SC-Database
Software version = 5.81 Data version = 4.62
Experiment list contains 74 experiments for
 (no ligands specified)
 3 metals : Ir(IV), Ir+, Ir+++
 (no references specified)
 (no experimental details specified)

****

e- HL Electron (442)
Electron;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference		ExptNo
Ir(IV)	vlt	NaClO4	25°C	1.00M	U		1971JPa	(598)		1
							K(Ir++++ + e)=21.5(1.27V)			
Medium: HClO4; also data in 0.18 M H2SO4 and 0.3 M H3PO4										
Ir(IV)	vlt	NaClO4	25°C	0.10M	U	I	1971JPa	(599)		2
							K(IrCl6-- + e)=15.20(899mV)			
K(IrBr6-- + e)=14.17(838mV). Background 0 (corr), K=13.61(805mV)										
Ir(IV)	EMF	oth/un	25°C	0.40M	U		1967EBa	(600)		3
							K=22.0, 1300 mV			
							K'=20.6, 1220 mV			
Medium: 0.4 M HClO4. K: 1,2,3,IrCl3(H2O)3+ + e = 1,2,3,IrCl3(H2O)3										
K': trans-IrCl4(H2O)2 + e = trans-IrCl4(H2O)2-										
Ir(IV)	EMF	KNO3	25°C	0.20M	U	H	1965CGb	(601)		4
							K(IrCl5+e)=17, 1000 mV			
							K(IrCl4+e)=20, 1200 mV			
Medium: 0.2 M HNO3										
Ir(IV)	EMF	NaCl	25°C	1.00M	U	I	1964KPa	(602)		5
							K(IrCl6+e)=15.77, 933 mV			
In 1 M HCl, K=15.76, 932 mV										
Ir(IV)	EMF	none	25°C	0.00	U		1957GHa	(603)		6
							K(IrCl6-- + e)=14.65(866.5mV)			
Ir(IV)	oth	none	25°C	0.0	U		1952LAb	(604)		7
							K=62.6(930 mV)			
K: IrO2(s)+4H+4e=Ir(s)+2H2O. From thermodynamic data. K(Ir(IV)Cl6+4e=Ir(s)+ 6Cl)=56.4(835 mV)										
Ir(IV)	EMF	none	20°C	0.0	U		1947DMa	(605)		8
							K=17.0(990 mV)			
K: Ir(IV)Br6+e=Ir(III)Br6										
Ir(IV)	EMF	oth/un	25°C	1.0M	U		1945PIa	(606)		9

K=16.0(947 mV)
Medium: NaBr. K: Ir(IV)Br6+e=Ir(III)Br6

Ir(IV) EMF oth/un 25°C 1.0M U 1945PIa (607) 10
K=8.2(485 mV)
Medium: KI. K:IrI6+e=Ir(III)I6

Ir(IV) EMF none 20°C 0.0 U 1944DMa (608) 11
K(IrCl6+e)=17.49, 1017 mV

Ir(IV) EMF NaCl 25°C 0.50M U I 1942GSa (609) 12
K=16.52(977 mV)
K: Ir(IV)Cl6+e=Ir(III)Cl6. I=2.0 M:K=16.67(986 mV), I=0.01 M:K=16.45(973 mV)

Ir(IV) EMF KCl 25°C 1.0M U T 1931WOa (610) 13
K=17.36(1026.4 mV)
Medium: HCl. K: Ir(IV)Cl6+e=Ir(III)Cl6. 20 C: K=17.74(1031.3 mV)
****
Br- HL Bromide CAS 10035-10-6 (19)
Bromide;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Ir(IV) EMF NaClO4 25°C 0.10M U 1971KTh (2066) 14
K(Ba+IrL6)=2.3
K(Cd+IrL6)=1.6
Medium: HClO4
****
FClBrI HL (541)
Halides, comparative (for book data under ligand 80)

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Ir(IV) sp oth/un 100°C conc U 1965BPf (7407) 15
K(IrCl6+Br=IrCl5Br+Cl)=0.90
K(IrCl5Br+Br)=0.74
K(IrCl4Br2+Br)=0.52
K(IrCl3Br3+Br)=0.29
****
OH- HL Hydroxide (57)
Hydroxide;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Ir(IV) kin NaClO4 20°C 2.06M U 1976TZa (11653) 16
K(Ir(H2O)5OH+H=Ir(H2O)6)=0.40
Ion exchange also used

Ir(IV) kin oth/un 25°C 0.10M U 1971KSe (11654) 17
B1'=7.08

B2'=6.45
B3'=6.04
B4'=5.18
Bn': IrCl(7-n)(OH)n-1 + OH = IrCl(6-n)(OH)n + Cl
****
SO4-- H2L Sulfate CAS 7664-93-9 (15)
Sulfate;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Ir(IV) kin oth/un 20°C 2.40M U 1979TZa (16265) 18
K(Ir(H2O)5(HSO4))=0.92
K(Ir(H2O)4(HSO4)2)=0.15
****
H2 L Hydrogen (6864)
Dihydrogen;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Ir+ cal non-aq ??? 100% U HM 1993BSb (7517) 19
Medium: Cyclohexane. DH(IrABC2+L=IrLABC2)=-100.4 kJ mol-1
A:Cl. B:CO. C:Triphenylphosphine.
****
I- HL Iodide CAS 10034-85-2 (20)
Iodide;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Ir+ sp non-aq ? 100% U I M 1972FOa (8185) 20
K=3.7
Medium: 1,2-dichloroethane. K: Ir(CO)2Cl2+2L=Ir(CO)2L2+2Cl). K=2.6(MeCN;
K=1.3(90% MeCN/H2O). Other equilibria reported
****
CHO3F3S HL CAS 1493-13-6 (6755)
Trifluoromethanesulfonic acid; CF3SO3H

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Ir+ cal non-aq 25°C 100% U HM 1991SZa (17465) 21
Medium: C2H4Cl2. DH(Ir(CO)AB+HL=(Ir(CO)ABH)L(ion pair)=-122.2 kJ mol-1
A=P(p-ClC6H4)3. B=C5H5. Data also for other complexes

Ir+ cal non-aq 25°C 100% U HM 1991SZa (17466) 22
Medium: C2H4Cl2. DH(Ir(CO)2A+HL=(Ir(CO)2AH)L(ion pair)=-89.5 kJ mol-1
A=C5H5 Data also for complexes with phosphine substituents
****
C5H6 HL Cyclopentadiene CAS 542-92-7 (4288)
Cyclopentadiene; cyclo(-CH:CH.CH2.CH:CH-)

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

```
------------------------------------------------------------------------------
Ir+        cal non-aq 25°C 100%  U   HM                  1991SAa (37077)  23
Medium:1,2-Dichloroethane. DH(IrLA+CF3SO3)=-95.4 kJ mol-1
A:1,5-Cyclooctadiene. Data also for methyl substituted cyclopentadienes
******************************************************************************
C6H16Si                 L                        (6829)
Triethylsilane;
------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
------------------------------------------------------------------------------
Ir+        nmr non-aq 20°C 100%  U T HM                 1992HBa (51797)  24
                                        K(A2TaBIr(CO)2+L)=2.88
Method:NMR. Medium:toluene. K=4.01(-20C);3.69(0);2.32(40);1.80(60);1.63(70).
A:C5H5. B:CH2.CH2. DH=-46.9 kJ mol-1; DS=-105. Deuterated ligand K=3.04
******************************************************************************
C9H21P                  L                      CAS 6476-36-4  (168)
Tri-isopropylphosphine; ((CH3)2CH)3P
------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
------------------------------------------------------------------------------
Ir+        sp  non-aq 80°C 100%  U    M                 1969SMl (68227)  25
                                       K(H2(soln)+Ir(CO)ClL2)=2.79
                                       K(H2(soln)+Ir(CO)BrL2)=3.21
                                       K(H2(soln)+Ir(CO)IL2)=4.23
Medium: Toluene
******************************************************************************
C12H8N2                 L    Phenanthroline   CAS 66-71-7  (144)
1,10-Phenanthroline;
------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
------------------------------------------------------------------------------
Ir+        sp  oth/un 25°C    u  U    M                 1982HLb (80471)  26
                                       K(IrCl(COD)(4-Pic)+L)=1.55
******************************************************************************
C18H15P                 L                      CAS 603-35-0  (621)
Triphenylphosphine; (C6H5)3P
------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
------------------------------------------------------------------------------
Ir+        sp  non-aq 80°C 100%  U    M                 1969SMl (97140)  27
                                       K(H2(soln)+Ir(CO)ClL2)=2.22
                                       K(H2(soln)+Ir(CO)BrL2)=3.79
                                       K(H2(soln)+Ir(CO)IL2)=3.68
Medium: Toluene
******************************************************************************
C18H33P                 L                      CAS 2622-14-2  (169)
Tri-(cyclohexyl)phosphine; (C6H11)3P
------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
------------------------------------------------------------------------------
```

```
Ir+        sp  non-aq 80°C 100%  U    M                  1969SMl (98313)  28
                                        K(H2(soln)+Ir(CO)ClL2)=1.98
                                        K(H2(soln)+Ir(CO)BrL2)=3.06
                                        K(H2(soln)+Ir(CO)IL2)=2.49
Medium: Toluene
*************************************************************************
C21H21P                 L                     CAS 6163-58-2  (600)
Tri(2-methylphenyl)phosphine (or 4-methyl where indicated); (CH3.C6H4)3P
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
Ir+        sp  non-aq 80°C 100%  U                        1969SMl (101192)  29
                                        K(H2(soln)+Ir(CO)ClL2)=2.43
Medium: Toluene. Ligand: tri(4-methylphenyl)phosphine
*************************************************************************
e-                      HL    Electron           (442)
Electron;
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
Ir+++      oth none   25°C  0.0  U                        1968GHa   (611)  30
                                        K(IrCl6+3e=Ir(s)+6Cl)=43.6
Method:Literature evaluated data.
*************************************************************************
Br-                     HL    Bromide          CAS 10035-10-6  (19)
Bromide;
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
Ir+++      sol oth/un 25°C  0.1M C T                      1984ISd  (2067)  31
                                        Kout(Ir(phen)3+L)=0.91
                                        Kout(Ir(phen)3+2L)=1.52
Medium: NaF;for I=0.25M K1out=0.92; I=0.5 K1out=0.78;B2out=1.17;B3out=1.56
I=0.75 K1out=0.80; B2out=1.10; B3out=1.32
-------------------------------------------------------------------------
Ir+++      kin oth/un 90°C  var  U                        1972BGc  (2068)  32
                                        K(trans-Ir(en)2Cl2+L)=1.9
-------------------------------------------------------------------------
Ir+++      EMF NaClO4 25°C 0.10M U                        1971KTh  (2069)  33
                                        K(Ba+IrL6)=2.78
                                        K(Cd+IrL6)=2.9
Medium: HClO4
*************************************************************************
CO                      L    Carbon monoxide  CAS 630-08-0  (551)
Carbon monoxide;
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
Ir+++      sp  non-aq 25°C 100%  U    M                   1989KCb  (2810)  34
                                        K(IrA+L)=5.0
```

A=octaethylporphyrin(C3H7). Medium: benzene

****

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

Carbonate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ir+++	kin	NaClO4	25°C	2.0M	C			2000KYb (3250)	35
							*K(Ir(NH3)5HCO3)=-6.17		

*K is for loss of proton from HCO3-.

Ir+++	sp	NaClO4	25°C	0.10M	U			1976MPd (3251)	36
							Kout[Ir(en)3+L]=0.3		

for I=0.5 M Kout=0.1

****

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

Chloride;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Ir+++	sol	oth/un	25°C	0.0	U	I		1989GPa (5106)	37
							Kout(cis-Ir(phen)2Cl2+Cl)=3.26		

Medium: NaF. Also Kout=3.28 (I=0.1 M NaF), 2.76 (I=0.25 M),
2.54 (I=0.50 M), 2.50 (I=0.75 M).

Ir+++	sol	oth/un	25°C	0.1M	C	T		1984ISd (5107)	38
							Kout(Ir(phen)3+L)=0.84		
							Kout(Ir(phen)3+2L)=1.34		

Medium: NaF;for I=0.25M K1out=0.83; I=0.5 K1out=0.74;B2out=1.06;B3out=1.13
I=0.75 K1out=0.77; B2out=0.67; B3out=1.13

Ir+++	EMF	NaClO4	30°C	0.10M	U	T	HM	1973KTc (5108)	39
							K(Ba+IrCl6)=-2.19		

Medium: HClO4; DH=21 kJ mol-1. K=-2.16(35 C), -2.06(42 C), -1.98(50 C)

Ir+++	EMF	NaClO4	42°C	3.0M	U	T	M	1973LKa (5109)	40
							K(K+IrCl6)=-0.34		

Medium: LiCl. K=-0.11(50 C)

Ir+++	kin	NaCl	90°C	var	U			1972BGc (5110)	41
							K(trans-Ir(en)2+Cl)=1.4		

Ir+++	kin	oth/un	35°C	1.0M	U	TI		1970KTb (5111)	42
							K6=-1.37		

Medium: 1 M HClO4. K6=-1.29(42 C), -1.22(50 C), -1.13(60 C)
In 3M HClO4: K6=-0.72(35 C), -0.68(42 C), -0.64(50 C), -0.59(60 C)

Ir+++	kin	NaClO4	25°C	1.03M	U	H		1969DDb (5112)	43
							K6=-1.08		

Medium: HClO4. DS(K6)=-20.5 J K-1 mol-1

Ir+++ kin NaClO4 45°C 3.70M U TI 1965CGb (5113) 44
K5=0.67
Medium: Na,HClO4. At I=2.2 M: K5=0.55(50 C)

Ir+++ gl oth/un 25°C var U 1965CGb (5114) 45
K(IrCl4(H2O)OH+H)=8.5, 10.1

Ir+++ sp NaClO4 50°C 2.20M U I 1962PGa (5115) 46
K6=-0.9
K6=-0.4 (I=3.7).
****
ClO4- HL Perchlorate CAS 7001-90-3 (287)
Perchlorate;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Ir+++ sol oth/un 25°C 0.1M C T 1984ISd (6251) 47
Kout(Ir(phen)3+L)=1.21
Kout(Ir(phen)3+2L)=2.36
Medium: NaF;for I=0.25M K1out=1.22; I=0.5 K1out=1.27;B2out=1.61;B3out=2.50
I=0.75 K1out=1.16; B2out=1.47; B3out=2.24
****
H2 L Hydrogen (6864)
Dihydrogen;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Ir+++ nmr non-aq 20°C 100% U T HM 1994HGa (7518) 48
Method: NMR. Medium: Toluene-d8. T:-10 to 20C. K: IrA2BC2+L. A:H, B:Cl,
C:PtBu2Me. DH=-28.5 kJ mol-1; DS=-80.3. Data also for D2 complexes
****
I- HL Iodide CAS 10034-85-2 (20)
Iodide;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Ir+++ sol oth/un 25°C 0.1M C T 1984ISd (8186) 49
Kout(Ir(phen)3+L)=0.98
Kout(Ir(phen)3+2L)=1.66
Medium: NaF;for I=0.25M K1out=0.98; I=0.5 K1out=1.1;B2out=1.95;B3out=1.96
I=0.75 K1out=1.22; B2out=1.59
****
NH3 L Ammonia CAS 7664-41-7 (414)
Ammonia

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Ir+++ sol R4N.X 25°C 1.00M U 1995MPa (9171) 50
Kout(Ir(NH3)6+L)=1.09

Medium: NH4ClO4

Ir+++ gl NaClO4 25°C 1.00M C H 1992GMb (9172) 51
*K(trans-IrL4(H2O)2)=-5.214
*K(trans-IrL4(OH)(H2O))=-8.052
*K(trans-IrL4(H2O)Cl)=-6.532
DH(*K(trans-IrL4(H2O)2))=44.6 kJ mol-1; DH(*K(trans-IrL4(H2O)Cl))=43.4.
DH(*K(trans-IrL4(OH)(H2O))=46.1 kJ mol-1.

Ir+++ sp NaClO4 25°C 1.00M C T H 1992GSb (9173) 52
*K(cis-IrL4(H2O)2)=-6.265
*K(cis-IrL4(OH)(H2O))=-8.088
*K(trans-IrL4(H2O)2)=-5.214
*K(trans-IrL4(OH)(H2O))=-8.052
K(Ir2L8(OH)2+H2O=Ir2L8(OH)2(H2O)) = 0.52
*K(Ir2L8(OH)(H2O)2)=-3.115; *K(Ir2L8(OH)2(H2O))=-9.012

****

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

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

---

Ir+++ kin oth/un 90°C var U 1972BGc (9383) 53
K(Ir(en)2Cl2+L)=2.3

****

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

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

---

Ir+++ kin oth/un 22°C var U 1972LMa (10238) 54
K(Ir(NH3)5L+H)=2.1

****

OH- HL Hydroxide (57)
Hydroxide;

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

---

Ir+++ gl NaClO4 25°C 1.0M C T 1990GHa (11655) 55
*K(Ir(NH3)5H2O)=-6.716
At 40 C, *K=-6.323

Ir+++ gl NaClO4 25°C 1.05M U T H 1979GBa (11656) 56
*K1=-4.37
*K2=-5.20
*Kso=10.22

Ir+++ gl oth/un ?25 dil U 1959GVa (11657) 57
*K1(Ir(en)3) < -12

Ir+++ gl oth/un rt var U 1957JOa (11658) 58
*K1(IrCl5(H2O)=-10.1
*K1(cis-Ir(py)2Cl3H2O)=-6.7
*K1(trans-Irpy2(NH3)3H2O)=-5.1
****
S-- H2L Sulfide CAS 7783-06-4 (705)
Sulfide;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Ir+++ oth none 25°C 0 U 1988LIa (14405) 59
Kso(Ir2S3)=-196.3
*Kso(Ir2S3)=-144.4
Derived from thermodynamic data and K(H+S=HS)=17.3.
****
SO3-- H2L Sulfite CAS 7782-99-2 (801)
Sulfite;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Ir+++ sp NaClO4 25°C 0.10M U 1976MPd (15464) 60
Kout[Ir(en)3+L]=0.32
for I=0.5 M Kout=0.10
****
SO4-- H2L Sulfate CAS 7664-93-9 (15)
Sulfate;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Ir+++ sp NaClO4 25°C 0.10M U 1976MPd (16266) 61
Kout[Ir(en)3+L]=0.26
for I=0.5 M Kout=-0.09
****
S2O3-- H2L Thiosulfate CAS 73686-28-7 (177)
Thiosulfate;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Ir+++ sp NaClO4 25°C 0.10M U 1976MPd (16861) 62
Kout[Ir(en)3+L]=0.33
for I=0.5 M Kout=0.13
****
SeO3-- H2L Selenite CAS 7783-00-8 (2391)
Selenite;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Ir+++ sp NaClO4 25°C 0.10M U 1976MPd (17065) 63
Kout[Ir(en)3+L]=0.30
for I=0.5 M Kout=0.01

****
TeO3-- H2L Tellurite CAS 10049-23-7 (1165)
Tellurate(IV)

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Ir+++ sp NaClO4 25°C 0.10M U 1976MPd (17283) 64
Kout[Ir(en)3+L]=0.28
for I=0.5 M Kout=-0.03
****
CH2O2 HL Formic acid CAS 64-18-6 (37)
Methanoic acid; H.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Ir+++ sol oth/un 25°C 0.0 U I 1989GPa (17619) 65
Kout(cis-Ir(phen)2Cl2+L)=0.93
Medium: NaF. Also Kout=0.66 (I=0.1 M NaF), 0.23 (I=0.25 M),
0.14 (I=0.50 M).
****
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
---
Ir+++ sol oth/un 25°C 0.0 U I 1989GPa (20010) 66
Kout(cis-Ir(phen)2Cl2+L)=1.67
Medium: NaF. Also Kout=1.38 (I=0.1 M NaF), 1.01 (I=0.25 M),
0.60 (I=0.50 M), 0.36 (I=0.75 M).
****
C2H6OS L DMSO CAS 67-68-5 (329)
Dimethylsulfoxide; (CH3)2.SO

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Ir+++ sp non-aq 25°C 100% U M 1989KCb (22102) 67
K(IrA+L)=3.8
A=octaethylporphyrin(C3H7). Medium: benzene
****
C4H6N2 L N-Me-Imidazole CAS 616-47-7 (354)
N-Methyl-1,3-diazole; C3H3N2.CH3

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Ir+++ sp non-aq 25°C 100% U M 1989KCb (29601) 68
K(IrA+L)=5.6
A=octaethylporphyrin(C3H7). Medium: benzene
****
C5H5N L Pyridine CAS 110-86-1 (31)
Pyridine, Azine;

```
-------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------------
Ir+++      sp  non-aq 25°C 100%  U    M                    1989KCb (36647)  69
                                        K(IrA+L)=4.8
A=octaethylporphyrin(C3H7). Medium: benzene
*******************************************************************************
C5H6                    HL    Cyclopentadiene  CAS 542-92-7  (4288)
Cyclopentadiene; cyclo(-CH:CH.CH2.CH:CH-)
-------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------------
Ir+++      sp  NaClO4 25°C 0.20M C    M                    1999CEa (37078)  70
                                        *K(IrL(H2O)3)=-3.86
                                        K(2IrL(OH)=(IrL)2(u-OH)3)=-1.6
                                        K(IrL+Cl)=2.7
                                        K(IrL+Br)=3.5
K(IrL(py)+py)=4.9, K(IrL(dms)+dms)=>6, K(IrL(tu)+tu)=>6.
dms: dimethylsulfide; tu: thiourea.
*******************************************************************************
C6H15N                  L    Triethylamine    CAS 121-44-8  (1340)
N,N,N-Triethylamine; (C2H5)3N
-------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------------
Ir+++      sp  non-aq 25°C 100%  U    M                    1989KCb (51179)  71
                                        K(IrA+L)=1.6
A=octaethylporphyrin(C3H7). Medium: benzene
*******************************************************************************
C6H15O3P                L                     CAS 122-52-1  (1723)
Triethylphosphite; (C2H5O)3P
-------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------------
Ir+++      sp  non-aq 25°C 100%  U    M                    1989KCb (51513)  72
                                        K(IrA+L)=8.2
A=octaethylporphyrin(C3H7). Medium: benzene
*******************************************************************************
C7H7NO                  L    Benzamide        CAS 55-21-0  (2328)
Benzamide; C6H5.CO.NH2
-------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------------
Ir+++      sp  NaClO4 25°C  1.0M U                        1975ZFa (55149)  73
                                        K(Ir(NH3)5+H-1L)=2.4
*******************************************************************************
C18H15P                 L                     CAS 603-35-0  (621)
Triphenylphosphine; (C6H5)3P
-------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
```

Ir+++ sp non-aq 25°C 100% U M 1989KCb (97141) 74
K(IrA+L)=6.1

A=octaethylporphyrin(C3H7). Medium: benzene

REFERENCES

2000KYb Y Kitamura,L Yano,K Fujimori; Bull.Chem.Soc.Jpn.,73,2025 (2000)
1999CEa S Cayemittes,H Elias,A Merbach; Inorg.Chem.,38,4309 (1999)
1995MPa V Mironov,G Pashkov et al; Zh.Neorg.Khim.,40,1670 (1995)
1994HGa B Hauger,D Gusev,K Caulton; J.Am.Chem.Soc.,116,208 (1994)
1993BSb S Belt,J Scaiano et al; J.Am.Chem.Soc.,115,1921 (1993)
1992GMb F Galsbol,L Monsted,O Monsted; Acta Chem.Scand.,46,43 (1992)
1992GSb F Galsbol,K Simonsen,J Springborg; Acta Chem.Scand.,46,915 (1992)
1992HBa M Hostetler,R Bergman; J.Am.Chem.Soc.,114,7629 (1992)
1991SAa J Sowa,R Angelici; J.Am.Chem.Soc.,113,2537 (1991)
1991SZa J Sowa,V Zanotti et al; J.Am.Chem.Soc.,113,9185 (1991)
1990GHa F Galsbel,S Hansen,K Simonsen; Acta Chem.Scand.,44,796 (1990)
1989GPa L Ganzhah,A Pyartman,A Sof'in; Zh.Neorg.Khim.,34,1528 (1989)
1989KCb K Kadish,J Cornillon et al; Inorg.Chem.,28,2534 (1989)
1988LIa S Licht; J.Electrochem.Soc.,135,2971 (1988)
1984ISd I Isayev,T Stupko,V Mironov; Zh.Neorg.Khim.,29,1211 (1984)
1982HLb C Hughes,W Louw; S.Afr.J.Chem.,35,13 (1982)
1979GBa H Gamsjager,P Beutler; J.Chem.Soc.,Dalton Trans.,1415 (1979)
1979TZa L Tikhonova,V Zayats et al; Zh.Neorg.Khim.,24,2706(1502) (1979)
1976MPd V Mironov,A Pyartman,M Chugunnikova; Zh.Neorg.Khim.21,1963 (1976)
1976TZa L Tikhonova,V Zayats; Zh.Neorg.Khim.,21,2154(1184) (1976)
1975ZFa A Zanella,P Ford; Inorg.Chem.,14,700 (1975)
1973KTc V Kravtsov,E Tsventarnyi,A Kochetkova; Zh.Neorg.Khim.,18,1998(E:1060) (1973)
1973LKa I Lakatos-Varshanyi,A Kochetkova et al; Zh.Neorg.Khim.,18,3014(E:1603) (1973)
1972BGc J Burgess,E Gardner,F Mekhail; J.Chem.Soc.,Dalton Trans.,487 (1972)
1972FOa D Forster; Inorg.Chem.,11,1686 (1972)
1972LMa B Lane,J McDonald,F Basolo et al; J.Am.Chem.Soc.,94,3786 (1972)
1971JPa E Jackson,D Pantony; J.Appl.Electrochem.,1,113;283 (1971)
1971KSe V Kalinina,L Shvedova et al; Zh.Neorg.Khim.,16,1377(E:728) (1971)
1971KTh V Kravtsov,E Tsventarnyi,N Chamaeva; Zh.Neorg.Khim.,16,2498(E:1332) (1971)
1970KTb V Kravtsov,G Tsayun; Elektrokhim.,6,691;1434 (1970)
1969DDb A Domingos,A Domingos,J Cabral; J.Inorg.Nucl.Chem.,31,2563 (1969)
1969SMl W Strohmaier,F Muller; Z.Naturforsch.,24B,931 (1969)
1968GHa R Goldberg,L Hepler; Chem.Revs.,68,229 (1968)
1967EBa A El-Awady,E Bounsall,C Garner; Inorg.Chem.,6,79 (1967)
1965BPf E Blasius,W Preetz; Z.Anorg.Chem.,335,16 (1965)
1965CGb J Chang,C Garner; Inorg.Chem.,4,209 (1965)
1964KPa V Kvartsov,G Petrova; Zh.Neorg.Khim.,9,1010 (1964)
1962PGa I Poulsen,C Garner; J.Am.Chem.Soc.,84,2032 (1962)
1959GVa A Grinberg,L Vrublevskaya et al; Zh.Neorg.Khim.,4,1018 (1959)
1957GHa P George,G Hanania,D Irvine; J.Chem.Soc.,3048 (1957)

1957JOa C Jorgensen; Acta Chem.Scand.,11,151 (1957)
1952LAb W Latimer; "Oxidation Potentials",Prentice Hall,NY (1952)
1947DMa F Dwyer,H McKenzie,R Nyholm; J.Proc.Roy.Soc.,NSW,81,97;216 (1947)
1945PIa B Ptitsyn; Zh.Obshch.Khim.,15,277 (1945)
1944DMa F Dwyer,H McKenzie,R Nyholm; J.Proc.Roy.Soc.,NSW,78,260 (1944)
1942GSa A Grinberg,A Shamsiev; Zh.Obshch.Khim.,12,55 (1942)
1931WOa S Woo; J.Am.Chem.Soc.,53,469 (1931)

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

END