  (144)
1,10-Phenanthroline;
------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
------------------------------------------------------------------------------
Tl+++      dis NaNO3  25°C  1.0M U        K2=7.4         1962KMb (80523) 738
                                          K3=5.82
                                          B3=24.3
------------------------------------------------------------------------------
Tl+++      EMF oth/un 25°C  1.0M U        K1=11.57  B2=18.30  1961KMa (80524) 739
******************************************************************************
C12H20N2O8           H4L                     CAS 40623-42-5  (1101)
1,2-Diaminoethane-N,N'-di(2-pentane-1,5-dioic acid); (CH2NHCH(COOH)CH2CH2COOH)2
------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
------------------------------------------------------------------------------
Tl+++      gl  KNO3   25°C 0.10M U        K1=35.25       1973GKe (82104) 740
                                          K(Tl+HL)=27.85
2nd method: platinum electrode.
******************************************************************************
C12H20N2O8S          H4L    TEDTA            CAS 923-74-0  (3394)
2,2'-Thiobis(ethyliminodiethanoic acid); S(CH2.CH2.N(CH2.COOH)2)2
------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
------------------------------------------------------------------------------
Tl+++      EMF NaClO4 20°C  1.0M U  I     K1=31.8        1967ABc (82478) 741
In 1 M HClO4: K1=32.3
******************************************************************************
C12H20N2O9           H4L    EEDTA            CAS 923-73-9  (2112)
Oxa-bis(ethyleneimino)diethanoic acid; ((HOOC.CH2)2N.CH2.CH2)2O
------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
------------------------------------------------------------------------------
Tl+++      EMF NaClO4 20°C  1.0M U  I     K1=32.8        1967ABc (82570) 742
In 1 M HClO4: K1=33.4
------------------------------------------------------------------------------
Tl+++      sp  oth/un 20°C    ?  U        K1=23.08       1967KAc (82571) 743
                                          K(FeL+Tl=TlL+Fe)=0.51
******************************************************************************
C12H24O3S3              L                     CAS 52559-82-7  (8963)
1,4,7-Trioxa-10,13,16-trithiacyclooctadecane;
------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
------------------------------------------------------------------------------
```

Tl+++ nmr non-aq 25°C 100% C H 1984KMf (83120) 744
K((CH3)2TlClO4+L)=2.09
Method: 1H nmr. Medium: CD3CN. DH(K)=-12 kJ mol-1, DS(K)=-22 J K-1 mol-1.

Tl+++ nmr non-aq 25°C 100% C H 1984KMf (83121) 745
K((C2H5)2TlClO4+L)=1.56
Method: 1H nmr. Medium: CD3CN. DH(K)=-21 kJ mol-1, DS(K)=-40 J K-1 mol-1.
****
C12H24O3S3 L CAS 63919-49-3 (8964)
1,7,13-Trioxa-4,10,16-trithiacyclooctadecane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+++ nmr non-aq 25°C 100% C H 1984KMf (83122) 746
K((CH3)2TlClO4+L)=1.68
Method: 1H nmr. Medium: CD3CN. DH(K)=-9.6 kJ mol-1, DS(K)=-62 J K-1 mol-1.

Tl+++ nmr non-aq 25°C 100% C H 1984KMf (83123) 747
K((C2H5)2TlClO4+L)=1.49
Method: 1H nmr. Medium: CD3CN. DH(K)=-41 kJ mol-1, DS(K)=-110 J K-1 mol-1
****
C12H24O4S2 L CAS 296-39-9 (4938)
1,4,10,13-Tetraoxa-7,16-dithiacyclooctadecane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+++ nmr alc/w 25°C 100% C H 1984KMf (83146) 748
K((CH3)2TlClO4+L)=0.93
Method: 1H nmr. Medium: CD3OH. DH(K)=-18 kJ mol-1, DS(K)=-41 J K-1 mol-1.

Tl+++ nmr non-aq 25°C 100% C 1984KMf (83147) 749
K((C2H5)2TlClO4+L)=>3.0
Method: 1H nmr. Medium: CD3CN.
****
C12H24O4S2 L CAS 52559-81-6 (8965)
1,4,7,13-Tetraoxa-10,16-dithiacyclooctadecane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+++ nmr alc/w 25°C 100% C H 1984KMf (83148) 750
K((CH3)2TlClO4+L)=1.90
Method: 1H nmr. Medium: CD3OH. DH(K)=-26 kJ mol-1, DS(K)=-50 J K-1 mol-1.
****
C12H24O5S L Thia-18-crown-6 CAS 52559-79-2 (2263)
1-Thia-4,7,10,13,16-pentaoxacyclooctadecane;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Tl+++ nmr non-aq 25°C 100% C 1984KMf (83157) 751
K((C2H5)2TlClO4+L)=>3.0

Method: 1H nmr. Medium: CD3CN.

Tl+++ nmr non-aq 25°C 100% C 1984KMg (83158) 752

K((C2H5)2TlClO4+L)=>3.0

Method: 1H nmr. Medium: CD3CN.

****

C13H9N3O7S3 H3L CAS 2172-27-2 (5007)

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	sp	NaClO4	?	0.10M	U		B2=21.43	1972BZa (84654)	753

****

C13H22N2O8 H4L CAS 1798-14-7 (921)

(Pentamethylenedinitrilo)tetraethanoic acid; ((HOOC.CH2)2N.CH2.CH2)2CH2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	EMF	NaClO4	20°C	1.0M	U		K1=31.3	1967ABc (86209)	754

****

C14H9N3O3S H2L CAS 22026-06-8 (5081)

1-(2'-Thiazolylazo)-2-naphthol-3-carboxylic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	sp	mixed	?	40%	U			1972BZb (86844)	755

K(Tl+2HL)=26.65

Medium: 40% v/v HCON(CH3)2, 0.1 M NaClO4

****

C14H15N4OBr HL CAS 14337-50-9 (5095)

5-(5-Bromo-2-pyridylazo)-2-ethylamino-4-hydroxy-1-methylbenzene;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	sp	oth/un	?	?	U			1967GUa (87770)	756

K(?)=5.59

****

C14H16N4O HL PAAC CAS 13059-69-3 (5067)

5-Ethylamino-4-methyl-2-(2'-pyridylazo)phenol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	sp	oth/un	?	?	U			1967GKb (88021)	757

K(?)=6.68

****

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

```
Tl+++      gl  NaNO3  25°C 1.00M C    M                  1995MAa (88806) 758
                                        K(TlL+OH)=7.20
                                        K(TlL+Cl)=1.86
                                        K(TlL+Br)=2.80
                                        K(TlL+I)=4.79
K(TlL+SCN)=2.21, K(TlL+N3)=3.28, K(TlL+en)=7.68, K(TlL+Hen)=5.87,
K(TlL+phen)=3.64, K(TlL+Hphen)=2.77, K(TlL+bpy)=2.20, K(TlL+oxalate)=2.10
--------------------------------------------------------------------------
Tl+++      EMF NaClO4 20°C  1.0M U        K1=38.3        1967ABc (88807) 759
**************************************************************************
C14H23N3O10           H5L    DTPA             CAS 67-43-6  (238)
Diethylenetriamine-pentaethanoic acid; HOOC.CH2.N(CH2.CH2.N(CH2.COOH)2)2
--------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------
Tl+++      EMF NaClO4 20°C  1.0M U  I     K1=46.0        1967ABc (89417) 760
In 1 M HClO4: K1=48.0
**************************************************************************
C14H24N2O8            H4L    HMDTA            CAS 1633-00-7  (920)
1,6-Diaminohexane-N,N,N',N'-tetraethanoic acid; ((HOOC.CH2)2N.CH2.CH2.CH2)2
--------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------
Tl+++      sp  oth/un 19°C .001M U                         1967KAc (89609) 761
                                        K(Tl+HL)=9.72
                                        K(Tl+H2L)=2.52
                                        K(Tl+H3L)=2.28
**************************************************************************
C15H10N3O5ClS         H3L                      (7520)
7-[(2-Hydroxy-5-chlorophenyl)azo]-8-hydroxyquinoline-5-sulfonic
acid;C6H3Cl(OH)N=NC9H4N(OH)(SO3H)
--------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------
Tl+++      sp  KNO3   25°C 0.10M M        K1=25.46       1997PKb (90956) 762
**************************************************************************
C15H10O6S             H2L                      CAS 17356-57-5  (4058)
Flavonol-2'-sulfonic acid;
--------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------
Tl+++      sp  NaClO4 25°C 0.10M U        K1=9.2    B2=16.4   1967YTb (90999) 763
**************************************************************************
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
--------------------------------------------------------------------------
Tl+++      sp  oth/un   ?     ?  U                         1971BRe (91244) 764
                                        K(Tl(OH)2+L)=16.70
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C15H11N3O4S H2L 1-PAN-4S (7010)
2-(2-Pyridylazo)-1-naphthol-4-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+++	sp	KNO3	25°C	0.10M	U		K1=14.23	B2=26.62	1980VHa (91327)	765

****

C15H12N2O5 H2L CAS 1562-85-2 (5111)
Gallocyanine;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+++	sp	oth/un	?	?	U		K1=5.50	B2=11.21	1973TPb (91442)	766

By polarography: K1=6.79, B2=11.24

****

C17H14N2O2 L CAS 4551-69-3 (698)
4-Benzoyl-3-methyl-1-phenyl-2-pyrazolin-5-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Tl+++	dis	NaClO4	20°C	0.10M	U		K1=8.2	B2=15.2	1969BFc (95903)	767
							B3=21.5			

****

C17H16N8 HL (5235)
1,5-Di-(1'-methylbenzimidazolyl-2')formazan;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	dis	oth/un	?	?	U	M		1966LGa (96118)	768
							K(TlA2+HL=TlA2L+H)=4.05		

HA=ethanoic acid

****

C18H30N4O12 H6L TTHA CAS 869-52-3 (694)
Triethylenetetraaminehexaethanoic acid;((HOOC.CH2)2N.CH2.CH2.N(CH2.COOH).CH2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	gl	NaNO3	25°C	1.00M	C	I		2000CLa (98098)	769
							K(TlL+H)=4.95		
							K(TlHL+H)=2.61		
							K(TlH2L+H)=1.4		

In 1.0 M NaClO4, K(TlL+H)=5.05, K(TlHL+H)=2.55, K(TlH2L+H)=1.75.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	gl	NaNO3	25°C	1.00M	C			2000CLa (98099)	770
							K(TlL+Co)=4.45		
							K(TlL+Ni)=5.68		
							K(TlL+Cu)=6.65		
							K(TlL+Zn)=4.44		

K(TlL+Cd)=4.26, K(TlL+Pb)=4.20

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C22H20N2 L DiMe-naphidine CAS 13138-48-2 (1809)
3,3'-Dimethylnaphthidine, 4,4'-Diamino-3,3'-dimethyl-1,1'-binaphthyl
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Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	sp	oth/un	25°C	dil	U		K1=3.95	1971CBb (101692)	771

****
C25H20N8 HL (5341)
1,5-Di(1'-methylnaphth[1,2-d]imidazolyl-2)formazan;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	dis	oth/un	?	?	U	M		1966LGa (103600)	772
							K(TlA2+HL=TlA2L+H)=2.74		

HA=ethanoic acid
****
C25H20N8 HL (5342)
1,5-Di(3'-methylnaphth[1,2-d]imidazolyl-2)formazan;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	dis	oth/un	?	?	U	M		1966LGa (103601)	773
							K(TlA2+HL=TlA2L+H)=2.74		

HA=ethanoic acid
****
C26H28N6 L CAS 16858-02-9 (933)
N,N,N',N'-Tetrakis-(2-pyridylmethyl)-diaminoethane;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	gl	NaNO3	25°C	1.00M	C	M		1995MAa (104012)	774
							K(TlL+OH)=8.40		
							K(TlL+Cl)=3.56		
							K(TlL+Br)=4.17		
							K(TlL+I)=5.56		

K(TlL+SCN)=2.76, K(TlL+N3)=4.33, K(TlL+phen)=2.34, K(TlL+oxalate)=2.9
****
C31H32N2O13S H6L Xylenol orange CAS 63721-85-5 (432)
5,5'-Bis-N,N-bis(carboxymethyl)aminomethyl-4'-hydroxy-3,3'-dimethylfuchsone-2"-sulf
onic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	sp	oth/un	25°C	0.10M	U			1969BRb (105502)	775
							K(2Tl+2H2L)=8.03		
Tl+++	sp	oth/un	25°C	?	U			1966DMd (105503)	776
							K(?)=4.8		

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C37H44N2O13S H6L MeThymol Blue (428)
3,3'-Bis(N,N-di(carboxymethyl)aminomethyl)thymolsulfonephthalein;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Tl+++	sp	oth/un	25°C	0.10M	C		K1eff=3.69	1997ASa	(106622) 777

Medium: 0.10 M acetate buffer, pH 5.0.

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EXPLANATORY NOTES

DATA Flags are :-

T Data at other TEMPERATURES
I Data with various BACKGROUNDS
H Data for THERMOCHEMICAL quantities
M Data for TERNARY Complexes

EVALUATION Flags are :-

T or IUP=T signifies EVALUATION RATING = Tentative by IUPAC
R or IUP=R signifies EVALUATION RATING = Recommended by IUPAC

END