SC-Database
Software version = 5.81 Data version = 4.62
Experiment list contains 78 experiments for
 (no ligands specified)
 2 metals : As(III), As(V)
 (no references specified)
 (no experimental details specified)

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

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
As(III) EMF none 25°C 0.0 U T 1924SCa (312) 1
K=11.87(234 mV)
K: 0.5As2O3(s)+3H+3e=As(s)+1.5H2O. K=10.70(45 C;225 mV). K(HAsO2+3H+3e=As(s)+2H2O)=12.55(247.5 mV)
****
Cl- HL Chloride CAS 7647-01-0 (50)
Chloride;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
As(III) EMF NaCl 25°C 5.00M U I 1988PEa (4477) 2
B(As(OH)2Cl)=-2.34
B(As(OH)Cl2)=-5.2

As(III) sol none 25°C 0.0 U 1957ARb (4478) 3
I=0 corr. K(As(OH)3+H+L=As(OH)2L+H2O)=-1.07, K(As(OH)2L+H+L=As(OH)L2+H2O)=-3.47, K(As(OH)L2+H+Cl=AsL3+H2O)=-4.20. Also Kd values
---
As(III) sol oth/un 25°C var U 1940GHa (4479) 4
K(0.5As2O3(s)+3H+3L=AsL3+1.5H2O)=-10.5
****
F- HL Fluoride CAS 7644-39-3 (201)
Fluoride;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
As(III) sp NaClO4 22°C 1.00M U 1976IVa (6738) 5
K(As(OH)2+F)=3.51
K(As(OH)2+F)=3.52 (solubility)
****
MoO4-- H2L Molybdate (443)
Molybdate;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
As(III) gl NaClO4 25°C 3.00M C 1975PEa (8712) 6

B(8,5,2)=60.92
B(10,6,2)=75.25
B(11,6,2)=80.73
B(12,6,2)=84.07
B(p,q,r): pH+qB+rC=HpBqCr; B=MOo4 2-; C=HAsO4-

****

OH- HL Hydroxide (57)
Hydroxide;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	sol	oth/un	22°C		C	TIH		1999PBa (10998)	7
							Ks(0.5AsO3+H2O=As(OH)3)=-3.08		
Medium: 0-0.99 mole fraction H2O/HOAc. As2O3 is arsenolite. Data for 60 and 90C and H2O/acetone mixtures. K(As(OH)3+4H2O=As(OH)3.4H2O)=0.36									
As(III)	sp	NaClO4	22°C	1.00M	U			1976IVa (10999)	8
							K(As(OH)3+H=As(OH)2+H2O)=-1.17		
							*Ks(As(OH)3(s)+H)=-0.82		

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	sol	oth/un	25°C	0.10M	M	T H		1992EAa (14307)	9
							Ks(As2S3(s),H3AsO3)=-11.9		
							Ks(As2S3(s),H2As3S6)=-5.0		
K(As2S3(s),H3ASO3)=K(.5As2S3(s)+3H2O=H3AsO3+1.5H2S); K(As2S3(s),H2As3S6)=1.5As2S3(s)+1.5H2S=H2As3S6+H); 25-90 C									
As(III)	oth	oth/un	25°C	0.0	U			1990SAa (14308)	10
							Ks(As2S3)=-219.14		
							Ks(As2S2(orpiment))=-180.43		
Calculated from thermodynamic data. Ks(As2S3): As2S3(s)+20H2O=2HAsO4+3SO4+3OH. Ks(orpiment): As2S2(s)+16H2O=2HAsO4+2SO4+3OH.									
As(III)	sol	oth/un	25°C	var	M	T		1990WEa (14309)	11
							K(As2S3,H3AsO3)=23.11		
							K(As2S3,H2As3S6)=-3.61		
K(As2S3,H3AsO3)=K(0.5As2S3(s)+3H2O=H3AsO3+1.5HS+1.5H); K(As2S3,H2As3S6)=K(1.5As2S3(s)+1.5HS+0.5H=H2As3S6; Constants at I=0									
As(III)	oth	none	25°C	dil	C	T		1989SRf (14310)	12
							K(HAs3S6+H=H2As3S6)=6.56		
Critical eval. of lit. data for the solubility of As2S3 in sulfide media. Ks(As2S3+HS=0.67HAs3S6+0.33H)=-2.82; Ks(As2S3+HS+0.33H=0.67H2As3S6)=1.55									
As(III)	gl	NaCl	22°C	1.00M	U			1977VIa (14311)	13
							B(As3S6)=-134.40		

B(As2S5)=-92.0

As(III) sol oth/un 0°C var U 1964PCa (14312) 14
K(0.5As2L3(s)+0.5L=HAsL2)=1.0
K(AsL2+H)=3.7
K(0.5As2L3(s)+3H2O=1.5H2S(aq)+As(OH)3)=-12.6; K(0.5As2L3(s)+0.5H2L=HAsL2)=-5.3

As(III) gl KCl ? 1.0M U 1960ASc (14313) 15
K(3As2L3(s)+3H2L=6H+2As3L6)=-33.19. K(2As2L3(s)+2H2O=3H+As3L6+HAsO2)=-27.43. K(As2L3(s)+4H2O=2HAsO2+3H2L)=-21.68

As(III) sol oth/un 20°C var U 1956BLa (14314) 16
K(As2L3+2OH=AsL2+AsL(OH)2)=2.15. K(As2L3(s)+2L=AsL2+AsL3)=12.94

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	con	mixed	25°C	?	U			1963GRc (15998)	17
							K(AsO+HL)=1.08		

Medium: H2SO4. Also by freezing point

As(III)	con	mixed	25°C	?	U			1961BGa (15999)	18
							K(As(HL)4+H)=2.8		

Medium: H2SO4

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	EMF	alc/w	20°C	100%	U			1971GSa (17875)	19
							K(As+2L=As(L')2+2H) > 1		
							K(As(L')2+L')=14.20		
							K(2As(L')3+L'=As2(L')7)=4.74		

Medium: MeOH, 1 M Me4NCl. Method: H electrode. L'=H-1L

****

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
As(III)	gl	oth/un	25°C	0.10M	U			1957RLa (22134)	20
							K(As(OH)4+L)=-1.15		

****

C3H8O2 L Propyleneglycol CAS 57-55-6 (2025)
Propan-1,2-diol; CH3.CH(OH).CH2(OH)

```
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
As(III)    gl  oth/un 25°C 0.10M U                          1957RLa (27666)  21
                                          K(As(OH)4+L)=-1.00
*************************************************************************
C3H8O3                  L    Glycerol         CAS 56-81-5  (2707)
Propane-1,2,3-triol; HO.CH2.CH(OH).CH2.OH
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
As(III)    gl  oth/un 25°C 0.10M U                          1957RLa (27716)  22
                                          K(As(OH)4+L)=0.06
*************************************************************************
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
-------------------------------------------------------------------------
As(III)    vlt KCl    25°C 0.10M U                          1980ETa (31195)  23
                                          K(As(OH)2+L)=6.62
*************************************************************************
C4H10O2                 L                        CAS 5341-95-7  (3575)
meso-Butan-2,3-diol; CH3.CH(OH).CH(OH).CH3
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
As(III)    gl  oth/un 25°C 0.10M U                          1957RLa (34668)  24
                                          K(As(OH)4+L=As(OH)2H-2L)=-0.89
DL- or meso- not stated
*************************************************************************
C4H10O3                 L                        CAS 623-39-2  (3577)
3-Methoxypropan-1,2-diol; CH2(OH).CH(OH).CH2.OCH3
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
As(III)    gl  oth/un 25°C 0.10M U                          1957RLa (34705)  25
                                          K(As(OH)4+L=As(OH)2H-2L)=-0.18
*************************************************************************
C5H10O4                 L    Deoxy-Ribose     CAS 533-67-5  (7470)
2-Deoxy-D-ribose, 2-Deoxy-D-erythro-pentose;
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------
As(III)    gl  KCl    25°C 0.10M U                          1979HUa (40325)  26
                                          K(H2AsO3+L)=2.89
*************************************************************************
C5H10O5                 L    D-Arabinose      CAS 10323-20-3  (3606)
D-Arabinose;
-------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
```

```
--------------------------------------------------------------------------------
As(III)    gl  KCl    25°C 0.10M U                        1960ATa (40332)  27
                                        K(As(OH)4+2L=As(H-2L)2)=1.28
********************************************************************************
C5H10O5                 L    D-Xylose         CAS 58-86-6  (3607)
D-Xylose;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
As(III)    gl  KCl    25°C 0.10M U                        1959ATa (40360)  28
                                        K(As(OH)4+2L=As(H-2L)2)=0.74
********************************************************************************
C5H10O5                 L    L-Arabinose      CAS 5328-37-0  (1616)
L-Arabinose
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
As(III)    gl  KCl    25°C 0.10M U                        1960ATa (40365)  29
                                        K(As(OH)4+2L=As(H-2L)2)=1.24
--------------------------------------------------------------------------------
As(III)    gl  oth/un 25°C 0.10M U                        1957RLa (40366)  30
                                        K(AsO(OH)2+H2L=AsOL)=0.20
********************************************************************************
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
--------------------------------------------------------------------------------
As(III)    sp  non-aq   ?  100%  U    M                   1968SRg (41346)  31
                                        K(AsAL+2HL=AsL3+H2A)=7.93
Medium: CCl4.  H2A=dithizone.
********************************************************************************
C5H12O4               H2L    Pentaerythrito   CAS 115-77-5  (3028)
Pentaerythritol; C(CH2.OH)4
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
As(III)    gl  KCl    25°C 0.10M U                        1960ARa (41659)  32
                                        K(As(OH)4+L=As(H-2L)2)=0.94
--------------------------------------------------------------------------------
As(III)    gl  oth/un 25°C 0.10M U                        1957RLa (41660)  33
                                        K(As(OH)4+L=As(H-2L)2)=0.00
********************************************************************************
C6H3N3O7                HL    Picric acid      CAS 88-89-1  (593)
2,4,6-Trinitrophenol; HO.C6H2(NO2)3
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
As(III)    sol alc/w  25°C  50%  C  I     K1=1.44         1983BWb (42092)  34
                                        Kso((C6H5)4AsL)=-5.94
```

Method: spectrophotometry. Data for 20-100% MeOH/H2O
Cation is tetraphenylarsonium.

****

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
As(III)	gl	KCl	25°C	0.10M	U			1959ARa (43724)	35
							K(As(OH)4+H2L=As(OH)2L)=2.24		
							K(As(OH)4+2H2L=AsL2)=2.71		
As(III)	gl	oth/un	25°C	0.10M	U			1957RLa (43725)	36
							K(AsO(OH)2+H2L=AsOL)=2.04		

****

C6H6O3 H3L Pyrogallol CAS 87-66-1 (696)
1,2,3-Trihydroxybenzene; C6H3(OH)3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	gl	KCl	25°C	0.10M	U			1959ARa (43948)	37
							K(As(OH)4+H3L=As(OH)2HL)=2.81		
							K(As(OH)4+2H3L=As(HL)2)=3.09		

****

C6H6O8S2 H4L Tiron CAS 149-45-1 (104)
4,5-Dihydroxybenzene-1,3-disulfonic acid; (HO)2.C6H2(SO3H)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	gl	KCl	25°C	var	U	I		1964ATa (44405)	38
K(H3AsO3+2H2L=AsL2+H)=-8.186+9.162SQRTI/(1+0.553SQRTI)=-1.61I									

****

C6H8O6 H2L Ascorbic acid CAS 50-81-7 (285)
Ascorbic acid (Vitamin C);

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	vlt	oth/un	25°C	0.10M	U			1972ETa (45625)	39
							K(H+L+As(OH)2)=18.84		
Medium: Na2SO4									

****

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
As(III)	vlt	oth/un	25°C	0.10M	U			1973ETa (46702)	40
							K(As(OH)2+H+L)=15.58		
Medium: Na2SO4. Using a glass electrode, K=15.33									

****

C6H10O7 HL Glucuronic acid CAS 6556-12-3 (599)
D-Glucuronic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	gl	KCl	25°C	0.10M	M		K1=2.46 B2=2.79	1987PLb (48417)	41

****

C6H12O5 L L-Rhamnose CAS 634-74-2 (3659)
6-Deoxy-L-mannose;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	gl	KCl	25°C	0.10M	U			1960ATa (49505)	42
							K(As(OH)4+2L=As(H-2L))=0.68		

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	gl	KCl	45°C	0.10M	U	T H		1968APd (49535)	43
							K(As(OH)4+L=As(OH)2H-2L)=0.703		

K=0.779(15 C), 0.739(25 C), 0.724(35 C). DH=-4.3 kJ mol-1, DS=0

As(III)	gl	KCl	25°C	0.10M	U			1960ATa (49536)	44
							K(As(OH)4+2L=As(H-2L)2)=1.08		
As(III)	gl	oth/un	25°C	?	U			1957RLa (49537)	45
							K(AsO(OH)2+H2L=AsOL)=0.77		

****

C6H12O6 L D-Galactose CAS 59-23-4 (1559)
D-Galactose

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	gl	oth/un	25°C	0.10M	U			1957RLa (49557)	46
							K(AsO(OH)2+H2L=AsOL)=0.29		

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	gl	oth/un	25°C	0.10M	U			1957RLa (49575)	47
							K(AsO(OH)2+H2L=AsOL)=0.16		

****

C6H12O6 L D-Mannose CAS 3458-28-4 (1562)
D-Mannose

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

---

As(III) gl KCl 25°C 0.10M U 1959ARa (49598) 48
K(As(OH)4+L=As(OH)2H-2L)=2.22
K(As(OH)4+2L=As(H-2L)2)=2.97

As(III) gl oth/un 25°C 0.10M U 1957RLa (49599) 49
K(AsO(OH)2+H2L=AsOL)=0.36

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	gl	KCl	25°C	0.10M	U		1960ATa (49611)		50
							K(As(OH)4+2L=As(H-2L)2)=1.08		

****

C6H12O7 HL Gluconic acid CAS 526-95-4 (904)
D-Gluconic acid, 2,3,4,5,6-Pentahydroxyhexanoic acid; HO.CH2(CHOH)4.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	gl	KCl	25°C	0.10M	M		K1=1.60 B2=2.29	1987PLb (49698)	51

****

C6H14O6 L D-Mannitol CAS 69-65-8 (3664)
D-Mannitol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	gl	KNO3	20°C	0.10M	M		1980MBc (51067)		52
							K(As(OH)3+H2L=As(OH)L)=0.20		

K'(As(OH)3+H2L=As(OH)2L+H)=-8.20. For L=D-sorbitol, K=0.46, K'=-7.96;
L=D-dulcitol, K=0.30, K'=-8.30; L=D-glucose, K=-0.96, K'=-9.21.

As(III)	oth	KCl	25°C	0.10M	U		1970ATb (51068)		53
							K(As(OH)4+L=As(OH)2H-2L)=1.07		

Method: optical rotary dispersion
K(As(OH)2H-2L+H=As(OH)2H-1L)=8.44, K(AsH(OH)4+L=As(OH)2H-1L)=0.38

As(III)	gl	KCl	25°C	0.10M	U		1959ARa (51069)		54
							K(As(OH)4+L=As(OH)2H-2L)=0.85		

****

C7H6O3 H2L CAS 139-85-5 (881)
3,4-Dihydroxybenzaldehyde, protocatechuic aldehyde; C6H3(OH)2.CHO

As(III)	gl	KCl	25°C	0.10M	U		1968AOa (54353)		55
							K(As(OH)4+H2L)=2.96		

****

C7H10N2 L CAS 1122-58-3 (492)

4-(N,N-Dimethylamino)pyridine; C5H4N.N(CH3)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	nmr	non-aq	25°C	100%	U		K1=3.33	1992PWb (56629)	56

Medium: CDCl3; metal salt:EtN(CH2)2NEtAs+CF3SO3-; other data for adducts with other arsenium cations and Lewis bases.

****

C8H10O2 L CAS 7138-28-5 (3199)
Phenylethane-1,2-diol; C6H5.CH(OH).CH2.OH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	gl	oth/un	25°C	0.10M	U			1957RLa (60834)	57
							K(AsO(OH)2+H2L)=-0.64		

****

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
As(III)	vlt	oth/un	20°C	0.10M	U			1972EVa (73593)	58
							K(As(OH)2+H+L)=19.3		
As(III)	EMF	oth/un	24°C	0.10M	U			1972EVa (73594)	59
							K(As(OH)2+H+L)=19.6		

Medium: 0.1 M Na2SO4

****

C12H22O11 L Turanose CAS 547-25-1 (2701)
3-O-D-Glucopyranosyl-D-fructose;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	gl	KCl	25°C	0.10M	M		K1=0.80	1987PLb (82864)	60

****

C12H22O11 L alpha-Lactose CAS 5989-81-1 (2486)
4-D-Beta-D-Galactopyranosyl-alpha-D-glucose;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	gl	KCl	25°C	0.10M	M		K1=0.64	1987PLb (82870)	61

****

C12H22O11 L Maltose CAS 6363-53-7 (2705)
4-O-alpha-D-Glucopyranosyl-D-glucose, Maltobiose;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	gl	KCl	25°C	0.10M	M		K1=0.40	1987PLb (82877)	62

****

C12H22O11 L Cellobiose CAS 528-50-7 (2697)

4-O-beta-D-Glucopyranosyl-D-glucose;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	gl	KCl	25°C	0.10M	M		K1=0.41	1987PLb (82884)	63

****

C12H22O11 L Melibiose CAS 66009-10-7 (2699)
6-O-D-Galactopyranose-D-glucose;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	gl	KCl	25°C	0.10M	M		K1=0.82	1987PLb (82888)	64

****

C12H24O11 L Maltitol CAS 585-88-6 (2709)
4-O-alpha-D-Glucopyranosyl-D-glucitol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	gl	KCl	25°C	0.10M	M		K1=1.5	1988HLa (83681)	65

****

C12H27O4P L CAS 126-73-8 (2432)
Tri-n-butyl phosphate; (C4H9O)3PO

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	sp	oth/un	?	?	U	M	K(AsBr3+L)=0.66	1973RGa (84118)	66

****

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
As(III)	vlt	KCl	25°C	0.10M	U		K(As(OH)2+H+L)=20.67	1980ETa (88586)	67

****

Polymer (4200)
Polyvinyl alcohol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(III)	gl	oth/un	25°C	0.10M	U		K(As(OH)4+L=As(OH)2H-2L)=-0.15	1957RLa (108380)	68

See reference for definitions

****

e- HL Electron (442)
Electron;

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

```
As(V)      oth none   25°C  0.0  U                        1952LAb   (313)  69
                                        K=18.9(559 mV)
K: H3AsO4+2H+2e=HAsO2+2H2O. From thermodynamic data. K(AsO4+2H2O+2e=AsO2+4OH
)=-22.9(-670 mV). K(As(s)+3H+3e=AsH3(g))=-30.8(-600 mV)
********************************************************************************
ClO4-                  HL    Perchlorate      CAS 7001-90-3  (287)
Perchlorate;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
As(V)      cal oth/un 25°C  dil  U   H                    1972CJa  (6147)  70
                                        Kso(Ph4AsL(s)=Ph4As+L)=-8
DH(Kso)=45.6 kJ mol-1, DS(Kso)=0. Kso=-8.4 to -7.9
********************************************************************************
F-                     HL    Fluoride         CAS 7644-39-3  (201)
Fluoride;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
As(V)      kin oth/un 65°C  9.0M U                        1969LJb  (6739)  71
                                        K(HAsF6+H2O=HAsF5OH+HF)=-0.9
medium:9-15 M H2SO4
--------------------------------------------------------------------------------
As(V)      EMF KCl      ?   1.0M U                        1961DGa  (6740)  72
                                        K(H3AsO4+HF=AsO3F+2H+H2O)=-6.2
                                        K(H2AsO4+F=AsO3F+H2O)=-0.75
********************************************************************************
MoO4--                 H2L    Molybdate          (443)
Molybdate;
--------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------------
As(V)      gl  NaClO4 25°C 0.63M U                        1987BKb  (8713)  73
K(14H+AsO4+9MoO4=H3AsMo9O34)=100.43; K(15H+AsO4+9MoO4=H4AsMo9O34)=103.43
K(11H+2AsO4+6MoO4=HAs2Mo6O26)=79.65. Other data also given.
--------------------------------------------------------------------------------
As(V)      ISE NaCl     ?  2.00M U                        1973COa  (8714)  74
                                        K'=69.7
                                        K(H+As2Mo6O26(6-))=ca.5.9
                                        K(H+HAs2Mo6O26(5-))=2.6
K': 2HAsO4-- + 6L + 10H=As2Mo6O26(6-) + 6H2O.           In 1 M LiCl at 3 C:
K(H+A)=5; K(H+HA)=3.9; K(H+H2A)=2.9; K(H+H3A)=1.9 where A=As4Mo12O50(8-)
********************************************************************************
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
--------------------------------------------------------------------------------
As(V)      gl  KNO3   20°C 0.10M U                        1977VBb (43726)  75
                                        K(H2AsO4+2H2L=As(OH)2L2)=0.81
```

K(H2AsO4+3H2L=AsL3)=0.94

****

C6H6O3 H3L Pyrogallol CAS 87-66-1 (696)
1,2,3-Trihydroxybenzene; C6H3(OH)3

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(V)	sp	oth/un	23°C	96%	U			1981BMe (43949)	76
Medium: 96% H2SO4									
As(V)	gl	KNO3	20°C	0.10M	U			1977VBb (43950)	77
							K(H2AsO4+2H2L=As(OH)2L2)=1.02		
							K(H2AsO4+3H2L=AsL3)=1.45		

****

C6H14O6 L D-Mannitol CAS 69-65-8 (3664)
D-Mannitol;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
As(V)	gl	KNO3	20°C	0.10M	M			1980MBc (51070)	78
							K(H2AsO4+3H2L=AsL3)=1.08		

For L=D-sorbitol, K=1.90; L=D-dulcitol, K=1.0; L=D-adonitol, K=-0.52.

REFERENCES

1999PBa G Pokrovski,J-M Beny,A Zotov; J.Solution Chem.,28,1307 (1999)
1992EAa L Eary; Geochim.Cosmo.Acta,56,2267 (1992)
1992PWb P Payrastre,J Wolf,T Kim et al; Bull.Soc.Chim.Fr.,129,157 (1992)
1990SAa Sadiq,M; Marine Chem.,31,285 (1990)
1990WEa J Webster; Geochim.Cosmo.Acta,54,1009 (1990)
1989SRf N Spycher,M Reed; Geochim.Cosmo.Acta,53,2185 (1989)
1988HLa P Hakkinen et al; Finn.Chem.Lett.,15,7 (1988)
1988PEa M Pesavento; Ann.Chim.(Rome),78,543 (1988)
1987BKb A Borisova,N Kolli et al; Zh.Neorg.Khim.,32,2174(1275) (1987)
1987PLb S Purokoski et al; Finn.Chem.Lett.,14,1 (1987)
1983BWb A Berne,B Wajsbrot,O Popovych; J.Chem.Eng.Data,28,316 (1983)
1981BMe F Bajraktari,D Markovic et al; Bull.Soc.Chim.Beograd,46,329 (1981)
1980ETa N Elenkova,R Tsoneva; J.Coord.Chem.,10,19 (1980)
1980MBc A Mikan,M Bartusek; Coll.Czech.Chem.Comm.,45,2645 (1980)
1979HUa E Huttunen; Finn.Chem.Lett.,236 (1979)
1977VBb J Votava,M Bartusek; Collec.Czech.Chem.Commun.,42,620 (1977)
1977VIa S Vorobeva,A Ivakin et al; Zh.Neorg.Khim.,22,2725(1479) (1977)
1976IVa A Ivakin,S Vorobeva et al; Zh.Neorg.Khim.,21,2973(1641) (1976)
1975PEa L Pettersson; Acta Chem.Scand.,A29,677 (1975)
1973COa R Contant; Bull.Soc.Chim.Fr.,3277 (1973)
1973ETa N Elenkova,R Tsoneva; J.Inorg.Nucl.Chem.,35,841 (1973)
1973RGa G Roland,B Gilbert,J Decerf et al; Spectrochim.Acta A29,887 (1973)
1972CJa P Carr,J Jordan; Anal.Chem.,44,1278 (1972)
1972ETa N Elenkova,R Tsoneva,D Dzhimbizova; Zh.Neorg.Khim.,17,681 (1972)
1972EVa N Elenkova,M Veleva,R Tsoneva; J.Inorg.Nucl.Chem.,34,191 (1972)

1971GSa R Gut,E Schmid,J Serrallach; Helv.Chim.Acta,54,593;609 (1971)
1970ATb P Antikainen,K Tevanen; J.Inorg.Nucl.Chem.,32,1915 (1970)
1969LJb W Lockhart,M Jones,D Johnston; J.Inorg.Nucl.Chem.,31,407 (1969)
1968AOa P Antikainen,H Oksanen; Acta Chem.Scand.,22,2867 (1968)
1968APd P Antikainen,I Pitkanen; Suomen Kem.,B41,65;108 (1968)
1968SRg J Stary,J Ruzicka; Talanta,15,505 (1968)
1964ATa P Antikainen,K Tevanen; Suomen Kem.,B37,213 (1964)
1964PCa Personal Communication etc; Chem.Soc.Spec.Publ.,no.17 (1964)
1963GRc R Gillespie,E Robinson; Can.J.Chem.,41,450 (1963)
1961BGa J Barr,R Gillespie,E Robinson; Can.J.Chem.,39,1266 (1961)
1961DGa N Dutt,A Gupta; J.Indian Chem.Soc.,38,249 (1961)
1960ARa P Antikainen,V Rossi; Suomen Kem.,B33,94 (1960)
1960ASc J Angeli,P Souchay; Compt.Rend.,250,713 (1960)
1960ATa P Antikainen,K Tevanen; Suomen Kem.,B33,7 (1960)
1959ARa P Antikainen,V Rossi; Suomen Kem.,B32,182;185 (1959)
1959ATa P Antikainen,K Tevanen; Suomen Kem.,B32,214 (1959)
1957ARb G Arcand; J.Am.Chem.Soc.,79,1865 (1957)
1957RLa G Roy,A Laferriere,J Edwards; J.Inorg.Nucl.Chem.,4,106 (1957)
1956BLa A Babko,G Lisetskaya; Zh.Neorg.Khim.,1,969 (1956)
1952LAb W Latimer; "Oxidation Potentials",Prentice Hall,NY (1952)
1940GHa A Garrett,O Holmes,A Laube; J.Am.Chem.Soc.,62,2024 (1940)
1924SCa R Schuhmann; J.Am.Chem.Soc.,46,52;1444 (1924)

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