SC-Database
Software version = 5.81 Data version = 4.62
Experiment list contains 38 experiments for
 (no ligands specified)
 Metal : Po++++
 (no references specified)
 (no experimental details specified)

****
e- HL Electron (442)
Electron;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Po++++	kin	oth/un	25°C	2.00M	U		K=6.71 (397 mV) K'=12.27 (363 mV) K(Po+++ + e=Po++)=5.58 (330mV) K(Po++ + 2e=Po(s))=24.7(730mV)	1966HPc (808)	1

Medium: HCl. K: PoCl6-- + e = PoCl5--. K': PoCl6-- + 2e = PoCl4--.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Po++++	EMF	none	25°C	0.0	M		K=17.2, 510 mV K'=24.1, 712 mV	1965EGa (809)	2

K: PoCl4-- + 2e = Po(s) + 4Cl-. K': PoCl6-- + 2e = PoCl4-- + 2Cl-.

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Po++++	oth	oth/un	18°C	var	U		K=ca.28(880 mV)	1958CHb (810)	3

Medium: HNO3. K: PoO2(s)+4H+2e=Po(II)+2H2O. Method: deposition studies
---
Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Po++++	oth	oth/un	20°C	0.10M	U		K=52.6(765 mV)	1958NSa (811)	4

Medium: HCl. K:Po+4e=Po(s). Method: deposition studies. K(Po(II)+2e=Po(s))=
23.3(679 mV)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Po++++	EMF	oth/un	22°C	1.0M	U		K=25(0.72 V)	1956BFb (812)	5

Medium: HCl. K(Po(IV)Cl6+2e=Po(II). K(Po+4e=Po(s))=26(380 mV). In 1 M HNO3:
K(Po+4e=Po(s))=52(760 mV)
****
Cl- HL Chloride CAS 7647-01-0 (50)
Chloride;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Po++++	dis	NaClO4	RT	1M	U		K(Po(OH)4+H+L=Po(OH)3Cl)=4.6 K(Po(OH)4+2HL=Po(OH)2Cl2)=8.7	1981SHb (5487)	6

Solvent extraction with dithizone into CCl4

```
Po++++     dis oth/un       0.0  U                        1967IYa  (5488)   7
                                        K6=2.3
Also equilib. constants for Po(II) and Po(IV) and distribution coefficients
--------------------------------------------------------------------------------
Po++++     dis KCl          5.0M U        K1=2.56   B2=4.80   1965SAd  (5489)   8
                                        B3=6.88
                                        B4=8.85
                                        B5=10.60
                                        B6=11.92
Medium:4-6 M HCl. Kd(Po+H+5L+2TBP(benzene)=HPoL5(TBP)2(benzene))=1.78
--------------------------------------------------------------------------------
Po++++     ix  NaClO4 24°C  1.0M U  I     K1=2.34   B2=4.42   1964SAb  (5490)   9
                                        B3=6.34
                                        B4=8.53
                                        B5=10.08
                                        B6=11.57
Method:cation exchange. Medium: HClO4. Also in 10% and 20% acetone
--------------------------------------------------------------------------------
Po++++     con oth/un 22°C  1.0M U                        1956BFb  (5491)  10
                                        B6=14
********************************************************************************
ClO4-                   HL    Perchlorate      CAS 7001-90-3  (287)
Perchlorate;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Po++++     dis NaClO4       var  U        K1=-0.89  B2=-1.48  1965SAd  (6355)  11
                                        B3=-2.05
                                        B4=-2.80
                                        Kd(Po+4L+TBP(C6H6))=-0.12
Medium:HClO4 var.
********************************************************************************
I-                      HL    Iodide           CAS 10034-85-2  (20)
Iodide;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Po++++     sol oth/un 22°C  var  U                        1956BEb  (8327)  12
                                        K(PoL4(s)+L=PoL5)=-4.17
                                        K(PoL4(s)+2L=PoL6)=-2.23
********************************************************************************
NO3-                    HL    Nitrate          CAS 7697-37-2  (288)
Nitrate;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Po++++     ix  NaClO4  0°C  1.0M U  I     K1=0.56   B2=1.15   1973AMb  (9872)  13
                                        B3=1.30
Metal: Po(OH)x. Method: Cation exchange. Medium: HClO4. K1=0.53, B2=1.08,
B3=1.30(I=1.5)
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OH- HL Hydroxide (57)

Hydroxide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Po++++	dis	NaClO4	RT	1M	U		1981HSa (11934)		14
							K(Po(OH)4+H=Po(OH)3)=13.3		
Solvent extraction with dithizone into CCl4									
Po++++	dis	NaClO4	25°C	1.00M	U		1975AMa (11935)		15
							*K1=-0.48		
							*B2=-3.22		
Po++++	dis	NaClO4	?	3.0M	U		1965GUb (11936)		16
							*K1=-0.14		
							*B2=-0.52		
							*B3=-1.77		
Po++++	dis	NaClO4	20°C	0.10M	U		1964SAb (11937)		17
							*K1=-1.10		
							*B2=-2.20		
							*B3=-3.06		
							*B4=-4.80		
Po++++	ix	NaClO4	21°C	0.04M	U		1963KSa (11938)		18
							*K1=-3.4		
							*B2=-8.15		
Po++++	sol	oth/un	?	dil	U		1959SAc (11939)		19
							Ks(Pu(OH)4=Pu(OH)2+2OH)=-25.8		
Alternatively: Ks(Pu(OH)4=Pu+4OH)=-38.2 ?									
Po++++	sol	oth/un	?	dil	U		1959SAc (11940)		20
							Ks(Pu(OH)4=Pu(OH)2+2OH)=-25.8		
Alternatively: Ks(Pu(OH)4=Pu+4OH)=-38.2 ?									
Po++++	sol	oth/un	?	dil	U		1959ZEa (11941)		21
							Kso(Pu(OH)4)=-37		
Po++++	sol	oth/un	?	dil	U		1959ZEa (11942)		22
							Kso(Pu(OH)4)=-37		
Po++++	sol	oth/un	?	var	U		1958STb (11943)		23
							Kso(Po(OH)4)=-37		
Po++++	sol	oth/un	?	var	U		1958STb (11944)		24
							Kso(Po(OH)4)=-37		
Po++++	sol	oth/un	?	var	U		1958ZZa (11945)		25

```
                                        Kso(Po(OH)4)=-38
--------------------------------------------------------------------------------
Po++++     sol oth/un   ?   var  U                      1958ZZa (11946)  26
                                        Kso(Po(OH)4)=-38
--------------------------------------------------------------------------------
Po++++     sol oth/un 25°C  var  U                      1957BFa (11947)  27
                                        Ks(Po(OH)4(s)+2OH)=-4.09
--------------------------------------------------------------------------------
Po++++     sol oth/un 25°C  var  U                      1957BFa (11948)  28
                                        Ks(Po(OH)4(s)+2OH)=-4.09
********************************************************************************
S--                   H2L    Sulfide          CAS 7783-06-4  (705)
Sulfide;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Po++++     sol oth/un 25°C  var  U                      1957BRa (14453)  29
                                        Kso(PoL)=-28.26
********************************************************************************
SO4--                 H2L    Sulfate          CAS 7664-93-9  (15)
Sulfate;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
Po++++     ix  oth/un   ?   2.0M U                      1973AMb (16472)  30
                                        K(Po(OH)n+L)=1.5
                                        K(Po(OH)n+2L)=3.4
********************************************************************************
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
--------------------------------------------------------------------------------
Po++++     ix  NaClO4   ?  1.00M U        K1=5.23   B2=9.74   1973AMb (19035)  31
Metal ion : PoO++
--------------------------------------------------------------------------------
Po++++     dis NaClO4 22°C 1.00M U  I                   1966KFa (19036)  32
                                        K(Po(OH)2+2L)=7.78
Method : ion exchange, I=0.4, 25 C, K=7.48
********************************************************************************
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
--------------------------------------------------------------------------------
Po++++     ix  NaClO4   ?  1.00M U        K1=2.50   B2=4.85   1973AMb (20132)  33
                                        B3=7.18
Metal ion: PoO++
********************************************************************************
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
Po++++	dis	NaClO4	22°C	1.00M	U	M		1966KFa (31337)	34
							K(Po(OH)2+2L)=7.30		
Using ion exchange: K(Po(OH)2+2L)=7.90									

****

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
Po++++	dis	NaClO4	22°C	1.00M	U			1966KFa (46984)	35
							K(Po(OH)2+2HL)=8.18 (?)		
							K(Po(OH)2+2HL)=5.78 (?)		

****

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
Po++++	dis	NaClO4	22°C	1.0M	U	M		1966KFa (58666)	36
							K(Po(OH)2+L)=7.60		
							K(Po(OH)2+2L)=13.11		

****

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
Po++++	dis	NaClO4	22°C	1.0M	U			1966KFa (74079)	37
							K(Po(OH)2+HL)=8.0		
Po++++	ix	oth/un	25°C	0.40M	U			1966KFa (74080)	38
							K(Po(OH)2+HL)=5.95		

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EXPLANATORY NOTES

DATA Flags are :-

I Data with various BACKGROUNDS
M Data for TERNARY Complexes

END