SC-Database
Software version = 5.81 Data version = 4.62
Experiment list contains 118 experiments for
 (no ligands specified)
 Metal : Cm+++
 (no references specified)
 (no experimental details specified)

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

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Cm+++ oth none 25°C 0.0 U 1969NBa (409) 1
K(Cm+e=Cm(II))=-84.5(-5.0V)
Method:Estimated data

Cm+++ sp oth/un 25°C ? U 1965MIb (410) 2
K(Cm++++ + e)=55 (3250 mV)
****
Br- HL Bromide CAS 10035-10-6 (19)
Bromide;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Cm+++ dis NaClO4 20°C 3.00M U K1=0.39 B2=0.22 1982FKb (1820) 3
****
CO3-- H2L Carbonate CAS 465-79-6 (268)
Carbonate;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Cm+++ sp NaCl 25°C 0.0 C I K1=8.1 B2=13.00 1999FKa (3167) 4
B3=15.2
B4=13.0
Method: Laser fluorescence spectroscopy. Media: 0-6 m NaCl.
****
Cl- HL Chloride CAS 7647-01-0 (50)
Chloride;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Cm+++ dis NaClO4 20°C 3.00M U K1=0.56 B2=0.20 1982FKb (4609) 5

Cm+++ dis NaCl 30°C 1.00M U K1=0.21 B2=-0.03 1980KMa (4610) 6

Cm+++ ix none ? 0.0 U K1=1.17 1956WWa (4611) 7
****
ClO4- HL Perchlorate CAS 7001-90-3 (287)

Perchlorate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Cm+++	dis	NaClO4	25°C	2.00M	U	T	B2=0.38		1981LMa (6176)	8

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Cm+++	dis	NaClO4	25°C	0.50M	C		K1=3.34	B2= 6.18	1970ALc (6809)	9
							B3=9.08			
Cm+++	dis	NaClO4	25°C	0.50M	U		K1=3.34	B2=6.18	1969ALd (6810)	10
							B3=9.1			
Cm+++	sol	NaClO4	23°C	0.10M	U	TIH			1954FEa (6811)	11
							K3=3.90			
							Ks(CmF3(s)=CmF3)=-4.91			

Method: extraction of 244Cm from 0.50 M NaClO4 medium into toluene/
di-(2-ethylhexyl)phosphoric acid. Medium pH 3.6.

Medium: HClO4. DH(K3)=17.9kJ mol-1, DS=139 J K-1 mol-1; DH(Ks)=16.7, DS=-38
At 0 C: K3=3.87, Ks=-5.22. At I=0 corr, 47 C K3=4.37, Ks=-4.75

****

NO3- HL Nitrate CAS 7697-37-2 (288)
Nitrate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Cm+++	dis	NaCl	30°C	1.00M	U		K1=0.34	B2=0.10	1980KMa (9623)	12
Cm+++	dis	R4N.X	25°C	2.0M	U		K1=-0.12		1973CDd (9624)	13

Medium:NH4SCN

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Cm+++	ix	R4N.X	20°C	1.0M	U		K1=0.57		1960LPb (9625)	14

Method: cation exchange. Medium: NH4Cl,ClO4

****

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

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Cm+++	sp	none	25°C	0.0	U		K1=0.90	B2=1.38	1983MCb (10182)	15

****

OH- HL Hydroxide (57)
Hydroxide;

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

```
Cm+++      dis oth/un 30°C 0.01M C                          1989MKb (11127)  16
                                        *K1=-3.30
Medium: ClCH2COOH
-------------------------------------------------------------------------------
Cm+++      dis NaClO4   ?  0.10M U                          1973HHd (11128)  17
                                        *K1=-5.40
Medium: LiClO4
-------------------------------------------------------------------------------
Cm+++      oth R4N.X  25°C 0.01M U        K1=10.6   B2=18.9   1972SSf (11129)  18
Medium:0.005 M NH4ClO4. Method: electrical migration or transference number
-------------------------------------------------------------------------------
Cm+++      dis NaClO4 23°C 0.10M U                          1969DHa (11130)  19
                                        *K1=-5.92
Medium: LiClO4
-------------------------------------------------------------------------------
Cm+++      dis NaClO4 23°C 0.10M U                          1969GMa (11131)  20
                                        *K1=-6.05
Medium: LiClO4
-------------------------------------------------------------------------------
Cm+++      dis NaClO4 25°C 0.10M U                          1969MGf (11132)  21
                                        *K2=-7.85
Medium: LiClO4 + tris-buffer
*******************************************************************************
PO4---                H3L    Phosphate        CAS 7664-38-2  (176)
Phosphate;
-------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------------
Cm+++      ix  R4N.X  20°C 1.00M U        K1=17.5   B2=34.1   1971MOd (13131)  22
                                        K(Cm+H2L)=1.48
                                        K(Cm+2H2L)=2.08
                                        K(Cm+3H2L)=2.84
                                        K(Cm+4H2L)=3.1
Medium:NH4Cl
-------------------------------------------------------------------------------
Cm+++      oth none     ?   0.0  U        K1=20.2   B2=36.8   1969MOc (13132)  23
                                        K(Cm+H2L)=2.40
                                        K(Cm+2H2L)=3.60
                                        K(Cm+3H2L)=5.61
                                        K(Cm+4H2L)=6.2
Methods: solubility, ion exchange, distribution, EMF
*******************************************************************************
P3O9---               H3L                   CAS 13566-25-1  (235)
Cyclotrimetaphosphate;
-------------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
-------------------------------------------------------------------------------
Cm+++      ix  none   25°C  0.0  U        K1=6.08        1972EZb (13950)  24
-------------------------------------------------------------------------------
Cm+++      ix  R4N.X  25°C 0.20M U  I     K1=3.64        1967ELa (13951)  25
```

Medium: NH4ClO4. K1=5.92(I=0 corr)

****

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

Thiocyanate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Cm+++	oth	NaClO4	25°C	1.0M	U	R	K1=0.44		1997BPa (14849)	26
IUPAC evaluation										
Cm+++	dis	oth/un	30°C	1.0M	C T H				1980KMe (14850)	27
In 1.0 M NH4ClO4/NH4SCN. Extraction of 244Cm into hexane/ammonium dinonyl-naphthalene sulfonate. Data for 15-45 C. DH(K1)=-2.8 kJ mol-1, DH(K2)=0.08										
Cm+++	dis	NaClO4	25°C	5.0M	U T H	T	K1=0.62		1974KCa (14851)	28
K1=0.46(10 C), 0.72(40 C), 0.75(55 C). By calorimetry, DH(K1)=11.7 kJ mol-1										
Cm+++	dis	R4N.X	30°C	1.00M	U	T	K1=0.18	B2=0.61	1974KMa (14852)	29
Medium: NH4ClO4/NH4SCN, pH 2.8										
Cm+++	dis	R4N.X	25°C	2.0M	U		K1=0.6	B2=0.70	1973CDd (14853)	30
							B3=1.15			
Cm+++	dis	NaClO4	25°C	1.0M	U	T	K1=0.45	B2=-0.07	1972HPb (14854)	31
							B3=-0.08			
Cm+++	dis	NaClO4	25°C	1.0M	U	T	K1=0.43	B2=0.85	1965CKb (14855)	32
Cm+++	ix	NaClO4	?	5.0M	U I		K1=0.27	B2=0.00	1962LYb (14856)	33
In 0.5 M NH4ClO4 K1=0.67. In I=0 corr K1=1.62. Method: cation exchange										

****

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

Sulfate;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Cm+++	dis	NaCl	30°C	1.00M	U		K1=1.51	B2=2.38	1980KMa (16063)	34
Cm+++	dis	NaClO4	25°C	1.0M	U I				1978RBa (16064)	35
							K(Cm+HL)=0.52			
							K(Cm+2HL)=0.83			
Cm+++	oth	R4N.X	15°C	0.10M	U T		K1=2.41		1973STe (16065)	36
Method: electrical megration or transference number(electrophoresis)										
Medium: NH4Cl. K1=2.45(25 C), 2.48(35 C)										
Cm+++	dis	none	25°C	0.0	U		K1=3.88	B2=5.70	1972MCc (16066)	37
							B3=5.15			
Cm+++	dis	NaClO4	25°C	0.50M	U		K1=1.85	B2=2.69	1968ALd (16067)	38

By cation exchange: K1=1.86, B2=2.37

Cm+++ dis NaClO4 55°C 2.0M U T H K1=1.61 B2=2.30 1967CCd (16068) 39
K1=1.08(0 C), 1.34(25 C), 1.49(40 C); B2=1.66(0 C), 1.86(25 C), 2.05(40 C)
DH(K1)=17.1 kJ mol-1, DS=83.6 J K-1 mol-1

Cm+++ ix R4N.X 25°C 0.75M U I K1=1.75 B2=1.93 1960LPb (16069) 40
Medium: NH4Cl,ClO4. I=0 corr.: K1=3.66, K2=0.81

****

CH5O3P H2L CAS 13590-71-1 (1752)
Methylphosphonic acid; CH3.PO3H2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Cm+++	ix	none	25°C	0.00	U	I	K(Cm+HL)=2.82	1967BEa (18127)	41

At I=0.5 M NH4ClO4: K(Cm+HL)=1.86

****

CH5O4P H2L CAS 2617-47-2 (1977)
Hydroxymethylphosphonic acid; HO.CH2.PO3H2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Cm+++	ix	R4N.X	25°C	0.20M	U		K(Cm+HL)=1.65 K(Cm+2HL)=3.28	1972EZd (18147)	42

Medium: NH4ClO4

****

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
Cm+++	oth	oth/un	25°C	0.10M	U		K1=5.30 B2=8.90	1971STe (18832)	43

Method : electrical migration or transference number

Cm+++	ix	NaClO4	25°C	0.50M	U		K1=4.80 B2=8.61	1968ALd (18833)	44

Cm+++	dis	R4N.X	20°C	0.10M	U		B2=8.8 B3=12.1	1966STa (18834)	45

Medium : NH4Cl

Cm+++	ix	oth/un	23°C	0.20M	U		K1=5.96 B2=10.15	1960LPa (18835)	46

****

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
Cm+++	cal	NaCl	25°C	2.0M	U	H	K1=1.92	1985CLb (19922)	47

DH(K1)=6.0 kJ mol-1

Cm+++ dis NaClO4 25°C 2.00M U T K1=2.03 1969MOc (19923) 48

0-55 C. 0 C: K1=1.73, 40 C: K1=2.11, 55 C: K1=2.27

From literature, I=0: K1=3.31, B2=4.72, B3=6.30, B4=6.56

Cm+++ dis NaClO4 20°C 0.50M U K1=2.06 B2=3.09 1963GRa (19924) 49

****

C2H4O3 HL Glycolic acid CAS 79-14-1 (33)

2-Hydroxyethanoic acid; HO.CH2.COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values		Reference	ExptNo
Cm+++	dis	NaClO4	25°C	2.00M	U	T	K1=2.59	B2=4.56	1972CDb (20515)	50

0.5 C: K1=2.63, K2=1.83; 52 C: K1=2.52, K2=1.82

Cm+++ dis NaClO4 20°C 0.50M U K1=2.85 B2=4.75 1963GRa (20516) 51

****

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
Cm+++	dis	NaClO4	25°C	2.0M	U	T H T		1968TCa (21515)	52
							K(Cm+HL)=0.80		

K=0.62(0 C), 0.66(11 C), 0.95(40 C). DH=13.8 kJ mol-1, DS=62.7 J K-1 mol-1

****

C2H5O5P H3L CAS 4408-78-0 (4225)

Phosphonoethanoic acid; HOOC.CH2.PO3H2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Cm+++	ix	none	25°C	0.00	U			1972EZc (21891)	53
							K(Cm+HL)=5.17		
							B(Cm+2HL)=8.5		
							K(Cm+H2L)=2.72		

****

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
Cm+++	oth	KCl	10°C	1.50M	U		K1=2.59	B2=4.29	1972SNa (25424)	54

Method: (gelatinized cellulose acetate), electrophoresis

Cm+++	dis	R4N.X	20°C	0.50M	U			1967ESa (25425)	55
							B3=6.46		

Medium: NH4ClO4. By ix B3=5.78

****

C3H9O3P HL CAS 38585-11-9 (4238)

Ethyl(hydroxymethyl)phosphinic acid; C2H5(HO.CH2).PO2H

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Cm+++	ix	R4N.X	25°C	0.20M	U		K1=1.78	1972EZd (27998)	56

Medium: NH4ClO4

****

C4H2O4 H2L Squaric acid CAS 2892-51-5 (439)

3,4-Dihydroxy-3-cyclobutene-1,2-dione;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Cm+++	ix	R4N.X	25°C	1.00M	U		K1=2.34 B2=3.46	1972CSb (28641)	57

Medium: NH4ClO4

****

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
Cm+++	dis	oth/un	20°C	0.10M	U		K1=6.84	1966STa (31219)	58

Medium: NH4Cl

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Cm+++	dis	NaCl	?	0.10M	U		B2=7.40	1965MSd (31220)	59

Method: paper electrophoresis

****

C4H8N2O4 H2L CAS 39156-77-9 (3008)

Hydrazine-N,N-diethanoic acid; H2N.N(CH2.COOH)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Cm+++	oth	KNO3	25°C	0.10M	U		K1=10.98 B2=19.97 K(Cm+HL)=4.13	1971LSc (33102)	60

Method: electrical migration or transference number

****

C4H8O3 HL CAS 594-61-6 (81)

2-Hydroxy-2-methylpropanoic acid; (CH3)2C(OH).COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Cm+++	oth	oth/un	25°C	0.10M	U		K1=2.96 B2=5.15 B3=6.36	1971SHb (33457)	61

Method: electrical migration or transference number

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Cm+++	ix	R4N.X	25°C	0.50M	U		K1=2.46 B2=4.48 K3=1.04	1956OCa (33458)	62

Medium: NH4ClO4

****

C4H14N2O4P2 H2L CAS 37107-07-6 (4287)

Ethylenebis(iminomethylenephosphonous acid)

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Cm+++	ix	oth/un	25°C	0.50M	U			1971EZd (35829)	63
							K(Cm+H2L)=6.40		

****

C4H14N2O6P2 H2L EDDPO CAS 1733-49-9 (2435)
1,2-Diaminoethane-N,N'-bis(methylenephosphonic) acid; (H2O3P.CH2.NH.CH2)2

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Cm+++	ix	R4N.X	25°C	0.50M	U			1973EZa (35873)	64
							K(Cm+H2L)=6.40		

Medium: NH4ClO4

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Cm+++	oth	oth/un	25°C	0.10M	U		K1=16.57	1971SHb (35874)	65
							K(Cm+HL)=12.24		
							K(Cm+H2L)=7.80		
							K(Cm+H3L)=6.13		

Method: electrical migration or transference number

****

C6H8O7 H3L Citric acid CAS 77-92-9 (95)
2-Hydroxypropane-1,2,3-tricarboxylic acid; HOOCCH2.CH(OH)(COOH).CH2COOH

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Cm+++	dis	NaClO4	25°C	0.10M	U			1974HHa (46062)	66
							K(CmL2+6H)=14.23		
							K(Cm(HL)+5H)=9.63		
Cm+++	dis	oth/un	25°C	0.10M	U		K1=7.68	1971GBa (46063)	67
							K(Cm+2H3L=CmHL2+5H)=-9.7		
Cm+++	oth	oth/un	25°C	0.10M	U		K1=7.93 B2=11.23	1971STe (46064)	68
							K(CmL+HL)=2.50		

Constants obtained by survey of literature data

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Cm+++	oth	oth/un	?	?	U			1969MGf (46065)	69
							K(CmOH+L)=5.3		
							K(CmOH+2L)=9.32		
							K(Cm(OH)2+L)=5.38		

****

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
Cm+++	cal	NaClO4	25°C	0.50M	C	H	K1=11.30	1987CRa (46744)	70

DH(K1)=-11.5 kJ mol-1; DS(K1)=178 J K-1 mol-1

Cm+++ dis oth/un rt 6.00M U K1=11.18 B2=20.61 1975KPb (46745) 71
Method: distribution of Am betw. 1M trioctylamine in Toluole/EDTA in 6M LiNO3 aq.; pH=3-4

Cm+++ ix R4N.X 20°C 1.00M U K1=10.93 1971MOc (46746) 72
K(Cm+L+HL)=13.70
Medium: NH4Cl

Cm+++ oth oth/un 20°C 0.10M U K1=11.52 B2=19.57 1971SHb (46747) 73
K(Cm+L+HL)=13.72
Method: electrical migration or transference number

Cm+++ oth none 25°C 0.00 M K1=13.53 1969MOc (46748) 74
Constants from survey of literature data

Cm+++ ix R4N.X 25°C 0.10M U T K1=11.80 B2=20.58 1968EAa (46749) 75
Medium: NH4ClO4

Cm+++ dis R4N.X 20°C 0.10M U B2=20.13 1966STa (46750) 76
Medium: NH4Cl

****

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

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

---

Cm+++ oth KNO3 25°C 0.10M U 1972SHb (48704) 77
K(Cm+HL)=9.20
K(Cm+2HL)=17.60
Method: electrical migration or transference number

Cm+++ dis oth/un 25°C 0.10M U K1=9.27 1971EVb (48705) 78

Cm+++ oth oth/un 25°C 0.10M U K1=9.2 B2=16.7 1971SHb (48706) 79
Method: electrical migration or transference number

Cm+++ ix R4N.X 25°C 0.10M U K1=9.21 B2=17.13 1969EBa (48707) 80
Medium: NH4ClO4

****

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

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

---

Cm+++ oth KNO3 25°C 0.10M U K1=21.89 1971SHb (52326) 81
K(Cm+HL)=17.74
K(Cm+H2L)=14.47
K(Cm+H3L)=10.83
K(Cm+H4L)=6.43
K(Cm+H5L)=4.73. Method: electrical migration or transference number

****
C7H11NO6 H3L CAS 40199-58-4 (3165)
N-(2'-Carboxyethyl)iminodiethanoic acid; HOOC.CH2.CH2.N(CH2.COOH)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Cm+++ ix R4N.X 25°C 0.10M U K1=10.65 B2=17.95 1968EAa (56881) 82
K(Cm+HL)=4.12
Medium: NH4ClO4
****
C7H15O3P HL CAS 9095-99-6 (4458)
Diethylphosphinylpropanoic acid; (CH3.CH2)2.PO.CH2.CH2.COOH

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Cm+++ ix R4N.X 25°C 0.50M U K1=1.83 1972EZa (58025) 83
Medium: NH4ClO4
****
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
---
Cm+++ dis oth/un 25°C 0.10M U 1969KSa (58609) 84
B3=13.40
****
C8H22N2O6P2 H4L EDDIPH CAS 13516-59-1 (1355)
Diaminoethane-N,N'-di(isopropylphosphonic)acid;(CH2.NH.C(CH3)2.PO3H2)2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Cm+++ oth oth/un 25°C 0.10M U K1=17.70 1971SHb (63352) 85
K(Cm+HL)=13.85
K(Cm+H2L)=9.04
K(Cm+H3L)=6.26
Method : electrical migration or transference number
****
C10H7O2F3 HL CAS 326-06-7 (196)
3-Benzoyl-1,1,1-trifluoroacetone; CF3.CO.CH2.CO.C6H5

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Cm+++ dis oth/un 25°C 0.10M U 1969KSa (69139) 86
B3=15.15
****
C10H11NO5 H3L CAS 100844-86-8 (2108)
N-(2-Hydroxyphenyl)iminodiethanoic acid; HO.C6H4.N(CH2.COOH)2

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

```
Cm+++      dis R4N.X  25°C 0.10M U                      1971EVa (71040)  87
                                        K(Cm+HL)=6.80
                                        K(Cm+2HL)=11.94
Medium: 0.1 M NH4ClO4
**************************************************************************
C10H12N2O4            H2L                    CAS 16598-05-3  (967)
2-Pyridylmethyliminodiethanoic acid; C5H4N.CH2.N(CH2.COOH)2
--------------------------------------------------------------------------
Metal      Mtd Medium Temp Conc Cal Flags Lg K values       Reference ExptNo
--------------------------------------------------------------------------
Cm+++      ix  R4N.X  25°C 0.10M U        K1=9.21   B2=17.69  1969EBa (71254)  88
Medium: 0.1 M NH4ClO4
**************************************************************************
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
--------------------------------------------------------------------------
Cm+++      cal NaCl   25°C  2.0M U   H    K1=16.86       1985CLb (73662)  89
DH(K1)=-29.3 kJ mol-1
--------------------------------------------------------------------------
Cm+++      dis oth/un  rt  6.00M U        K1=17.33       1975KPb (73663)  90
Method: distribution of Am betw. 1M Trioctylamine in Toluol/EDTA in 6M
LiNO3 aq.; pH=3-4
--------------------------------------------------------------------------
Cm+++      oth KNO3   25°C 0.10M U      T K1=17.10       1972SHc (73664)  91
                                        K(Cm+HL)=9.32
Method: electrical migration or transference number
--------------------------------------------------------------------------
Cm+++      ix  R4N.X    ?  0.10M U  I     K1=17.29       1971EZb (73665)  92
Medium: (NH4ClO4), I= near zero, K1=19.95
--------------------------------------------------------------------------
Cm+++      oth oth/un 20°C 0.10M U        K1=17.10       1971SHb (73666)  93
                                        K(Cm+HL)=9.32
Method: electrical migration or transference number
--------------------------------------------------------------------------
Cm+++      ix  R4N.X  25°C 0.10M U        K1=18.45       1957FSa (73667)  94
Medium: 0.1 M NH4ClO4
**************************************************************************
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
--------------------------------------------------------------------------
Cm+++      dis KCl    25°C 0.10M U        B2=4.1         1971ZMa (75347)  95
                                        K(Cm+L+HL)=2.82
                                        K(Cm+2HL)=1.0
**************************************************************************
C11H11NO6             H3L                    CAS 1147-65-5  (425)
N-(2'-Carboxyphenyl)iminodiethanoic acid; HOOC.C6H4.N(CH2.COOH)2
```

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Cm+++ ix R4N.X 25°C 0.10M U K1=9.27 1969EBa (77825) 96
Medium: NH4ClO4
****
C11H18N2O8 H4L CAS 4408-81-5 (923)
1,3-Diaminopropane-N,N,N',N'-tetraethanoic acid; ((HOOC.CH2)2N.CH2.)2.CH2

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Cm+++ cal NaClO4 25°C 0.50M C H K1=13.05 1987CRa (79430) 97
DH(K1)=12.6 kJ mol-1; DS(K1)=292 J K-1 mol-1

Cm+++ dis NaCl 25°C 0.10M C K1=13.79 1985CMc (79431) 98
Method: extraction of 244Cm from 0.1 M NaCl (pH 5.5) into toluene/HDEHP.
****
C12H12N2O2 HL CAS 4173-74-4 (4915)
1-Phenyl-3-methyl-4-acetylpyrazol-5-one;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Cm+++ dis oth/un 25°C 0.10M U 1973BKc (81042) 99
B3=12.82
****
C14H9O2F3 HL (3429)
1,1,1-Trifluoro-1'-naphthoylacetone;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Cm+++ dis oth/un 25°C 0.10M U 1969KSa (86872) 100
B3=18.17
****
C14H16O3P2 HL CAS 1638-77-3 (5072)
(Methylenephosphinylmethyl)phenylphosphinic acid;

Metal Mtd Medium Temp Conc Cal Flags Lg K values Reference ExptNo
---
Cm+++ ix R4N.X 25°C 0.20M U I K1=3.35 1972EZb (88026) 101
Medium: NH4ClO4. I=0: K1=4.18
****
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
---
Cm+++ dis R4N.X 20°C 0.10M U K1=18.79 1990GBc (88611) 102
Medium: NH4ClO4

Cm+++ cal NaClO4 25°C 0.50M C H K1=18.10 1987CRa (88612) 103

DH(K1)=-9.7 kJ mol-1; DS(K1)=314 J K-1 mol-1

Cm+++ ix oth/un 25°C 0.10M U I K1=18.96 1971EZc (88613) 104
In I=0, K1=21.62
At 80 C: K1(I=0.05)=19.46, K1(0.06)=19.49, K1(0.07)=19.35, K1(0.17)=18.35

Cm+++ oth oth/un 25°C 0.10M U K1=18.34 1971SHb (88614) 105
K(Cm+HL)=9.30
Method: electrical migration or transference number.

Cm+++ oth oth/un ? 0.0 U K1=21.6 1969MOc (88615) 106
From survey of literature data

Cm+++ oth KCl 20°C 0.10M U K1=18.7 1967SMa (88616) 107
Method: ionic migration

Cm+++ ix R4N.X 25°C 0.10M U K1=18.81 1966BAc (88617) 108
Medium: NH4ClO4

Cm+++ dis R4N.X 20°C 0.10M U K1=18.40 1966STa (88618) 109
Medium: NH4Cl

****

C14H23N3O10 H5L DTPA CAS 67-43-6 (238)
Diethylenetriamine-pentaethanoic acid; HOOC.CH2.N(CH2.CH2.N(CH2.COOH)2)2

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

---

Cm+++ sp oth/un 20°C 0.50M U K1=22.85 1972PRc (89189) 110

Cm+++ ix R4N.X 25°C 0.10M U K1=23.81 1971BRa (89190) 111
K(Cm+HL)=15.48
Medium: NH4ClO4

Cm+++ ix R4N.X 20°C 1.0M U K1=21.1 1971MOc (89191) 112
Medium: NH4Cl

Cm+++ oth oth/un 25°C 0.10M U K1=22.83 1971SHb (89192) 113
K(Cm+HL)=14.40
Method: electrical migration or transference number.

Cm+++ oth oth/un ? 0.0 U K1=25.7 1969MOc (89193) 114
From survey of literature data

Cm+++ oth KNO3 25°C 0.10M U K1=22.83 1968LFb (89194) 115
Method: electromigration

Cm+++ oth oth/un 0.10M U K1=23.3 1966STb (89195) 116
Literature data from ORNL-3651

Cm+++ ix R4N.X 25°C 0.10M U K1=22.99 1965BAc (89196) 117

Medium: NH4ClO4

****

C17H14N2O2 L CAS 4551-69-3 (698)

4-Benzoyl-3-methyl-1-phenyl-2-pyrazolin-5-one;

Metal	Mtd	Medium	Temp	Conc	Cal	Flags	Lg K values	Reference	ExptNo
Cm+++	dis	oth/un	25°C	0.10M	U		B3=16.81	1973BKc (95876)	118

REFERENCES

1999FKa T Fanghanel,T Konnecke,H Weger; J.Solution Chem., 28,447 (1999)
1997BPa A Bahta,G Parker,D Tuck; Pure & Appl.Chem.,69,1489 (1997)
1990GBc B Gorski,G Buklanov et al; Radiochim.Acta,51,59 (1990)
1989MKb P Mohapatra,P Khopkar; Polyhedron,8,2071 (1989)
1987CRa G Choppin,E Rizkalla,J Sullivan; Inorg.Chem.,26,2318 (1987)
1985CLb G Choppin,Q Liu,J Sullivan; Inorg.Chem.,24,3968 (1985)
1985CMc G Choppin,A Muscatello; Inorg.Chim.Acta,109,67 (1985)
1983MCb C Musikas,C Cuillerdier,J Livet et al; Inorg.Chem.,22,2513 (1983)
1982FKb T Fukusawa,I Kawasuji et al; Bull.Chem.Soc.Jpn.,55,726 (1982)
1981LMa I Lebedev,Y Mazur; Radiokhim.,23,359 (1981)
1980KMa P Khopkar,J Mathur; J.Inorg.Nucl.Chem.,42,109 (1980)
1980KMe P Khopkar,J Mathur; Thermochim.Acta,37,71 (1980)
1978RBa P Rao,S Bagawde et al; J.Inorg.Nucl.Chem.,40,123 (1978)
1975KPb G Korpusov,E Patrusheva et al; Radiokhim.,17,512 (1975)
1974HHa S Hubert,M Hussonois,L Brillard et al; J.Inorg.Nucl.Chem.,36,2361 (1974)
1974KCa W Kinard,G Choppin; J.Inorg.Nucl.Chem.,36,1131 (1974)
1974KMa P Khopkar,J Mathur; J.Inorg.Nucl.Chem.,36,3819 (1974)
1973BKc W Bacher,C Keller; J.Inorg.Nucl.Chem.,35,2945 (1973)
1973CDd R Chiarizia,P Danesi,G Scibona et al; J.Inorg.Nucl.Chem.,35,3595 (1973)
1973EZa A Elesin,A Zaitsev,G Sergeev et al; Radiokhim.,15,64 (1973)
1973HHd M Hussonois,S Hubert,L Brillard et al; Radiochem.Radioanal.Lett.,15,47 (1973)
1973STe A Stepanov; Zh.Neorg.Khim.,18,371(E:194) (1973)
1972CDb G Choppin,G Degischer; J.Inorg.Nucl.Chem.,34,3473 (1972)
1972CSb L Cilindro,E Stadlbauer,C Keller; J.Inorg.Nucl.Chem.,34,2577 (1972)
1972EZa A Elesin,A Zaitsev; Radiokhim.,14,370 (1972)
1972EZb A Elesin,A Zaitsev,V Karaseva et al; Radiokhim.,14,374(E:385) (1972)
1972EZc A Elesin,A Zaitsev,S Kazakova,G Yakovlev; Radiokhim.,14,541 (1972)
1972EZd A Elesin,A Zaitsev,N Ivanovich et al; Radiokhim.,14,546 (1972)
1972HPb H Harmon,J Peterson et al; J.Inorg.Nucl.Chem.,34,1381 (1972)
1972MCc W McDowell,C Coleman; J.Inorg.Nucl.Chem.,34,2837 (1972)
1972PRc E Piskunov,A Rykov; Radiokhim.,14,2,260;265;330;332;641 (1972)
1972SHb A Shalinets; Radiokhim.,14,1,33;2,269 (1972)
1972SHc A Shalinets; Radiokhim.,14,2,275 (1972)
1972SNa M Sakanoue,M Nakatani; Bull.Chem.Soc.Jpn.,45,3429 (1972)
1972SSf A Shalinets,A Stepanov; Radiokhim.,14,280(E:290) (1972)
1971BRa E Brandau; Inorg.Nucl.Chem.Lett.,7,1177 (1971)
1971EVa V Ermakov,V Vorobeva,A Zaitsev et al; Radiokhim.,13,5,692 (1971)

1971EVb V Ermakov,V Vorobeva,A Zaitsev et al; Radiokhim.,13,6,840 (1971)
1971EZb A Elesin,A Zaitsev; Radiokhim.,13,5,775 (1971)
1971EZc A Elesin,A Zaitsev; Radiokhim.,13,6,902 (1971)
1971EZd A Elesin,A Zaitsev,G Sergeev et al; Sci.Res.At.React.Inst.Rep.,SRARI,109 (1971)
1971GBa R Guillaumont,L Bourderie; Bull.Soc.Chim.Fr.,2806 (1971)
1971LSc B Levakov,A Shalinets; Radiokhim.,13,2,295 (1971)
1971MOc A Moskvin; Radiokhim.,13,4,575;582;641 (1971)
1971MOd A Moskvin; Radiokhim.,13,668;674;682(E:688;694;700) (1971)
1971SHb A Shalinets; Radiokhim.,13,4,566 (1971)
1971STe A Stepanov; Zh.Neorg.Khim.,16,11,2981 (1971)
1971ZMa N Zaman,E Merciny,G Duyckaerts; Anal.Chim.Acta,56,271 (1971)
1970ALc A Aziz,S Lyle; J.Inorg.Nucl.Chem.,32,2383 (1970)
1969ALd A Aziz,S Lyle; J.Inorg.Nucl.Chem.,31,3471 (1969)
1969DHa B Desire,M Hussonois et al; Compt.Rend.,269C,448 (1969)
1969EBa S Eberle,I Bayat; Inorg.Nucl.Chem.Lett.,5,229 (1969)
1969GMa R Guillaumont,C de Miranda et al; Compt.Rend.,268C,140 (1969)
1969KSa C Keller,H Schreck; J.Inorg.Nucl.Chem.,31,1121 (1969)
1969MGf A Moutte,R Guillaumont; Rev.Chim.Minerale,6,603 (1969)
1969MOc A Moskvin; Radiokhim.,11,458(E:447) (1969)
1969NBa L Nugent,R Baybarz,J Burnett; J.Phys.Chem.,73,1177 (1969)
1968ALd A Aziz,S Lyle,S Naqvi; J.Inorg.Nucl.Chem.,30,1013 (1968)
1968EAa S Eberle,S Ali; Z.Anorg.Allg.Chem.,361,1 (1968)
1968LFb I Lebedev,V Filimonov et al.; Radiokhim.,10,93 (1968)
1968TCa S Tanner,G Choppin; Inorg.Chem.,7,2046 (1968)
1967BEa M Borisov,A Elesin,I Lebedev; Radiokhim.,8,2,166 (1967)
1967CCd R Carvalho,G Choppin; J.Inorg.Nucl.Chem.,29,725;737 (1967)
1967ELa A Elesin,I Lebedev,E Piskunov,G Yakovlev; Radiokhim.,9,161 (1967)
1967ESa V Ermakov,I Stary; Radiokhim.,9,197 (1967)
1967SMa A Stepanov,T Makarova; Radiokhim.,9,6,710 (1967)
1966BAc R Baybarz; J.Inorg.Nucl.Chem.,28,1055 (1966)
1966STa I Stary; Radiokhim.,8,5,504;509 (1966)
1966STb J Stary; Talanta,13,421 (1966)
1965BAc R Baybarz; J.Inorg.Nucl.Chem.,27,1831 (1965)
1965CKb G Choppin,J Ketels; J.Inorg.Nucl.Chem.,27,1335 (1965)
1965MIb J Miles; J.Inorg.Nucl.Chem.,27,1595 (1965)
1965MSd G Marcu,K Samochocka; Stud.Univ.Babes-Bolyai,10,71 (1965)
1963GRa I Grenthe; Acta Chem.Scand.,17,1814 (1963)
1962LYb I Lebedev,G Yakovlev; Radiokhim.,4,304 (1962)
1960LPa I Lebedev,S Pirozhkov,G Yakovlev; Radiokhim.,2,559 (1960)
1960LPb I Lebedev,S Pirozhkov,G Yakovlev; Radiokhim.,2,549 (1960)
1957FSa J Foreman,T Smith; J.Chem.Soc.,1752 (1957)
1956OCa B Odenheimer,G Choppin; J.Chem.Educ.,36,462 (1956)
1956WWa M Ward,G Welch; J.Inorg.Nucl.Chem.,2,395 (1956)
1954FEa D Feay; Thesis,Berkeley,UCRL-2547 (1954)

EXPLANATORY NOTES

DATA Flags are :-

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

EVALUATION Flags are :-

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

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