

SC-Database

Software version = 5.81 Data version = 4.62

Experiment list contains 128 experiments for

(no ligands specified)

2 metals : Sb(V), Sb+++

(no references specified)

(no experimental details specified)

e- HL Electron (442)
Electron;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Sb(V)	oth	none	25°C	0.0	U			K=22.7(692 mV?)	1952LAb	(922) 1

K: 0.5Sb2O5(s)+2H+2e=0.5Sb2O3(s)+H2O. From thermodynamic data

Sb(V)	EMF	oth/un	25°C	6.0M	U	I		K=27.66(818 mV)	1949BSa	(923) 2
-------	-----	--------	------	------	---	---	--	-----------------	---------	---------

Medium: HCl. K: Sb+2e=Sb(III). K=26.51(4.5 M;784 mV), 25.22(3.5 M;746 mV)

Sb(V)	EMF	oth/un	20°C	10.0M	U	I		K=-20.3(-589 mV)	1923GSa	(924) 3
-------	-----	--------	------	-------	---	---	--	------------------	---------	---------

Medium: KOH. K: Sb+2e=Sb(III). K=-19.3(7.5 M;-561 mV), -17.7(5 M;-516 mV), -14.7(3 M;-428 mV)

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Sb(V)	oth	oth/un	25°C	0.0	C			K1=0.34	1975AAc	(5672) 4

Method: use of Zr-P04 as competitive cation-exchanger for 124Sb.
Medium: 0.01-4.0 M HCl.

Sb(V)	dis	oth/un	25°C	var	U			K((C6H5)3Sb+L)=2 K((C6H5)3SbL+L)=0.5	1972CMd	(5673) 5
-------	-----	--------	------	-----	---	--	--	---	---------	----------

Sb(V)	EMF	non-aq	25°C	100%	U			K6=5.45	1971DTb	(5674) 6
-------	-----	--------	------	------	---	--	--	---------	---------	----------

Medium: SeOCl2, 0.5 M Et4NClO4

Sb(V)	dis	oth/un		0.0	U			K(SbL3(OH)3+H+L)=-3.07 K(SbL4(OH)2+H+L)=-3.46 K(SbL5(OH)+H+L)=-4.28	1965DIa	(5675) 7
-------	-----	--------	--	-----	---	--	--	---	---------	----------

Sb(V)	dis	oth/un	?	0.0	U				1963IDa	(5676) 8
-------	-----	--------	---	-----	---	--	--	--	---------	----------

Sb(V) ISE non-aq ? 100% U 1959Bgf (5677) 9
K(SbL30PL3=SbL6+POL2)=-5.4

Sb(V) sp oth/un 25°C 9.0M U 1956NRA (5678) 10
Medium: LiCl. K(SbL5OH+H+Cl=SbL6+H2O)=-4.34 (or -4.65 ?)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Sb(V)	cal	oth/un	25°C	dil	U	H			1972CJa	(6375) 12
$K_{so}(\text{Ph}_4\text{SbL}(\text{s})=\text{Ph}_4\text{Sb}+\text{L})=-7.46$ $\text{DH}(K_{so})=48.1 \text{ kJ mol}^{-1}$, $\text{DS}(K_{so})=21 \text{ J K}^{-1} \text{ mol}^{-1}$										

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Sb(V)	dis	oth/un	25°C	var	U			K((C6H5)3Sb+F)=4 K((C6H5)3SbF+F)=3	1972Cmd (7140)	13

Sb(V) sol non-aq 0°C 100% U 1961CKa (7142) 15
 K(KSbF6(s)=K+SbF6)=-1.23
 K(TlSbF6(s)=Tl+SbF6)=-3.56
 Medium: liquid HF, I=0 corr.

Method; ir. Medium: liquid HF

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

```

-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Sb(V)      cal non-aq 25°C 100% U   H                      19670La (7611) 17
Medium: C2H4Cl2. DH(SbCl5+H2O)=-101.6 kJ mol-1 in C2H4Cl2(l)
*****
I-          HL      Iodide          CAS 10034-85-2 (20)
Iodide;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Sb(V)      dis oth/un 25°C   var   U                      1972CMd (8371) 18
                                K((C6H5)3Sb+L)=1.5
                                K((C6H5)3SbL+L)=-0.4
*****
OH-         HL      Hydroxide          (57)
Hydroxide;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Sb(V)      dis oth/un 25°C           U                      1972CMe (12088) 19
                                K(R3SbF2+OH=R3SbOHF+F)=7.5
                                K(R3SbCl2+OH=R3SbOHCl+Cl)=9.5
                                K(R3SbI2+OH=R3SbOHI+I)=10
R=C6H5
-----
Sb(V)      dis oth/un 25°C           U                      1972CMe (12089) 20
                                K(R3SbOHF+OH=R3Sb(OH)2+F)=5
                                K(R3SbOHCl+OH=R3Sb(OH)2+Cl)=7.5
                                K(R3SbOHI+OH=R3Sb(OH)2+I)=8.5
R=C6H5
*****
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
-----
Sb(V)      oth oth/un   ?       ?   U   M                      1972MFb (31345) 21
K(2Sb(OH)3(H-1L)=Sb2(OH)4(H-2L)2)=1.26
*****
C13H9OClS          L                      CAS 6028-95-2 (5005)
1-(2-Thienyl)-3-(4'-chlorophenyl)propen-3-one;
-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
Sb(V)      sp  non-aq   ?   100% U   M                      1966TLa (84666) 22
                                K(SbCl5+L)=3.93
Medium: benzene
*****
C13H10O5          L                      CAS 3988-77-0 (4979)

```

1-(2'-Thienyl)-3-phenylprop-1-en-3-one; C4H3S.CH:CH.CO.C6H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Sb(V)	sp	non-aq	?	100%	U	M			1966TLa (84969)	23
									K(SbCl5+L)=3.18	

Medium: 50% dioxan, 0.1 M NaClO4

C14H12OS L CAS 6028-90-4 (5051)
3-(4'-Methylphenyl)-1-(2'-thienyl)prop-1-en-3-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Sb(V)	sp	non-aq	?	100%	U	M			1966TLa (87322)	24
									K(SbCl5+L)=3.32	

Medium: benzene

C14H12O2S L CAS 6028-93-9 (5054)
3-(4'-Methoxyphenyl)-1-(2'-thienyl)prop-1-en-3-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Sb(V)	sp	non-aq	?	100%	U	M			1966TLa (87335)	25
									K(SbCl5+L)=4.02	

Medium: benzene

C15H14OS L (5112)
3-(4'-Ethylphenyl)-1-(2'-thienyl)prop-1-en-3-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Sb(V)	sp	non-aq	?	100%	U	M			1966TLa (91767)	26
									K(SbCl5+L)=3.91	

Medium: benzene.

C19H14OS L CAS 40766-17-4 (5273)
3-Biphenyl-1-(2-thienyl)prop-1-en-3-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Sb(V)	sp	non-aq	?	100%	U	M			1966TLa (99072)	27
									K(SbCl5+L)=3.06	

Medium: benzene.

e- HL Electron (442)
Electron;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Sb+++	EMF	none	25°C	0.00	U	T			1973VSa (925)	28

K=30.51(150.4mV)
 $K = \text{Sb406(s)} + 12\text{H}^+ + 12\text{e} = 4\text{Sb(s)} + 6\text{H}_2\text{O}$. $K = 32.43(154.5\text{mV}, 15^\circ\text{C})$, $28.81(146.8\text{mV}, 35^\circ\text{C})$, $26.03(139.1\text{mV}, 50^\circ\text{C})$

Sb+++ EMF none 25°C 0.00 U 1973V Sa (926) 29
 $K = -32.40(-638.9\text{mV})$

$K = \text{SbO}_2^- + 2\text{H}_2\text{O} + 3\text{e} = \text{Sb(s)} + 4\text{OH}^-$

Sb+++ EMF none 25°C 0.00 U T 1972V Sa (927) 30
 $K = 10.35(204.0\text{mV})$

$K = \text{SbO}^+ + 2\text{H}^+ + 3\text{e} = \text{Sb(s)} + \text{H}_2\text{O}$. $K = 11.05(210.5\text{mV}, 15^\circ\text{C})$, $9.83(200.3\text{mV}, 35^\circ\text{C})$, $9.30(198.8\text{mV}, 50^\circ\text{C})$

Sb+++ EMF none 25°C 0.0 U 1924S Ca (928) 31
 $K = 7.71(152\text{ mV})$

$K: 0.5\text{Sb203(s)} + 3\text{H}^+ + 3\text{e} = \text{Sb(s)} + 1.5\text{H}_2\text{O}$. $K(\text{SbO} + 2\text{H}^+ + 3\text{e} = \text{Sb(s)} + \text{H}_2\text{O}) = 10.76(212\text{ mV})$

Sb+++ EMF oth/un 20°C 10.0M U 1923G Sa (929) 32
 $K = -34.8(-675\text{ mV})$

Medium: KOH. $K: \text{Sb(OH)}_4 + 3\text{e} = \text{Sb(s)} + 4\text{OH}^-$?

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

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

Sb+++	vlt	oth/un	22°C	4.0M	C	I		K1=0.96 B3=1.45 B4=1.04	B2= 1.52	1975B Za	(5680)	33
-------	-----	--------	------	------	---	---	--	-------------------------------	----------	----------	--------	----

Method: polarography. Medium: NaCl/HCl/HClO₄ (total acid = 0.5 M).

For total acid = 4.0 M: B2=3.39, B3=4.09.

Sb+++	vlt	NaClO ₄	20°C	4.70M	U			K1=1.05 B3=2.20 B4=1.95 B5=1.10	B2=1.90	1975K Bb	(5681)	34
-------	-----	--------------------	------	-------	---	--	--	--	---------	----------	--------	----

Sb+++	vlt	NaClO ₄	30°C	2.0M	U			K1=2.30 B3=5.8 to 6.0 B4=6.8 to 7.2	B2=4.1	1970B Wb	(5682)	35
-------	-----	--------------------	------	------	---	--	--	---	--------	----------	--------	----

Sb+++ EMF oth/un 99°C 100% U 1969B Ba (5683) 36
 $K(2\text{SbL}_3 = \text{SbL}_2 + \text{SbL}_4) = -7.8$

Medium: SbCl₃. Method: current-voltage studies

Sb+++ sp non-aq 99°C 100% U 1969B Bc (5684) 37
 $K(\text{SbL}_3 + \text{H}_2\text{O} = \text{SbLO} + 2\text{HL}) = -7.5$

Medium: pyridine. Method: also emf and nmr

Sb+++ dis oth/un 290°C 100% U TI 1969J Sb (5685) 38

K4=1.6
Medium:K(FeL4). K1=1.6(K(AlL4,289 C); 0.10(K(TlCl4,315 C).Gas chromatography

Sb+++ sol oth/un 25°C 4.0M U 1965HEa (5686) 39

Ks((Me4N)3(SbL4)2L)=-4.74

K4=1.0

K5.K6=-0.77

Medium:H2SO4

Sb+++ dis oth/un 15°C 0.50M U 1964IDa (5687) 40

K4=1.4

K5K6=-1.0

Kd(H+SbL4=HSbL4(in org))=0.6

Medium:0.5 H,6.3 Li(NO3). org=C6H13OH or C8H17OH

Sb+++ vlt NaNO3 25°C 4.0M U K1=2.26 B2=3.49 1959PDa (5688) 41

B3=4.18

B4=4.72

B5=4.72

B6=4.11

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

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

Sb+++ vlt NaClO4 30°C 2.0M U K1=3.00 B2=5.70 1970B0c (7144) 42

B3=8.30

B4=10.95

Sb+++ sol KNO3 20°C 0.10M U 1959KGc (7145) 43

*Ks=-0.37

K(Sb(OH)2+F)=5.5

Medium: HNO3, *Ks: 0.5Sb2O3(s)+0.5H2O+HF=Sb(OH)2F

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

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

Sb+++ con non-aq 140°C 100% U 1967BNb (8372) 44

K(SbI2+I)=6.27

Medium: liquid I2

OH- HL Hydroxide (57)
Hydroxide;

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

Sb+++ sol none 80°C 0.0 C T 2003ZSa (12090) 45

Kso(valentinite)=-3.69

Kso(senarmonite)=-3.96

Kso: $0.5\text{Sb}_2\text{O}_3(\text{s}) + 1.5\text{H}_2\text{O} = \text{Sb}(\text{OH})_3$. Data for 15-450 C and 1 to 1000 bar.

Sb+++	sp	NaClO4	25°C	1.00M	U	K1=14.60	B2=28.62	1977ANa (12091)	46
						B3=41.57			

Sb+++	sol	NaClO4	25°C	5.00M	U			1974ABb (12092)	47
-------	-----	--------	------	-------	---	--	--	-----------------	----

*Ks=-10.86(orthorombic Sb406)

*Ks=-11.71(cubic Sb406)

*Ks: $\text{Sb}_4\text{O}_6(\text{s}) + 8\text{H} = 2\text{Sb}_2(\text{OH})_2 + 2\text{H}_2\text{O}$

Sb+++	sol	NaClO4	25°C	5.00M	U			1974ABb (12093)	48
-------	-----	--------	------	-------	---	--	--	-----------------	----

*Ks=-12.2(orthorombic Sb406)

*Ks=-12.7(cubic Sb406)

*Ks: $\text{Sb}_4\text{O}_6(\text{s}) + 4\text{H} + 2\text{H}_2\text{O} = 4\text{Sb}(\text{OH})_2$

Sb+++	sol	NaClO4	25°C	5.00M	U			1974ABb (12094)	49
-------	-----	--------	------	-------	---	--	--	-----------------	----

*Ks=-13.07

*Ks: $\text{Sb}_4\text{O}_5(\text{OH})\text{ClO}_4(\text{H}_2\text{O})_{1/2}(\text{s}) + 3\text{H} + 3/2\text{H}_2\text{O} = 4\text{Sb}(\text{OH})_2 + \text{ClO}_4$

Sb+++	sol	NaNO3	25°C	5.00M	U			1974ABb (12095)	50
-------	-----	-------	------	-------	---	--	--	-----------------	----

*Ks=-13.46

*Ks: $\text{Sb}_4\text{O}_4(\text{OH})_2(\text{NO}_3)_2(\text{s}) + 2\text{H} + 2\text{H}_2\text{O} = 4\text{Sb}(\text{OH})_2 + 2\text{NO}_3$

Sb+++	sol	NaNO3	25°C	5.00M	U			1974ABb (12096)	51
-------	-----	-------	------	-------	---	--	--	-----------------	----

*Ks=-16.89

*Ks: $\text{Sb}_4\text{O}_4(\text{OH})_2(\text{NO}_3)_2(\text{s}) + 6\text{H} = 4\text{SbOH} + 2\text{NO}_3 + 2\text{H}_2\text{O}$

Sb+++	dis	NaClO4	25°C	3.00M	U			1974SMc (12097)	52
-------	-----	--------	------	-------	---	--	--	-----------------	----

*K3=-1.24

Sb+++	sol	none	25°C	0.00	U	TIH		1973VSb (12098)	53
-------	-----	------	------	------	---	-----	--	-----------------	----

Ks=-2.35

Ks($1/4\text{Sb}_4\text{O}_6(\text{s}) + 3/2\text{H}_2\text{O} + \text{OH} = \text{Sb}(\text{OH})_4$)=-2.44(15 C), -2.21(35 C), -2.08(50 C);

(DH(Ks)=18.8 kJ mol⁻¹. In 2 M NaClO4: Ks=-2.22

Sb+++	sp	NaClO4	23°C	?	U			1968MGa (12099)	54
-------	----	--------	------	---	---	--	--	-----------------	----

*K(SbO+2H2O=Sb(OH)3+H)=-1.42

Sb+++	vlt	none	12°C	0.0	U			1958K0c (12100)	55
-------	-----	------	------	-----	---	--	--	-----------------	----

Kso(Sb(OH)3)=-41.5

Sb+++	sol	none	25°C	0.0	U			1952GGb (12101)	56
-------	-----	------	------	-----	---	--	--	-----------------	----

*Ks2=-3.11

Ks3=-4.70

Ks4=-2.06

Ks2: $0.5\text{Sb}_2\text{O}_3(\text{s}) + 1.5\text{H}_2\text{O} = \text{Sb}(\text{OH})_2 + \text{OH}$; Ks3: $0.5\text{Sb}_2\text{O}_3(\text{s}) + 1.5\text{H}_2\text{O} = \text{Sb}(\text{OH})_3$;

Ks4: $0.5\text{Sb}_2\text{O}_3(\text{s}) + \text{OH} + 1.5\text{H}_2\text{O} = \text{Sb}(\text{OH})_4$

Sb+++ vlt oth/un ? var U 1925BAa (12102) 57
Kso=-41.4

Sb+++ sol NaCl04 25°C var U 1924SCa (12103) 58
*K(PbOH+H2O=Pb(OH)2+H)=-3.1

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

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

Sb+++ oth none 25°C dil C T 1989SRf (14461) 59
K(Sb2S4+H=HSb2S4)=11.50
Ks(Sb2S3+HS=Sb2S4+H)=-14.00
Ks(Sb2S3+HS=HSb2S4)=-2.50

Critical evaluation of literature data for the solubility of Sb2S3 in sulfide media. Data for 25-300 C.

Sb+++ sol oth/un 25°C var M T M 1988KRd (14462) 60
K(Sb2S3(s)+H2S=H2Sb2S4)=-5.15
K(Sb2S3(s)+H2S=HSb2S4+H)=-10.1
K(Sb2S3(s)+H2S=Sb2S4+2H)=-19.6

Also K(Sb2S3(s)+2H2O=Sb2S2(OH)2+H2S)=-7.44(200 C). Constants at I=0,25-350 C

Sb+++ sol oth/un 25°C var U 1966ADa (14463) 61
Ks(2Sb2S3(s)+SH+OH=Sb4S7)=0.7

Sb+++ oth none 25°C 0.0 U 1964PCa (14464) 62
From thermodynamic data. K(0.5Sb2L3(s)+H2O+H=SbO+1.5H2L(g))=-13.9
K(0.5Sb2L3(s)+3H2O=Sb(OH)3+1.5H2L(g))=-14.7

Sb+++ sol oth/un 30°C var U 1962DGc (14465) 63
K(Sb2L3(s)+L=Sb2L4)=2.08

Sb+++ sol oth/un 20°C var U 1956BLa (14466) 64
K(0.5Sb2L3(s)+0.5L=SbL2)=0.45. K(Sb2L3(s)+2OH=SbL2+SbL(OH)2)=-1.10

Sb+++ sol none 25°C 0.0 U 1953AKa (14467) 65
K(0.5Sb2L3(s)+1.5L=SbL3)=0.89
K(Sb2L3(s)+HL=HSb2L4?)=-2.33
Kso(Sb2L3)=-92.77

I=0 corr. K(0.5Sb2L3(s)+3H+4Cl=SbCl4+1.5H2L)=-12.24

K(0.5Sb2L3(s)+3OH=0.5SbL3+0.5SbO3+1.5H2O)=4.015. Kso from thermodynamic data

S04-- H2L Sulfate CAS 7664-93-9 (15)
Sulfate;

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

Sb+++ sp oth/un ? var U 1970DWa (16530) 66

Medium: 1-4 M H₂SO₄, $K(\text{SbO} + 2\text{H}_2\text{L} = \text{SbL}_2 + \text{H}_2\text{O} + 2\text{H}) = -1.0$ (10⁻¹⁸ M H₂SO₄)

CH202 HL Formic acid CAS 64-18-6 (37)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg	K values	Reference	ExptNo
Sb+++	vlt	NaClO4	20°C	0.70M	U			K1=4.60 B2=9.53	1975W0a	(17645) 67

CH4N2S	L	Thiourea	CAS 62-56-6 (51)
--------	---	----------	------------------

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

Sb+++ cal oth/un 25°C 3.0M U IH 1984VRb (17856) 68

$$K(SbO+2L)=2.80$$

in 3 M HClO₄; also for 4 M HClO₄ K=3.48 DH=-103.43 kJ/mol
for 5 M HClO₄ K=4.38 DH=-108.37 kJ/mol

Sb+++ sp NaCl04 25°C 3.00M U I 1979VSb (17857) 69

$$K(\text{SbO}+2\text{L})=2.72$$

CH40	L	Methyl alcohol	CAS 67-56-1 (597)
------	---	----------------	-------------------

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

Sb+++ EMF alc/w 20°C 100% U I 1971GSa (17898) 70

$$K(Sb+H-1L)=11.85$$
$$K(SbH-1L+H-1L)=10.26$$
$$K(SbH-2L2+H-1L)=9.07$$
$$K(Sb+2L=SbH-2L^2+2H) > 1$$

Medium: MeOH, 1 M LiCl. With 1 M Li tosylate: $K(\text{Sb}(\text{H-1L})_2 + \text{H-1L}) = 12.29$:

$$K(\text{Sb}(\text{H}-1\text{L})_2 + \text{Sb}(\text{H}-1\text{L})_3 = \text{Sb}_2(\text{H}-1\text{L})_5) = 2.36$$

C2H4O2	HL	Acetic acid	CAS 64-19-7	(36)
--------	----	-------------	-------------	------

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

Sb+++ vlt NaCl04 20°C 0.70M U K1=7.00 B2=12.64 1975W0a (20158) 71

C2H4O2S	H2L	Thioglycolic	CAS 68-11-1	(596)
---------	-----	--------------	-------------	-------

Mercaptoethanoic acid; HS.CH₂.COOH

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

Sb+++ gl NaCl04 20°C 0.10M U M 1970AMa (20363) 72

$$K(\text{SbL}_2=\text{SbL}_2(\text{OH})+\text{H})=7.58$$

$$K(\text{SbL2}+3\text{OH}=\text{Sb}(\text{OH})_3+2\text{L})=6.92$$

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

Sb+++ vlt KCl 30°C 0.10M C K1=10.60 1982MNa (21700) 73
Method: polarography. By potentiometry, K(H+L)=9.53

C2H6OS HL CAS 60-24-2 (841)
2-Mercaptoethanol; HS.CH2.CH2.OH

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

Sb+++ gl NaClO4 20°C 0.10M U 1970AMa (22078) 74
K(SbH-2L2+H)=17.98

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

Sb+++ vlt NaClO4 20°C 0.70M U K1=10.18 B2=26.52 1975W0a (24543) 75

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

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

Sb+++ vlt NaClO4 20°C 0.70M U K1=6.68 B2=11.20 1975W0a (25047) 76

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

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

Sb+++ vlt NaClO4 20°C 0.70M U K1=7.84 B2=12.00 1975W0a (25530) 77

C4H4O4 H2L Maleic acid CAS 110-16-7 (111)
cis-Butenedioic acid; HOOC.CH:CH.COOH

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

Sb+++ vlt NaClO4 20°C 0.70M U K1=7.78 B2=14.95 1975W0a (29128) 78

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

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

Sb+++ vlt NaCl04 20°C 0.70M U K1=8.70 B2=17.60 1975W0a (30033) 79

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

Sb+++ gl NaCl04 20°C 0.10M U 1970AMa (30361) 80
 K(SbHL2+H)=2.4
 K(SbL2+H)=3.46
 K(SbL2+3OH=Sb(OH)3+2L)=5.90

C4H6O4S2 H4L CAS 2418-14-6 (4264)
 2,3-Dimercaptobutanedioic acid; HOOC.CH(SH).CH(SH).COOH

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

Sb+++ gl NaCl04 20°C 0.10M U 1970AMa (30396) 81
 K(SbL=SbLOH+H)=-4.90
 K(SbH3L2+H)=2.57
 K(SbH2L2+H)=3.60
 K(SbHL2+H)=4.61

K(SbL2+H)=6.82; K(2SbLOH+OH=Sb(OH)3+SbL2)=-10.7

C4H6O4S2 H4L CAS 304-55-2 (3002)
 meso-2,3-Dimercaptobutanedioic acid (meso-dithiotartaric acid)

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

Sb+++ gl NaCl04 20°C 0.10M U 1970AMa (30434) 82
 K(Sb2L2=SbLOH+2H)=13.17
 K(Sb2L2+6OH=2Sb(OH)3+2L)=9.2

C4H6O5 H2L Malic acid CAS 617-48-1 (393)
 2-Hydroxybutane-1,4-dioic acid, Hydroxy-succinic acid; HOOC.CH2.CH(OH).COOH

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

Sb+++ vlt NaCl04 20°C 0.70M U K1=8.54 B2=17.18 1975W0a (30715) 83

C4H6O6 H2L DL-Tartaric acid CAS 133-37-9 (94)
 DL-Tartaric acid,DL-2,3-Dihydroxybutanedioic acid; HOOC.CH(OH).CH(OH).COOH

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

Sb+++ vlt NaCl04 20°C 0.70M U K1=8.08 B2=14.81 1975W0a (31029) 84

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
Sb+++	gl	NaClO4	20°C	0.10M	U	M		1970AMa (31346)	85
K(Sb2(H-2L)2+20H=Sb2(H-2L)OH)=10.16, K(Sb2(H-2L)2+20H=2Sb(OH)3+2L)=6.07									

C5H7NO4S2		H3L					CAS 36061-59-3	(1953)	
Bis(carboxymethyl)dithiocarbamic acid; (HOOC.CH2)2.N.CSSH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sb+++	EMF	KNO3	22°C	1.00M	U		K1=8.97 B2=17.61 B3=25.99	1970TPb (37560)	86

C5H8O4		H2L		Glutaric acid			CAS 110-94-1	(420)	
Pentanedioic acid; HOOC.CH2.CH2.CH2.COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sb+++	vlt	NaClO4	20°C	0.70M	U		K1=9.48 B2=18.78	1975W0a (38350)	87

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
Sb+++	sp	non-aq	?	100%	U	M		1968SRg (41369)	88
K(SbAL+2HL=SbL3+H2A)=2.47									
Medium: CCl4. H2A=dithizone									

C6H5ClO3		HL		Chlorokojic ac			CAS 7559-81-1	(8317)	
2-Chloromethyl-5-hydroxy-4H-pyran-4-one;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sb+++	vlt	KCl	30°C	0.10M	C		B2=18.3	1985KNa (42337)	89
Method: polarography									

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
Sb+++	gl	NaClO4	20°C	0.10M	U			1970AMa (43818)	90
K(SbL2+H=SbLOH+H2L)=2.37									
K(SbL2+OH=Sb(OH)3+2HL)=-5.44									

C6H6O3		HL		Maltol			CAS 118-71-8	(2442)	
3-Hydroxy-2-methyl-4H-pyran-4-one;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sb+++	vlt	KCl	30°C	0.10M	C		B2=21.3	1985KNa (44100)	91
Method: polarography									

C6H6O4		HL		Kojic acid			CAS 501-30-4	(1800)	
5-Hydroxy-2-(hydroxymethyl)-4H-pyran-4-one;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sb+++	vlt	KCl	30°C	0.10M	C		B2=19.7	1985KNa (44241)	92
Method: polarography									

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
Sb+++	gl	KN03	25°C	0.10M	U	I	K2=14.5 K(SbL2+H)=2.00 K(SbL+H2L=SbL2+2H)=-5.73	19710Bb (44486)	93
Medium: 0.1 M KCl: K(SbL+H2L=SbL2+2H)=-6.01									

Sb+++	gl	NaCl04	20°C	0.10M	U			1970AMa (44487)	94
K(SbL2+H=SbLOH+H2L)=1.23 K(SbL2+OH=Sb(OH)3+2HL)=-3.95									

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
Sb+++	vlt	NaCl	25°C	4.0M	C	H	K1=11.66	1984GSd (47006)	95
Method: polarography. Medium pH 2.2. DH(K1)=-31.9 kJ mol-1; DS(K1)=117 J K-1 mol-1.									

C7H6O4		H3L					CAS 303-38-8	(1398)	
2,3-Dihydroxybenzoic acid; C6H3(OH)2.COOH									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sb+++	gl	NaCl04	20°C	0.10M	U			1970AMa (54471)	96
K(SbL2+H=SbLOH+H2L)=2.8 K(SbL+2OH=Sb(OH)2+HL)=-4.17									

C8H8O4		L					(601)		
4,5-Dimethoxy-1,2-benzoquinone;									

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

Sb+++ nmr non-aq 34°C 100% U M 1981KKc (60113) 97
K(SbCl₃+L)=0.68

Medium: nitromethane

C9H7N03S2 H2L CAS 58447-10-2 (4675)
8-Mercaptoquinoline-5-sulfonic acid;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sb+++	sp	oth/un	?	?	U		K1=13.7 B2=26.1	1968ABa (64429)	98

C10H9N03S2 HL (7206)
6-Methyl-5-sulfo-8-mercaptoquinoline;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sb+++	sp	oth/un	20°C	0.10M	U		K1=14.25 B2=25.90	1985DAb (70179)	99

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
Sb+++	vlt	NaNO ₃	25°C	4.00M	U	H	K1=19.48	1982WEa (74131)	100

DH(K1)=-25.140 kJ mol⁻¹; DS=88 J K⁻¹ mol⁻¹

Sb+++	gl	KNO ₃	25°C	0.10M	U			19710Bb (74132)	101
-------	----	------------------	------	-------	---	--	--	-----------------	-----

K(SbL+H)=1.02
K(SbL+OH)=8.24
K(SbLOH+H₂O=SbL(OH)₂+H)=7.46

Sb+++	gl	NaClO ₄	20°C	0.10M	U	T		1970AMa (74133)	102
-------	----	--------------------	------	-------	---	---	--	-----------------	-----

K(SbL+2OH=Sb(OH)₃+HL)=12.46

Sb+++	sp	NaClO ₄	25°C	1.0M	U			1965BIb (74134)	103
-------	----	--------------------	------	------	---	--	--	-----------------	-----

K(SbO+L+2H)=24.8
K(SbL+OH)=-8.7

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
Sb+++	gl	KNO ₃	25°C	0.10M	U			19710Bb (75488)	104

K(SbL+H₂O=SbLOH+H)=-3.05

Sb+++	gl	NaClO ₄	20°C	0.10M	U			1970AMa (75489)	105
-------	----	--------------------	------	-------	---	--	--	-----------------	-----

K(SbL+OH=Sb(OH)₃+H₂L)=4.58
K(SbHL=SbL+H)=-3.10

Sb+++ sp NaClO4 25°C 1.0M U 1966BIb (75490) 106
 $K(\text{SbO}+\text{L}+2\text{H})=20.2$
 $K(\text{SbH}-1\text{L}+\text{H})=-3.2$
 $K(\text{SbH}-1\text{L}+\text{OH})=-8.1$

C11H8O3 L CAS 18916-57-9 (581)

4-Methoxy-1,2-naphthoquinone;

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

Sb+++	sp	non-aq	34°C	100%	U	HM			1981KKb (77140)	107
-------	----	--------	------	------	---	----	--	--	-----------------	-----

$K(\text{SbCl}_3+\text{L})=0.63$

Medium: nitromethane

C12H10N2 L CAS 103-33-3 (4893)

Azobenzene; C6H5.N:N.C6H5

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

Sb+++	sp	non-aq	?	100%	U			B2=4.37	1969KNa (80654)	108
-------	----	--------	---	------	---	--	--	---------	-----------------	-----

Medium: dichloroethane

C12H10N2O HL Solvent Yellow7 CAS 1689-82-3 (1106)

4-Hydroxyazobenzene; C6H5.N:N.C6H4.OH

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

Sb+++	sp	non-aq	?	100%	U				1969KNa (80689)	109
-------	----	--------	---	------	---	--	--	--	-----------------	-----

$K(\text{Sb}+2\text{HL})=1.66$

Medium: dichloroethane

C12H11N3 L CAS 64-09-3 (4897)

4-Aminoazobenzene; C6H5.N:N.C6H4.NH2

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

Sb+++	sp	non-aq	?	100%	U			K1=1.68	1969KNa (80861)	110
-------	----	--------	---	------	---	--	--	---------	-----------------	-----

Medium: dichloroethane

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
-------	-----	--------	------	------	-----	-------	----	----------	-----------	--------

Sb+++	sp	oth/un	?	?	U	M			1973RGa (84122)	111
-------	----	--------	---	---	---	---	--	--	-----------------	-----

$K(\text{SbBr}_3+\text{L})=2.63$

$K(\text{SbBr}_3+2\text{L})=3.24$

C13H11N L CAS 538-51-2 (4969)

Benzylideneaniline; C6H5.N:CH.C6H5

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sb+++	sp	non-aq	?	100%	U		K1=1.77	1969KNa (85008)	112
Medium: dichloroethane									

C13H11N3O4S2		HL		Tenoxicam			CAS 59804-37-4	(8393)	
4-Hydroxy-2-methyl-N-2'-pyridinyl-2H-thien[2,2-e]-1,2-thiazine-3-carboxamide-1,1-dioxide;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sb+++	gl	mixed	25°C	50%	C		K1=3.5	2002Mwa (85290)	113
Medium: 50% v/v CH3CN/H2O, 0.05 M NaNO3.									

C13H12N2		L					CAS 949-87-1	(4971)	
4-Methylazobenzene; CH3.C6H4.N:N.C6H5									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sb+++	sp	non-aq	?	100%	U		B2=4.07	1969KNa (85322)	114
Medium: dichloroethane									

C14H14N2		L					CAS 584-90-7	(5028)	
2,2'-Dimethylazobenzene; CH3.C6H4.N:N.C6H4.CH3									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sb+++	sp	non-aq	?	100%	U		B2=4.82	1969KNa (87642)	115
Medium: dichloroethane									

C14H14N2		L					CAS 561-60-6	(5029)	
4,4'-Dimethylazobenzene; CH3.C6H4.N:N.C6H4.CH3									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sb+++	sp	non-aq	?	100%	U		B2=1.30	1969KNa (87644)	116
Medium: dichloroethane									

C14H14N2O		L					CAS 7466-38-8	(5066)	
4-Ethoxyazobenzene; CH3.CH2.O.C6H4.N:N.C6H5									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sb+++	sp	non-aq	?	100%	U		B2=1.66	1969KNa (87653)	117
Medium: dichloroethane									

C14H14N4OBr2		HL					CAS 35601-32-2	(5092)	
5-(3,5-Dibromo-2-pyridylazo)-2-ethylamino-4-hydroxy-1-methylbenzene;									

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Sb+++	dis	oth/un	?	?	U		K1=5.12	1967GUa (87689)	118
By spectrophotometry : K1=5.49									

C14H15N3		L					(5034)		
4-Dimethylaminoazobenzene; C6H5.N:N.C6H4.N(CH3)2									
Sb+++	sp	non-aq	?	100%	U		K1=2.70	1969KNa (87751)	119
Medium: dichloroethane									

C14H15N4OBr		HL					CAS 14337-50-9	(5095)	
5-(5-Bromo-2-pyridylazo)-2-ethylamino-4-hydroxy-1-methylbenzene;									
Sb+++	dis	oth/un	?	?	U		K(?)=4.96	1967GUa (87769)	120

C14H16N4O		HL		PAAC			CAS 13059-69-3	(5067)	
5-Ethylamino-4-methyl-2-(2'-pyridylazo)phenol;									
Sb+++	dis	oth/un	?	?	U		K(?)=5.53	1967GPa (88020)	121

C14H22N2O8		H4L		CDTA			CAS 482-54-2	(200)	
trans-1,2-Diaminocyclohexane-N,N,N',N'-tetraethanoic acid;									
Sb+++	vlt	NaNO3	25°C	4.00M	U	H	K1=24.78	1982WEa (88768)	122
DH(K1)=71.2 kJ mol-1; DS=234.6 J K-1 mol-1									
Sb+++	gl	NaClO4	20°C	0.10M	U		K(SbL+2OH=Sb(OH)3+HL)=11.24	1970AMa (88769)	123

C14H23N3O10		H5L		DTPA			CAS 67-43-6	(238)	
Diethylenetriamine-pentaethanoic acid; HOOC.CH2.N(CH2.CH2.N(CH2.COOH)2)2									
Sb+++	gl	KNO3	25°C	0.10M	U		K(SbL+H)=3.31	19710Bb (89376)	124

Sb+++	gl	NaClO4	20°C	0.10M	U		K(SbL+2OH=Sb(OH)3+HL)=9.82	1970AMa (89377)	125

$$K(\text{SbL}+\text{H})=3.57$$

C15H16N2 L CAS 889-37-2 (5104)
(4-Dimethylamino)benzalaniline; (CH3)2N.C6H4.CH:N.C6H5

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

Sb+++	sp	non-aq	?	100%	U		K1=4.32	1969KNa (91919)	126
-------	----	--------	---	------	---	--	---------	-----------------	-----

Medium: dichloroethane

C15H16N2 L CAS 58758-12-6 (5103)
Benzal-(4-dimethylamino)aniline; C6H5.CH:N.C6H4.N(CH3)2

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

Sb+++	sp	non-aq	?	100%	U		K1=3.82 B2=1.25	1969KNa (91920)	127
-------	----	--------	---	------	---	--	-----------------	-----------------	-----

Medium: dichloroethane

C17H20N4O2 H2L CAS 39965-80-5 (5221)
1,3-Dihydroxy-4-(2-N-methylanabasiny1-alpha-azo)benzene;

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

Sb+++	sp	mixed	?	60%	U			1972TDa (96306)	128
-------	----	-------	---	-----	---	--	--	-----------------	-----

K(SbCl4+H3L)=5.48

Medium: 60% v/v acetone, 0.1 M KCl

REFERENCES

- 2003ZSa A Zotov,N Shikina,N Akinfiev; Geochim.Cosmo.Acta,67,1821 (2003)
2002MWa H Mohamed,H Wadood,O Farghaly; J.Pharm.Biomed.Anal.,28,819 (2002)
1989SRf N Spycher,M Reed; Geochim.Cosmo.Acta,53,2185 (1989)
1988KRd R Krupp; Geochim.Cosmo.Acta,52,3005 (1988)
1985DAb A Deme,J Ashaks et al; Chem.Zvesti,39,649 (1985)
1985KNa S Kelkar,B Nemade; Indian J.Chem.,24A,166 (1985)
1984GSd Q Gao,C-Q Sun,E-K Wang; Acta Chimica Sinica,42,818 (1984)
1984VRb V Vasil'ev,O Raskova et al; Zh.Neorg.Khim.,29,2819 (1984)
1982MNa M Muzumdar,B Nemade; Indian J.Chem.,21A,650 (1982)
1982WEa W Er-Kang; Coll.Czech.Chem.Comm.,47,3243 (1982)
1981KKb K Kataoka,S Kimura et al; Bull.Chem.Soc.Jpn.,53,2237 (1981)
1981KKc K Kataoka,S Kimura et al; Bull.Chem.Soc.Jpn.,54,2237 (1981)
1979VSb V Vasilev,V Shorokhova,A Katrovtseva; Zh.Neorg.Khim.,24,2652(1473)
(1979)
1977ANa V Antonovich,E Nevskaya,E Suvorova; Zh.Neorg.Khim.,22,1278(696) (1977)
1975AAc H Aly,A Abdel-Rassoul,N Zakareia; Z.Phys.Chem.,(Frankfurt),94,11 (1975)
1975BZa J Biernat,B Ziegler,M Zralko,P Kondziela; J.Electroanal.Chem.,63,444
(1975)
1975KBb P Kondziela,J Biernat; Roczn.Chem.49,1489 (1975)
1975WOa R Wojtas; Roczn.Chem.49,1231 (1975)
1974ABb S Ahrland,J Bovin; Acta Chem.Scand.,A28,1089 (1974)

- 1974SMc H Shoji, H Mabuchi et al; Bull.Chem.Soc.Jpn.,47,2502 (1974)
- 1973RGa G Roland, B Gilbert, J Decerf et al; Spectrochim.Acta A29,887 (1973)
- 1973VSa V Vasilev, V Shorokhova et al; Elektrokhim.,9,1006(E:953) (1973)
- 1973VSb V Vasilev, V Shorokhova; Zh.Neorg.Khim.,18,305(E:161) (1973)
- 1972CJa P Carr, J Jordan; Anal.Chem.,44,1278 (1972)
- 1972CMD H Chermette, C Martelet, D Sanding et al; J.Inorg.Nucl.Chem.,34,1627 (1972)
- 1972CMe H Chermette, C Martelet et al; J.Inorg.Nucl.Chem.,34,515 (1972)
- 1972MFb J Mazieres, J Lefebvre; Compt.Rend.,275C,119 (1972)
- 1972TDa S Talipov, R Dzhiyanbaeva, A Abdisheva; Zh.Anal.Khim.,27,8,1550 (1972)
- 1972VSA V Vasilev, V Shorokhova; Elektrokhim.,8,185(E:178) (1972)
- 1971DTb J Devynck, B Tremillon; J.Electroanal.Chem.,30,443 (1971)
- 1971GSa R Gut, E Schmid, J Serrallach; Helv.Chim.Acta,54,593;609 (1971)
- 1971OBb U Ozer, R Bogucki; J.Inorg.Nucl.Chem.,33,4143 (1971)
- 1970AMa G Anderegg, S Malik; Helv.Chim.Acta,53,564;577 (1970)
- 1970BOc A Bond; J.Electrochem.Soc.,117,1145 (1970)
- 1970BWb A Bond, A Waugh; Electrochim.Acta,15,1471 (1970)
- 1970DWA J Dawson, J Wilkinson, M Gillibrand; J.Inorg.Nucl.Chem.,32,501 (1970)
- 1970TPb F Tulyupa, V Pavlichenko, Y Usatenko; Ukr.Khim.Zh.,36,2,201 (1970)
- 1969BBa J Badoz-Lambling, D Bauer, P Texier; Anal.Lett.,2,411 (1969)
- 1969BBc D Bauer, J Beck, P Texier; Compt.Rend.,269C,822 (1969)
- 1969JSb R Juvet, V Shaw, M Taqui-Khan; J.Am.Chem.Soc.,91,3788 (1969)
- 1969KNa N Kupletskaya, A Nilson, L Kazitsyna et al; Vestnik Moskov Univ.,24,2,69 (1969)
- 1968ABa Y Atoks, Y Bankovskii; Izv.Akad.Nauk Latv.SSR,Khim.,1,122 (1968)
- 1968MGa S Mishra, Y Gupta; Indian J.Chem.,6,757 (1968)
- 1968SRg J Stary, J Ruzicka; Talanta,15,505 (1968)
- 1967BNb D Bearcroft, N Nachtrieb; J.Phys.Chem.,71,316 (1967)
- 1967GPa S Gusev, L Poplevina, A Pesis; Zh.Anal.Khim.,22,5,731 (1967)
- 1967GUa S Gusev et al; Zh.Anal.Khim.,22,376;731;863;1190,1357 (1967)
- 1967OLa G Olofsson; Acta Chem.Scand.,21,1887 (1967)
- 1966ADa R Arntson, F Dickson, G Tunell; Science,153,1673 (1966)
- 1966BIb T Bhat, R Iyer, J Shankar; Z.Anorg.Chem.,343,329 (1966)
- 1966TLa V Tolmachev, V Lavrushin, O Boberov; Zh.Neorg.Khim.,11,7,1655 (1966)
- 1965BIb T Bhat, R Iyer; Z.Anorg.Chem.,335,331 (1965)
- 1965DIA G Dakar, B Iofa; Radiokhim.,7,25 (1965)
- 1965HEa G Haight, B Ellis; Inorg.Chem.,4,249 (1965)
- 1965TBA R Thompson, J Barr, R Gillespie et al; Inorg.Chem.,4,1641 (1965)
- 1964IDA B Iofa, G Dakar; Radiokhim.,6,411 (1964)
- 1964PCa Personal Communication etc; Chem.Soc.Spec.Publ.,no.17 (1964)
- 1963IDA B Iofa, G Dakar; Radiokhim.,5,490 (1963)
- 1962DGC K Dubey, S Ghosh; Z.Anorg.Chem.,319,204 (1962)
- 1961CKa A Clifford, S Kongpricha; J.Inorg.Nucl.Chem.,20,147 (1961)
- 1961HQA H Hyman, L Quarterman, M Kilpatrick et al; J.Phys.Chem.,65,123 (1961)
- 1959BGf M Baaz, V Gutmann; Monatsh.Chem.,90,426 (1959)
- 1959KGC K Kleiner, G Gridchina; Zh.Neorg.Khim.,4,2020 (1959)
- 1959PDA F Pantani, P Desideri; Gazz.Chim.Ital.,89,1360 (1959)
- 1958KOC P Kovalenko; Zh.Prikl.Khim.,31,1488 (1958)
- 1956BLa A Babko, G Lisetskaya; Zh.Neorg.Khim.,1,969 (1956)
- 1956NRA H Neumann, R Ramette; J.Am.Chem.Soc.,778,1848 (1956)

1954NEa H Neumann; J.Am.Chem.Soc.,76,2611 (1954)
1953AKa R Akeret; Diss.Eid.Tech.Hochschule,Zurich (1953)
1952GGb K Gayer,A Garrett; J.Am.Chem.Soc.,74,2353 (1952)
1952LAb W Latimer; "Oxidation Potentials",Prentice Hall,NY (1952)
1949BSa R Brown,E Swift; J.Am.Chem.Soc.,71,2719 (1949)
1925BAa V Bayerle; Rec.Trav.Chim., 44,514 (1925)
1924SCa R Schuhmann; J.Am.Chem.Soc.,46,52;1444 (1924)
1923GSa G Grube,F Schweigardt; Z.Elektrochem.,29,257 (1923)

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

END