

SC-Database

Software version = 5.81 Data version = 4.62

Experiment list contains 600 experiments for

(no ligands specified)

2 metals : In+, In+++

(no references specified)

(no experimental details specified)

e- HL Electron (442)
Electron;

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|--|---------------|--------|
| In+ | vlt | NaClO4 | 20°C | 0.70M | U | | | | 1965VIa (589) | 1 |
| | | | | | | | | K(In+e=In(s))=-2.17, -126 mV K(In(III)+2In(s)=3In)=-10.89 | | |

Medium: 0.7M HClO4

Br- HL Bromide CAS 10035-10-6 (19)
Bromide;

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|-----------------|----------------|--------|
| In+ | vlt | NaNO3 | 23°C | 0.70M | U | | | K1=0.90 B2=1.95 | 1982RDa (2041) | 2 |
| | | | | | | | | B(In2Br)=1.88 | | |

| | | | | | | | | | | |
|-----|-----|-------|------|-------|---|--|--|-----------------|----------------|---|
| In+ | vlt | NaNO3 | 25°C | 1.00M | U | | | K1=1.56 B2=2.01 | 1979SMb (2042) | 3 |
|-----|-----|-------|------|-------|---|--|--|-----------------|----------------|---|

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

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|-----------------|----------------|--------|
| In+ | vlt | NaNO3 | 23°C | 0.70M | U | | | K1=2.04 B2=2.51 | 1982RDa (5069) | 4 |

| | | | | | | | | | | |
|-----|-----|-------|------|-------|---|--|--|---------|----------------|---|
| In+ | vlt | NaNO3 | 25°C | 1.00M | U | | | K1=2.37 | 1979SMb (5070) | 5 |
|-----|-----|-------|------|-------|---|--|--|---------|----------------|---|

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

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|----------|----------------|--------|
| In+ | vlt | NaNO3 | 23°C | 0.70M | U | | | B2=4.85 | 1982RDa (6963) | 6 |

| | | | | | | | | | | |
|-----|-----|--------|------|-------|---|--|--|---------|----------------|---|
| In+ | vlt | oth/un | 25°C | 0.10M | U | | | K1=2.46 | 1979SMa (6964) | 7 |
|-----|-----|--------|------|-------|---|--|--|---------|----------------|---|

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

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|--------------|-----|--------|------|-------------|-----|-------|----|-----------------|----------------|--------|
| In+ | vlt | NaNO3 | 23°C | 0.70M | U | | | K1=2.40 B2=3.62 | 1982RDa (9381) | 8 |
| ***** | | | | | | | | | | |
| SCN- | | HL | | Thiocyanate | | | | CAS 463-56-9 | (106) | |
| Thiocyanate; | | | | | | | | | | |

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|----------|-----|--------|------|---------|-----|-------|----|-----------------|-----------------|--------|
| In+ | vlt | NaNO3 | 23°C | 0.70M | U | | | K1=2.23 B2=3.18 | 1982RDa (15089) | 9 |
| ***** | | | | | | | | | | |
| S04-- | | H2L | | Sulfate | | | | CAS 7664-93-9 | (15) | |
| Sulfate; | | | | | | | | | | |

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|-----------|-----|--------|------|----------|-----|-------|----|----------------|-----------------|--------|
| In+ | vlt | NaNO3 | 23°C | 0.70M | U | | | | 1982RDa (16255) | 10 |
| ***** | | | | | | | | | | |
| e- | | HL | | Electron | | | | B(In2S04)=0.90 | (442) | |
| Electron; | | | | | | | | | | |

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|--|-----|--------|------|------|-----|-------|----|----------|---------------|--------|
| In+++ | kin | oth/un | 25°C | | U | T H | | | 1971KCa (590) | 11 |
| ***** | | | | | | | | | | |
| K(In + 2In(s)=3In+)=-8.37 | | | | | | | | | | |
| Medium: InBr3 at various concentrations; DH=110.0 kJ mol-1; K=-9.70(10 C), -8.02(30 C), -7.40(40 C), -6.65(60 C) | | | | | | | | | | |

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|---|-----|--------|------|-------|-----|-------|----|----------|---------------|--------|
| In+++ | ISE | oth/un | 25°C | 0.10M | U | T | | | 1970EKa (591) | 12 |
| ***** | | | | | | | | | | |
| K(In + 2In(s)=3In+)=-8.52 | | | | | | | | | | |
| Medium: 0.1 M In(ClO4)3, 0.005 M HClO4; K=-7.89(35 C), -6.89(45 C), -5.68(60 C), -4.89(75 C), -3.85(90 C) | | | | | | | | | | |

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|---|-----|--------|------|-------|-----|-------|----|----------|---------------|--------|
| In+++ | ISE | oth/un | 25°C | 0.10M | U | T | | | 1970EKa (592) | 13 |
| ***** | | | | | | | | | | |
| K(In + 2In(s)=3In+)=-9.48 | | | | | | | | | | |
| Medium: 0.1 M In(ClO4)3, 0.5 M HClO4; K=-9.33(35 C), -9.07(45 C), -8.64(60 C), -8.41(75 C), -8.25(90 C) | | | | | | | | | | |

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|----------------------------|-----|--------|-------|------|-----|-------|----|----------|---------------|--------|
| In+++ | EMF | oth/un | 135°C | | U | | | | 1969APa (593) | 14 |
| ***** | | | | | | | | | | |
| K(In + 2In(s)=3In+) > 27.2 | | | | | | | | | | |
| Medium: (Na,K,Al)Cl | | | | | | | | | | |

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|-------------------------|-----|--------|------|------|-----|-------|----|----------|---------------|--------|
| In+++ | oth | non-aq | 24°C | 100% | U | | | | 1967HPa (594) | 15 |
| ***** | | | | | | | | | | |
| K(In+2In/Hg=3In+)=-0.54 | | | | | | | | | | |
| Medium: MeCN | | | | | | | | | | |

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|---|-----|--------|------|------|-----|-------|----|----------|---------------|--------|
| In+++ | EMF | none | 15°C | 0.0 | U | T | | | 1963CHb (595) | 16 |
| ***** | | | | | | | | | | |
| K(In+3e=In(s))=-17.82 | | | | | | | | | | |
| K=-16.58(35 C), -16.08(45 C), -15.35(60 C), -338.1 mV | | | | | | | | | | |

 In+++ EMF NaClO4 25°C 3.0M U 1960BWa (596) 17
 K(In+2e=In(I))=-14.37(-425 mV)
 K(In+3e=In(s))=-17.40(-343 mV)
 K(In+2In(s)=3In(I))=-8.4

In+++ EMF none 25°C 0.0 U 1954Kwa (597) 18
 K(In+2e=In(I))=-13.7(-404.2 mV)
 K=-17.03(-335.8)
 K'=-6.94

K: In+3e=In(s). K=-17.66(18.5 C;340.7 mV), -16.00(35 C;326.1 mV), -13.71(60 C;
 -302.0 mV). K': In+2In(s)=3In(I). K'=-7.03(18.5 C), -6.74(40 C), -6.60(49.5 C)

Br- HL Bromide CAS 10035-10-6 (19)
 Bromide;

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

 In+++ cal non-aq 25°C 100% C H K1=6.9 B2=12.20 1996TSa (2043) 19
 K3=3.26
 K4=1.92

Medium: N,N-Dimethylformamide, 0.20 M Et4NClO4.
 DH(K1)=-2.9 kJ mol⁻¹, DH(K2)=0.5, DH(K3)=3.6, DH(K4)=54.2.

 In+++ oth NaClO4 25°C 3.0M C IH T K1=2.10 B2=3.05 1983TUa (2044) 20
 IUPAC evaluation. DH(K1)=1.95 kJ mol⁻¹, DS=44 J K⁻¹ mol⁻¹

 In+++ vlt oth/un 25°C 1.0M U K1=2.38 1982TTa (2045) 21
 in 1.0 M HClO4/LiClO4

 In+++ vlt NaClO4 20°C 4.0M C K1=2.10 B2= 2.40 1975KBd (2046) 22
 B3=2.50
 B4=0.60

Method: polarography. Medium pH 3.0.

 In+++ ISE non-aq 25°C 100% U K1=3.84 B2=6.78 1973SLd (2047) 23
 B3=7.00
 B4=8.87

Medium: DMSO, 1 M LiClO4. Method: InHg electrode

 In+++ EMF non-aq 25°C 100% U K1=1.45 B2=1.81 1972SGc (2048) 24
 B3=2.49

Medium: formamide, 1.1 M NaNO3

 In+++ vlt NaClO4 25°C 2.0M U K1=2.21 B2=2.71 1971MOa (2049) 25
 B3=2.56

 In+++ dis NaClO4 25°C 4.0M U K1=2.6 B2=3.24 1970HAb (2050) 26
 B3=3.24
 B4=2.18

| | | | | | | | | | | |
|---|-----|--------------------|------|-------|---|--|---------|---------|--------|----|
| In+++ | oth | oth/un | ? | var | U | K1=1.7 K3=0.7 | B2=2.40 | 1969HPb | (2051) | 27 |
| Method: Raman | | | | | | | | | | |
| In+++ | ISE | non-aq | 25°C | 100% | U | K1=3.51 B3=8.30 B4=10.51 B5=13.2 B6=16.0 | B2=5.80 | 1969KSg | (2052) | 28 |
| Medium: DMF, 1 M LiClO ₄ . Method: In amalgam electrode | | | | | | | | | | |
| In+++ | cal | NaClO ₄ | 25°C | 2.0M | U | H | | 1969RYa | (2053) | 29 |
| DH(K1)=1.97 kJ mol ⁻¹ , DH(K2)=5.65; DS(K1)=44.4 J K ⁻¹ mol ⁻¹ , DS(K2)=30.5 | | | | | | | | | | |
| In+++ | ix | none | rt | 0.0 | U | K2=1.3 K3=0.59 K4=-0.52 K5=-1.6 K6=-2.2 | | 1962AKb | (2054) | 30 |
| In+++ | vlt | NaNO ₃ | 25°C | 4.0M | U | K1=1.36 | B2=1.52 | 1962FSa | (2055) | 31 |
| B2=1.72 by In/Hg electrode | | | | | | | | | | |
| In+++ | ix | NaClO ₄ | 20°C | 0.69M | U | K1=2.06 K3=0.34 | B2=3.13 | 1959BKa | (2056) | 32 |
| Method: cation exchange. Medium: HClO ₄ | | | | | | | | | | |
| In+++ | dis | oth/un | 25°C | 0.0 | U | K3=-1.22 K4=-1.92 | | 1958DIa | (2057) | 33 |
| In+++ | sp | NaClO ₄ | 22°C | 4.0M | U | K1=2.08 K3=0.60 K4=0.85 | B2=3.36 | 1957BHa | (2058) | 34 |
| In+++ | ix | NaClO ₄ | 20°C | 0.69M | U | K1=2.01 K3=0.18 | B2=3.10 | 1954CIa | (2059) | 35 |
| Method: cation exchange. Medium: HClO ₄ | | | | | | | | | | |
| In+++ | vlt | NaClO ₄ | 25°C | 2.0M | U | K1=3.8 | B2=4.8 | 1954CVb | (2060) | 36 |
| In+++ | gl | oth/un | 25°C | var | U | K1=1.82 | | 1954ROa | (2061) | 37 |
| In+++ | ix | NaClO ₄ | 25°C | 1.0M | U | K1=1.20 K3=0.70 | B2=1.78 | 1954SEb | (2062) | 38 |
| Method: cation exchange. Medium: NaClO ₄ , pH 3.8 | | | | | | | | | | |
| In+++ | ISE | NaClO ₄ | 20°C | 2.0M | U | K1=1.98 | B2=2.56 | 1954SUa | (2063) | 39 |

In+++ dis NaClO4 20°C 1.0M U K1=1.93 B2=2.60 1954Sub (2064) 40
By cation exchange K1=1.90

In+++ gl oth/un 25°C var U K1=2.20 1952HHa (2065) 41

BrO3- HL Bromate (6017)
Bromate;

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

In+++ dis NaClO4 25°C 4.0M U K1=-0.12 1970HAb (2413) 42

C6N6Fe---- H4L (2191)
Hexacyanoferrate (II); Fe(II)(CN)6----

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

In+++ sol oth/un 25°C var U Kso=-43.72 1956TGb (3570) 43

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

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

In+++ cal non-aq 25°C 100% C H K1=9.2 B2=16.60 1996TSa (5071) 44
K3=5.26
K4=2.91
Medium: N,N-Dimethylformamide, 0.20 M Et4NClO4.
DH(K1)=-14.9 kJ mol⁻¹, DH(K2)=-10.7, DH(K3)=-6.9, DH(K4)=29.6.

In+++ EMF NaClO4 25°C 5.0M C K1=2.64 B2= 3.99 1994FSa (5072) 45
B3=4.45
B4=3.59
B5=2.65
B6=2.18

Method: In/Hg amalgam electrode

In+++ oth NaClO4 25°C 3.0M C IH T K1=2.40 B2=3.70 1983TUa (5073) 46
IUPAC evaluation. DH(K1)=5.1 kJ mol⁻¹, DS=57 J K⁻¹ mol⁻¹

In+++ vlt oth/un 25°C 1.0M U K1=2.52 1982TTa (5074) 47
in 1.0 M HClO4/LiClO4

In+++ dis NaClO4 25°C 4.0M U K1=2.58 B2= 3.95 1980HSb (5075) 48
K3=0.06
K4=0.11

Distribution into n-hexane with trioctylphosphine oxide

In+++ vlt NaClO4 20°C 4.0M C K1=2.70 B2= 3.20 1975KBd (5076) 49

B3=4.20

B4=3.30

Method: polarography. Medium pH 3.0.

In+++ ix NaClO4 20°C 0.69M U K1=2.40 B2=3.44 1974MIId (5077) 50
B3=4.09 or 4.30

Medium: HClO4

In+++ ISE non-aq 25°C 100% U K1=7.48 B2=9.30 1973SLd (5078) 51
B3=11.48
B4=13.30
B5=14.48

Medium: DMSO, 1 M LiClO4. Method: In amalgam electrode. Using least squares:
B4=13.34, B5=14.56

In+++ ISE NaClO4 25°C 3.0M U T K1=2.58 B2=3.84 1972FEa (5079) 52
B3=4.2
K(InL+H2O=InL(OH)+H)=-3.9
K(InL+In+H2O=In2L(OH)+H)=-2.3

Method: In amalgam and Ag electrodes

In+++ dis non-aq 25°C 100% U TI 1972G0c (5080) 53
K(InL4+H)=3.2

Medium: methylbutyl ketone, 25-40 C. K(InL4+H)=3.3(60 C)

In nitrobenzene: K(InL4+H)=3.9

In+++ EMF non-aq 25°C 100% U K1=1.84 B2=1.86 1972SGc (5081) 54

Medium: formamide, 1.1 M NaNO3

In+++ oth oth/un ? var U 1971SCc (5082) 55
K3=-0.5
K4=-0.7

Method: ionophoresis

In+++ dis NaClO4 25°C 4.0M U K1=2.61 B2=4.18 1970HAb (5083) 56

In+++ oth oth/un ? var U K1=1.0 B2=1.70 1969HPb (5084) 57
K3K4=1.5

Method: Raman

In+++ ISE non-aq 25°C 100% U K1=3.8 B2=6.0 1969KSg (5085) 58
B3=9.0
B4=11.4
B5=14.2
B6=17.8

Medium: DMF, 1 M LiClO4. Method: emf with In amalgam electrode

In+++ ix NaNO3 25°C 1.50M U I K1=2.49 B2=4.03 1969MNb (5086) 59
B3=3.53 ?

In LiNO3: K1=1.75. In KNO3: K1=2.67, B2=4.4, B3=4.9

| | | | | | | | | | | |
|---|-----|--------|------|-------|---|---|--------------------------------|--------------------|----------------|----|
| In+++ | cal | NaClO4 | 25°C | 2.0M | U | H | K1=2.08 K3=-0.35 | B2=3.58 | 1969RYa (5087) | 60 |
| DH(K1)=5.2 kJ mol ⁻¹ , DS=57 J K ⁻¹ mol ⁻¹ ; DH(K2)=3.26, DS=40; DH(K3)=33.5, DS=109 | | | | | | | | | | |
| In+++ | ix | NaClO4 | ? | 0.50M | U | I | K1=2.47 B3=3.94 | B2=3.11 | 1964VRa (5088) | 61 |
| Method: cation exchange. Med: HClO4. In 20% EtOH: K1=2.59, B2=3.75, B3=4.53; In 40% EtOH: K1=2.68, B2=4.18, B3=4.84. | | | | | | | | | | |
| In+++ | ix | none | 25°C | 0.0 | U | | K2=0.05 K3=0.45 K4=-1.6 | | 1963MMd (5089) | 62 |
| In+++ | ISE | none | 25°C | 0.0 | U | | K1=1.72 | B2=2.64 | 1962APa (5090) | 63 |
| In+++ | vlt | NaClO4 | 25°C | 4.0M | U | | K1=2.26 B3=3.55 | B2=2.50 | 1962FSa (5091) | 64 |
| In+++ | dis | NaClO4 | 25°C | 1.0M | U | I | K1=2.52 | | 1961WKb (5092) | 65 |
| Medium: HClO4. K1=2.51 (I=2). Also distribution measurements | | | | | | | | | | |
| In+++ | ISE | none | 25°C | 0.0 | U | M | | | 1959ASd (5093) | 66 |
| Kso(In(OH) _{3-x} Lx) = -20.88 + 0.86 log[L] Kso(In(OH) _{3-x} Lx) = -25.20 | | | | | | | | | | |
| In+++ | ix | NaClO4 | 20°C | 0.70M | U | | K1=2.27 K3=0.47 | B2=3.67 | 1959BKa (5094) | 67 |
| In+++ | dis | none | 25°C | 0.0 | U | | K3=-0.32 K4=-1.12 | | 1959MEc (5095) | 68 |
| In+++ | dis | none | 25°C | 0.0 | U | | K3=-0.53 K4=-1.26 | | 1958DId (5096) | 69 |
| In+++ | ix | none | 25°C | 0.0 | U | | K1=1.0? K3=0.05 K4=-0.20 | B2=1.5 | 1958MAb (5097) | 70 |
| In+++ | vlt | none | 25°C | 0.0 | U | | | B2=6.28 B4=7.44 | 1958ZBa (5098) | 71 |
| In+++ | ix | NaClO4 | 20°C | 0.69M | U | | K1=2.36 K3=0.32 | B2=3.63 | 1954CIa (5099) | 72 |
| In+++ | vlt | NaClO4 | 25°C | 2.0M | U | | K1=4.3 | B2=6.1 | 1954CVb (5100) | 73 |
| In+++ | ix | NaClO4 | 25°C | 1.0M | U | | K1=1.42 | B2=2.23 | 1954SEb (5101) | 74 |

K3=1.00

In+++ ISE NaClO4 20°C 2.0M U I K1=2.15 B2=3.59 1954SUa (5102) 75
By ion exchange, I=1.0 M, K1=2.18

In+++ dis NaClO4 20°C 1.0M U K1=2.20 B2=3.56 1954Sub (5103) 76

In+++ vlt none 25°C 0.0 U B2=1.7 1951SSb (5104) 77
B4=-1

In+++ gl oth/un 25°C var U K1=2.04 1941MOa (5105) 78

ClO3- HL Chlorate CAS 7790-93-4 (971)
Chlorate;

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

In+++ dis NaClO4 25°C 4.0M U K1=-0.37 1970HAb (6036) 79

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

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

In+++ ISE KNO3 25°C 0.10M C M K1=3.64 B2=6.54 1987YHa (6965) 80
K(InA+F)= 2.0(H3A=NTA), 2.0(H3A=HEDTA), 1.6(H4A=EDTA), 2.1(H4A=CDTA)

In+++ oth NaClO4 25°C 3.0M C IH R K1=3.70 B2=6.36 1983TUa (6966) 81
IUPAC evaluation. K2 T(entative)
DH(K1), T(entative)=9.1, DS=101 J K-1 mol-1

In+++ cal NaClO4 25°C 0.50M U I K1=3.75 B2=6.61 1974VKb (6967) 82
B3=8.60
B4=9.87
K1=3.69, B2=6.52, B3=8.63, B4=9.90(I=1); K1=3.74, B2=6.63, B3=9.04, B4=10.31(I=2)

In+++ cal none 25°C 0.0 U H K1=4.66 B2=8.12 1974VKb (6968) 83
B3=10.27
B4=11.54
DH(K1)=10.9 kJ mol-1, DH(B2)=23.2, DH(B3)=29.5, DH(B4)=38.0.
DH values also for I=0.5, 1.0, 2.0 M

In+++ EMF NaClO4 25°C 1.0M U H 1971WTa (6969) 84
K(In+HF=InF+H)=0.78
K(InF+HF=InF2+H)=0.0

Method: quinhydrone electrode. By calorimetry: DH(K1)=12.5 kJ mol-1,
DS=114 J K-1 mol-1

In+++ ISE NaClO4 25°C ? U H K1=3.69 B2=6.52 1969RYa (6970) 85
K3=2.11

K4=1.3

By calorimetry: DH(K1)=9.2 kJ mol⁻¹, DS=101 J K⁻¹ mol⁻¹; DH(K2)=7.7, DS=80; DH(K3)=13.8, DS=87

In+++ dis NaClO4 25°C 1.0M U K1=3.67 B2=6.26 1968ALe (6971) 86
B3=8.61

In+++ EMF none 25°C 0.0 U IH K1=4.63 1955PAa (6972) 87
DH(K1)=10 kJ mol⁻¹, DH(K2)=17; DS(K1)=DS(K2)=100 J K⁻¹ mol⁻¹
At I=0 corr: K1=4.63, DS(K1)=DS(K2)=140

In+++ EMF NaClO4 25°C 0.50M U TIH K1=3.75 B2=6.36 1954Hka (6973) 88
K(In+HF=InF+H)=0.84
K(InF+HF=InF2+H)=-0.30
At 15 C: K1=3.70, K2=2.55, *K1=0.85, *K2=-0.30. 35 C: 3.83, 2.78, 0.83, -0.22.
DH(K1)=10 kJ mol⁻¹, DH(K2)=17, DH(*K1)=-2, DH(*K2)=4. At I=0 K1=4.63, DS=140

In+++ ix NaClO4 25°C 1.0M U K1=3.00 B2=5.78 1954SEb (6974) 89
K3=2.82

Method: cation exchange, pH 3.8

In+++ EMF NaClO4 20°C 1.0M U K1=3.70 B2=6.26 1954Sub (6975) 90
K3=2.34
K4=1.10

FClBrI HL (541)
Halides, comparative (for book data under ligand 80)

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

In+++ EMF NaNO3 25°C 4.0M U M 1962FSa (7406) 91
B(InClBr)=2.54
B(InCl2Br)=2.86
B(InCl3Br)=2.90

Medium: In/Hg electrode

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

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

In+++ cal non-aq 25°C 100% C H K1=4.2 B2= 7.20 1996TSa (8169) 92
K3=1.2
K4=1.8

Medium: N,N-Dimethylformamide, 0.20 M Et4NClO4.
DH(K1)=11.0 kJ mol⁻¹, DH(K2)=12.6, DH(K3)=10, DH(K4)=54.

In+++ vlt NaClO4 25°C 1.0M C K1=3.10 B2= 3.80 1988MFb (8170) 93
Analysis of literature data, applying correction for adsorption on Hg drop

| | | | | | | | | | | |
|---|-----|--------|-------|--------|-----|---|---------|----------|-----------|--------|
| In+++ | vlt | oth/un | 25°C | 1.0M | U | K1=1.89 | 1982TTa | (8171) | 94 | |
| in 1.0 M HClO4/LiClO4 | | | | | | | | | | |
| In+++ | vlt | NaClO4 | 20°C | 4.0M | C | K1=1.35 B2= 1.40 B3=1.30 B4=0.50 | 1975KBd | (8172) | 95 | |
| Method: polarography. Medium pH 3.0. | | | | | | | | | | |
| In+++ | ISE | non-aq | 25°C | 100% | U | K1=2.36 | B2=2.83 | 1973SLc | (8173) | 96 |
| Medium: DMSO, 1 M LiClO4. In amalgam electrode. By least squares: K1=2.30, B2=2.85 | | | | | | | | | | |
| In+++ | EMF | non-aq | 25°C | 100% | U | K1=1.0 | B2=1.8 | 1972SGc | (8174) | 97 |
| Medium: formamide, 1.1 M NaNO3 | | | | | | | | | | |
| In+++ | EMF | non-aq | 25°C | 100% | U | K1=3.25 B2=5.24 B3=7.40 B4=8.32 | 1971SAg | (8175) | 98 | |
| Medium: DMF | | | | | | | | | | |
| In+++ | dis | NaClO4 | 25°C | 4.0M | U | K1=1.97 B2=2.25 B3=1.9 to 2.2 | 1970HAb | (8176) | 99 | |
| In+++ | cal | NaClO4 | 25°C | 2.0M | U | H | 1969RYa | (8177) | 100 | |
| DH(K1)=-3.0 kJ mol ⁻¹ , DH(K2)=3.4; DS(K1)=9.6 J K ⁻¹ mol ⁻¹ , DS(K2)=35.1 | | | | | | | | | | |
| In+++ | con | non-aq | 140°C | 100% | U | K(InI3+I2=I+InI4)=-1.89 | 1967BNc | (8178) | 101 | |
| Medium: liquid I2 | | | | | | | | | | |
| In+++ | gl | oth/un | 25°C | var | U | K1=1.69 | 1964PCa | (8179) | 102 | |
| In+++ | ix | NaClO4 | 20°C | 0.69M | U | K1=1.64 B2=2.56 K3=-0.08 | 1954CIa | (8180) | 103 | |
| Method: cation exchange. Medium: HClO4 | | | | | | | | | | |
| In+++ | vlt | NaClO4 | 25°C | 2.0M | U | K1=3.1 | B2=3.8 | 1954CVb | (8181) | 104 |
| In+++ | ix | NaClO4 | 25°C | 1.0M | U | K1=0.30 | 1954SEb | (8182) | 105 | |
| Method: cation exchange at pH=3.8 | | | | | | | | | | |
| In+++ | gl | NaClO4 | 20°C | 2.0M | U | K1=1.00 | B2=2.26 | 1954Sub | (8183) | 106 |
| In+++ | gl | oth/un | 25°C | var | U | K1=1.98 | 1952HHa | (8184) | 107 | |
| ***** | | | | | | | | | | |
| I03- | | HL | | Iodate | | CAS 7782-68-5 | (1257) | | | |
| Iodate; | | | | | | | | | | |
| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |

In+++ dis NaClO4 25°C 4.0M U K1=1.02 B2=2.64 1970HAb (8521) 108

IrCl6--- H3L (1615)

Hexachloroiridate;

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

In+++ gl NaClO4 25°C 0.10M U T K1=2.15 1979SKa (8622) 109

Data also available when T=20, 35 and 42.

Alternative method: Kinetic methods.

NH3 L Ammonia CAS 7664-41-7 (414)

Ammonia

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

In+++ gl R4N.X 25°C 5.00M U K1=4.0 1985MMa (9170) 110

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

Nitrite;

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

In+++ gl NaClO4 25°C 1.00M U K1=2.6 B2=4.0 1990EAa (9382) 111

B3=4.9

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

Nitrate;

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

In+++ oth NaClO4 20°C 0.69M C IH T K1=0.18 B2=-0.31 1983TUa (9714) 112

IUPAC evaluation

In+++ dis NaClO4 25°C 4.0M U K1=-0.43 1970HAb (9715) 113

In+++ ix NaClO4 20°C 0.69M U T K1=0.18 B2=-0.31 1968FDb (9716) 114

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

Azide;

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

In+++ vlt NaClO4 25°C 2.0M C K1=3.57 B2= 5.93 1995TBa (10235) 115

B3=7.70

B4=9.32

Method: polarography.

In+++ gl NaClO4 25°C 2.0M C K1=3.31 B2= 5.61 1989BTa (10236) 116

B3=7.26

$K[\text{In}(\text{OH})+\text{H}]=3.64$
 $K[\text{In}(\text{OH})_2+2\text{H}]=6.5$

In 3.0 M LiClO₄ in 0.36 mol parts acetone in H₂O
For 3.0 M LiClO₄ in 100% H₂O $K(\text{In}(\text{OH})+\text{H})=4.26$

In+++ EMF NaClO₄ 25°C 1.50M U 1974G0c (11630) 126
*B(2,2)=-7.85
*B(2,3)=-10.30
*B(2,4)=-13.25

In+++ gl mixed 25°C 0.11M U I 1974KYa (11631) 127
*K1=-4.35
*B2=-7.41

Medium: 0.11 M DMSO/H₂O, M LiClO₄. In aqueous soln., *K1=-4.22, *B2=-7.14.
In 0.28 M DMSO, *K1=-4.55, *B2=-7.70. In 0.56 M DMSO, *K1=-4.82, *B2=-7.96

In+++ gl mixed 25°C 0.84M U I 1974KYa (11632) 128
*K1=-5.19
*B2=-8.25

Medium: 0.84 M DMSO/H₂O, 3 M LiClO₄. In 1.12 M DMSO, *K1=-5.89, *B2=-8.52.
In 1.68 M DMSO, *K1=-6.10, *B2=-8.62. In 2.26 M DMSO, *K1=-6.70, *B2=-8.70

In+++ gl mixed 25°C 0.50M U 1974KYa (11633) 129
*K1=-3.63

Medium: 0.5 to 2.6 M N,N-dimethylformamide/H₂O, 3 M LiClO₄

In+++ kin oth/un 25°C U 1970HRb (11634) 130
*K1=-5.0

In+++ sol oth/un 25°C U 1970IEb (11635) 131
 $K(\text{InL}_3(\text{s})+\text{L}=\text{InL}_4)=-3.9$
 $K(\text{InL}_3(\text{s})+2\text{L}=\text{InL}_5)=-5.5$
 $K(\text{InL}_3(\text{s})+3\text{L}=\text{InL}_6)=-7.3$

In+++ dis NaClO₄ 25°C 3.00M U K1=9.59 B2=19.43 1969ALc (11636) 132

In+++ sp NaClO₄ 25°C 0.10M U I K1=10.52 B2=20.32 1969BNd (11637) 133
B3=29.26

K1=10.60, B2=20.59, B3=29.63(I=0.3); K1=10.67, B2=20.78, B3=29.93(I=0.5);
K1=10.89, B2=21.34, B3=30.88(I=1) Glass electrode also used

In+++ dis oth/un 25°C 1.00M U 1965SAe (11638) 134
*K1=-2.11
*K2=-2.45
*K3=-2.68

In+++ sol none 25°C 0.0 U 1963TPa (11639) 135
*Ks(In(OH)₃+H=In(OH)₂+H₂O)=0.2
 $K_s(\text{In}(\text{OH})_3(\text{s})+\text{OH}=\text{In}(\text{OH})_4)=-3.0$
 $K_s(\text{In}(\text{OH})_3+2\text{OH})=-1.6?$

Ks(In(OH)3+3OH)=-0.5?

In+++ gl NaCl 25°C 3.0M U 1961BLc (11640) 136

*K1=-6.95
*B(2,2)=-10.15

In+++ vlt none 20°C 0.0 U 1961KBc (11641) 137

Kso=-32.85

In+++ cal NaClO4 25°C 3.0M U H 1961SCb (11642) 138

DH(*K1)=20.3 kJ mol⁻¹, DS=-17; DH(*B2)=ca.59?, DH(*B(2,2))=42.6, DS=43.1;
DH(*B(n+1,2n))=42.59n, DS=53.1n-10.0

In+++ gl none 25°C 0.0 U 1959ASd (11643) 139

Kso=-36.92

In+++ oth none 25°C 0.0 U 1958VPa (11644) 140

*Kso=7.73(In2O3)
*Kso=8.65(In(OH)3)

*Kso(1/2In2O3(s)+3H=In+1.5H2O); *Kso(In(OH)3(s)+3H=In+3H2O)

Method: combination of thermodynamic data

In+++ gl NaClO4 25°C 3.0M U 1956BIa (11645) 141

*K1=-4.42
*K2=-3.9
*B(2,2)=-5.21
*B(n+1,2n)=-0.52-4.69n

*B(m,n)(mIn+nH2O=Inm(OH)n+nH). Method: also with In/Hg electrode

In+++ dis NaClO4 25°C 3.0M U 1956RRa (11646) 142

*K1=-4.4
*K2=-4.4

In+++ gl none 18°C 0.0 U 1949LAa (11647) 143

Kso=-33.9

In+++ gl oth/un 25°C var U 1942MOa (11648) 144

*K1=-4.92(in InCl3)
*K1=-4.85(in InBr3)
*K1=-4.74(in InI3)
*K1=-3.85

In+++ gl oth/un 25°C dil U T 1941MOa (11649) 145

Kso=-33.2

Kso=-34.4(10 C), -32.6(40 C)

In+++ gl oth/un 25°C dil U 1938OKa (11650) 146

Kso=-33.2

In+++ oth oth/un 23°C dil U 1936HVa (11651) 147

*K1=-3.70

In+++ vlt oth/un 25°C 1.0M U 1925HEa (11652) 148
Kso=-33(fresh)
Kso=-35(aged)
Ks(In(OH)3(s)+OH)=-4.6
*Ks(In(OH)3+H2O=In(OH)4)=-18.6

P04--- H3L Phosphate CAS 7664-38-2 (176)
Phosphate;

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

In+++ sp NaClO4 25°C 0.20M U 1980FIa (13222) 149
K(In+HPO4)=7.40
K(In+2HPO4)=13.71

In+++ ix R4N.X 25°C 0.20M U 1974FGc (13223) 150
K(2In+H2L=In2HL+H)=0.09

In+++ ix NaClO4 20°C 0.90M U 1974FKa (13224) 151
K(In+H2L)=2.34

In+++ sol NaClO4 25°C 1.0M U 1968DTa (13225) 152
Kso=-21.63

P207---- H4L Pyrophosphate CAS 2466-09-3 (198)
Diphosphate; from (HO)2PO.O.PO(OH)2

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

In+++ dis NaClO4 20°C 0.10M U 1978ISa (13600) 153
K(In+HL+L)=21.99
B(InL2)=23.80

In+++ sp NaClO4 20°C 0.10M U I 1969SAd (13601) 154
K(In+HL)=10.2
K(In+HL+H2L)=14.3
When I=0 corr, K(In+HL)=12.3, K(In+HL+H2L)=15.8

In+++ sol oth/un 20°C var U T 1964GLa (13602) 155
Kso(In4L3)=-62.5
K(InHL(s)=In+HL)=-12.44

P3010----- H5L CAS 10380-08-2 (1001)
Tripolyphosphate; from (HO)2PO.O.PO(OH).O.PO(OH)2

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

In+++ sp NaClO4 20°C 0.10M U I 1967ASc (13867) 156

B4=4.9
B5=4.4

K1=2.33, B2=4.06(I=0.1); K1=1.89, B2=3.60, B3=3.85, B4=4.2(I=1); K1=1.98, B2=3.65, B3=4.1, B4=4.5(I=2); K1=2.44, B2=4.11, B3=5.1, B4=5.3, B5=5.6(I=4)

In+++ vlt NaNO3 27°C 2.0M U K1=0.78 B2=2.49 1973RTb (15096) 166
B3=3.91

In+++ ISE non-aq 25°C 100% U T K1=2.02 B2=4.29 1973SLc (15097) 167
B3=5.13
Medium: DMSO, 1 M LiClO4. Method: In amalgam electrode

In+++ dis NaClO4 ? 1.0M U K1=2.18 B2=3.20 1973SSb (15098) 168
B3=4.20
B4=5.30

In+++ EMF non-aq 25°C 100% U K1=2.10 B2=2.70 1972SGc (15099) 169
B3=3.18
B4=3.76
Medium: formamide

In+++ vlt NaClO4 25°C 2.0M U K1=2.56 B2=3.7 1971MOa (15100) 170
B3=4.8
B4 < B3

In+++ EMF non-aq 25°C 100% U T K1=4.17 B2=6.40 1971SAg (15101) 171
B3=8.30
B4=10.34
Medium: N,N-dimethylformamide

In+++ dis NaClO4 25°C 4.0M U K1=2.44 B2=4.11 1970HAb (15102) 172
B3=5.10
B4=4.57
B5=5.45

In+++ cal NaClO4 25°C 2.0M U H 1969RYa (15103) 173
DH(K1)=-6.95 kJ mol⁻¹, DS=25.5 J K⁻¹ mol⁻¹; DH(K2)=-15.9, DS=-35.1
DH(K3)=10.0, DS=53.1

In+++ sp oth/un 30°C 0.0 U T T K1=3.15 1968DDa (15104) 174
Medium: 0 corr. Using ISE: K1=3.26

In+++ vlt NaClO4 25°C 2.0M U T K1=1.7 B2=2.3 1965NHa (15105) 175
B3=2.08
B4=3.22

In+++ sp NaClO4 20°C 0.60M U T K1=2.34 1964KSe (15106) 176

In+++ ISE NaClO4 20°C 1.60M U I K1=2.58 B2=4.00 1963GSc (15107) 177
B3=4.74

B4=4.80
In 70% MeOH B4=9.00, B5=9.10. 100% MeOH B5=15.11 plus other concentrations

In+++ ISE non-aq 20°C 100% U I 1963GSd (15108) 178

B4=12.5

Medium: DMF(Me2NCHO), 1.2 M NaClO4. Also B1-B4 values at 25, 50 and 70%.

In MeCN: B6=27.26 and B1 to B5 in 25%, 50, 70% MeCN. In amalgam electrode

In+++ vlt NaClO4 30°C 2.0M U T K1=2.08 B2=3.20 1963RSd (15109) 179

B3=4.24

B4=4.23

B5=4.81

B6=4.84

In+++ sp NaClO4 25°C 1.0M U T B2=4 1962SAd (15110) 180

In+++ ISE NaClO4 20°C 2.0M U T K1=2.58 B2=3.60 1954SUB (15111) 181

K3=1.03

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

Sulfate;

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

In+++ sp NaClO4 25°C 0.20M C 2001RSa (16256) 182

Kout(In+S04)=1.64

Method: absorption and fluorescence spectra.

In+++ oth NaClO4 25°C 1.0M C I R K1=1.78 B2=2.53 1983TUa (16257) 183

K3=0.4 (T)

IUPAC evaluation

In+++ vlt NaClO4 25°C 1.10M U K1=2.0 1972TSg (16258) 184

In+++ cal none 25°C 0.0 U H K1=3.04 B2=5.00 1969IEa (16259) 185

DH(K1)=29.1 kJ mol⁻¹, DS=155.5 J K⁻¹ mol⁻¹; DH(K2)=-7.3, DS=13.0

In+++ dis NaClO4 25°C 1.0M U K1=1.79 B2=2.51 1968ALe (16260) 186

In+++ sol NaNO3 25°C 2.0M U K1=1.78 1966DRa (16261) 187

In+++ oth oth/un ? 0.10M U 1964LAb (16262) 188

K1in/K1=-0.3

Method:infrared spectra. Medium:In2L3

In+++ sp oth/un 30°C 0.0 U K1=3.74 1962NAC (16263) 189

In+++ EMF NaClO4 20°C 2.0M U I K1=1.78 B2=1.88 1954SUa (16264) 190

K3=0.48

Method: quinhydrone/In electrodes. By cation ion exchange, 1 M NaClO4 K1=1.74

By distribution K1=1.85, K2=0.75, K3=0.40

SeCN- HL Selenocyanate CAS 73102-11-2 (440)
Selenocyanate;

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

In+++ EMF non-aq 25°C 100% U I K1=17.49 B2=19.15 1972SMd (16990) 191
B3=20.75
B4=22.25
B5=24.04
B6=25.46

Medium: acetone ,I=1. In MeCN: B6=24.49; in DMF: K1=7.00, B2=8.75, B3=10.49;
in DMSO: K1=5.32, B2=5.87

SeO3-- H2L Selenite CAS 7783-00-8 (2391)
Selenite;

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

In+++ sol oth/un 20°C var U 1959MIa (17064) 192
Kso(In2L3(H2O)6)=-32.6

CH2O2 HL Formic acid CAS 64-18-6 (37)
Methanoic acid; H.COOH

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

In+++ vlt NaNO3 25°C 2.00M U M K1=2.90 B2=4.00 1987KSb (17617) 193
B3eff=5.60
B4eff=6.28

Data at pH 5 (all Keff ?)

In+++ EMF NaClO4 20°C 2.0M U T K1=2.74 B2=4.72 1953SUc (17618) 194
K3=0.98
K4=1.00

CH4N2S L Thiourea CAS 62-56-6 (51)
Thiocarbamide, Thiourea; (H2N)2CS

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

In+++ vlt KCl 26°C 1.0M C M K1=1.17 B2= 3.44 1987LPb (17836) 195
B3=5.20
B(In(bpy)L)=4.95
B(In(bpy)2L)=6.27
B(In(bpy)L2)=5.36

Method: polarography. Medium pH 4.5.

In+++ vlt NaClO4 25°C 0.50M U K1=1.97 1978TLb (17837) 196

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 |
|-------|-----|--------|------|-------|-----|-------|---------------------|-----------------|--------|
| In+++ | gl | NaClO4 | 20°C | 0.10M | U | | K1=7.78 | 1985SAa (18927) | 197 |
| In+++ | ISE | KNO3 | 25°C | 0.10M | C | | K1=6.02 K3=14.53 | 1984PGa (18928) | 198 |
| In+++ | dis | NaClO4 | 25°C | 1.0M | U | | K1=5.30 B2=10.52 | 1966HSa (18929) | 199 |
| In+++ | dis | NaClO4 | 20°C | 0.10M | U | | B3=14.7 | 1963STc (18930) | 200 |
| In+++ | ix | oth/un | ? | ? | U | | K(In+HL)=3.08 | 1960WTa (18931) | 201 |

C2H3O2Cl HL Chloroacetic CAS 79-11-8 (34)
Chloroethanoic acid; ClCH2.COOH

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference | ExptNo |
|-------|-----|--------|------|------|-----|-------|--------------------|-----------------|--------|
| In+++ | ix | none | ? | 0.00 | U | | K1=0.71 B3=3.39 | 1973LAb (19369) | 202 |

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 |
|-------|-----|--------|------|-------|-----|-------|---|-----------------|--------|
| In+++ | gl | NaClO4 | 20°C | 0.10M | U | | K1=3.18 | 1985SAa (20006) | 203 |
| In+++ | vlt | NaClO4 | 0°C | 0.10M | U | | K1=3.54 B3=7.95 B4=9.04 B5=11.15 | 1975VMa (20007) | 204 |

curve fitting method: K1=3.52, B2=5.93, B3=7.91, B4=9.00 ;
other method: K1=3.54, B2=5.86, B3=7.89, B4=9.23

| | | | | | | | | | |
|-------|-----|--------|------|-------|---|---|-------------------------------|-----------------|-----|
| In+++ | vlt | oth/un | 25°C | 0.50M | U | | B3=10.6 | 1957CRa (20008) | 205 |
| In+++ | EMF | NaClO4 | 20°C | 2.0M | U | T | K1=3.50 K3=1.95 K4=1.18 | 1953SUc (20009) | 206 |

C2H4O2S H2L Thioglycolic CAS 68-11-1 (596)
Mercaptoethanoic acid; HS.CH2.COOH

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
In+++     gl  KNO3   25°C 0.50M M          K1=12.57 B2=23.53 1984TZa (20332) 207
          B3=31.21
          B4=36.3

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-----
In+++     gl  NaClO4 25°C 0.20M U T          K1=12.10 B2=22.43 1973SMc (20333) 208
          K3=6.34

```

45 C: K1=11.87, K2=10.07, K3=6.00

C2H4O3 HL Glycolic acid CAS 79-14-1 (33)
 2-Hydroxyethanoic acid; HO.CH2.COOH

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
In+++     oth NaClO4 25°C 1.0M C I    R K1=2.99 B2=5.48 1983TUa (20563) 209
          K3=1.70

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IUPAC evaluation

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-----
In+++     gl  NaClO4 25°C 0.20M U T    T K1=2.91 B2=5.44 1973SMc (20564) 210
35 C: K1=3.00, K2=2.58; 45 C: K1=3.07, K2=2.63

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-----
In+++     ix  NaClO4 25°C 0.50M U          T K1=2.93 B2=5.4 1968TOa (20565) 211

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-----
In+++     ix  NaClO4  ?  0.30M U          K1=3.15      1960WTa (20566) 212

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In+++     gl  oth/un  ?  0.14M U          K1=2.95      1960WTa (20567) 213

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In+++     EMF NaClO4 20°C 2.0M U    T K1=2.93 B2=5.52 1953SUc (20568) 214
          K3=1.78
          K4=0.65

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C2H5NO2 HL Glycine CAS 56-40-6 (85)
 2-Aminoethanoic acid; H2N.CH2.COOH

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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In+++     gl  NaClO4 20°C 0.10M U          K1=8.55      1985SAa (21589) 215

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In+++     gl  NaClO4 25°C 0.20M U T          K1=2.39      1973SMc (21590) 216
35 C: K1=2.46; 45 C: K1=2.54

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C2H5NO2 HL Acetohydroxamic CAS 546-88-3 (2766)
 Acetohydroxamic acid, N-Hydroxyacetamide; CH3.CO.NHOH

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
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In+++     gl  NaCl   31°C 0.15M U I          K1=7.42 B2=14.46 1992SKa (21813) 217
Also data for 25 and 50% v/v EtOH/H2O.

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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 |
|-------|-----|--------|------|-------|-----|-------|----|---|-----------------|--------|
| In+++ | gl | KNO3 | 20°C | 0.10M | U | M | | K1=9.1 K3=6.91 K4=5.82 K(InL2+Cl)=0.18 | 1972TSb (22070) | 218 |

C2H7NS HL CAS 60-23-1 (588)
2-Aminoethanethiol; H2N.CH2.CH2.SH

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|------------------------------------|-----------------|--------|
| In+++ | gl | KCl | 25°C | 0.10M | C | | | K1=12.25 B2=22.55 B(InHL)=16.56 | 1995LMa (22494) | 219 |
| In+++ | dis | NaClO4 | 20°C | 1.00M | U | | | K(In+H2L)=2.30 K(In+HL)=6.20 | 1985MKc (22495) | 220 |

Extraction by bis(2-ethylhexyl)phosphoric acid and TTA

C2H9NO6P2 H4L (6773)
(Aminoethylene)diphosphonic acid, 1-Aminoethane-1,1-di(phosphonic acid);
H2N.C(CH3)(PO3H2)2

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|---|-----------------|--------|
| In+++ | gl | NaNO3 | 24°C | 0.20M | C | | | K1=27.7 B2=32.7 K(InL+H)=3.7 K(InHL+H)<1 K(InL2+H)=9.6 K(InHL2+H)=8.4 K(InH2L2+H)=4.8, K(InH3L2+H)=1.0, K(InH4L2+H)<1, K(InH5L2+H)<1 | 1993BRa (23420) | 221 |

C2H16N5O4Co HL (231)
Pentaammineoxalatocobalt(III); Co(NH3)5(HC2O4)

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|----------|-----------------|--------|
| In+++ | sp | NaClO4 | 28°C | 0.30M | U | | | K1=2.39 | 1974NDa (23475) | 222 |

C3H3O4Br H2L Bromomalonic CAS 600-31-7 (6296)
2-Bromo-propanedioic acid, Bromomalonic acid; HOOC.CHBr.COOH

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|-----------------|-----------------|--------|
| In+++ | gl | NaClO4 | 30°C | 0.10M | U | | | K1=5.08 B2=8.89 | 1976DGd (23538) | 223 |

In+++ gl NaClO4 25°C 0.10M U TI K1=11.87 B2=19.53 1972SMa (25214) 232
K3=6.25

35 C, K1=11.73, K2=7.59, K3=6.08; 45 C, K1=11.60, K2=7.46, K3=5.98. Data
also in 0.1, 0.2, 0.3 and 0.4 NaClO4.

C3H6O3 HL CAS 81598-26-7 (2521)
3-Hydroxypropanoic acid; HO.CH2.CH2.COOH

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

In+++ gl NaClO4 25°C 0.10M U TI K1=3.75 B2=6.79 1972SMa (25267) 233
I=0.2 M: K1=3.71, K2=3.01. 35 C: K1=3.86, K2=3.12; I=0.2: K1=3.80, K2=3.10;
I=0.4: K1=3.72, K2=3.03

In+++ gl none 25°C 0.00 U T B2=6.96 1972SMa (25268) 234
35 C: B2=7.20; 45 C: B2=7.45

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

In+++ gl NaClO4 20°C 0.10M U K1=3.71 1985SAa (25465) 235

In+++ gl NaClO4 25°C 0.20M U T T K1=3.14 B2=5.74 1973SMc (25466) 236
35 C, K1=3.21, K2=2.66; 45 C, K1=3.29, K2=2.71

C3H7NO2 HL Alanine CAS 56-41-7 (86)
2-Aminopropanoic acid; H2N.CH(CH3).COOH

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

In+++ vlt KNO3 30°C 0.50M U K1=9.18 B2=16.49 1981MNB (26191) 237
Method: polarography.

In+++ gl NaClO4 25°C 0.20M U T K1=2.51 1973SMc (26192) 238
K1(35 C)=2.57, K1(45 C)=2.63

C3H7NO2 HL B-Alanine CAS 107-95-9 (575)
3-Aminopropanoic acid; H2N.CH2.CH2.COOH

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

In+++ gl NaClO4 25°C 0.10M U TI K1=2.72 B2=5.26 1972SMa (26459) 239
K1(35 C)=2.78, K2(35 C)=2.64; K1(45 C)=2.83, K2(45 C)=2.73. Data also for
I=0.2, 0.3 and 0.4 M NaClO4

In+++ gl none 25°C 0.00 U T B2=5.33 1972SMa (26460) 240
B2(35 C)=5.51, B2(45 C)=5.67

C3H7NO2S H2L Cysteine CAS 52-90-4 (96)
2-Amino-3-mercaptopropanoic acid; H2N.CH(CH2.SH)COOH

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|---|-----------------|--------|
| In+++ | gl | KNO3 | 21°C | 0.10M | M | | | K1=14.12 B2=27.26 B3=32.20 B(InHL)=18.46 B(InHL2)=31.78 B(InH2L2)=35.74 | 1975KSd (26802) | 241 |

C3H7NS2 HL CAS 128-04-1 (2125)
Dimethyldithiocarbamic acid; (CH3)2N.CSSH

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|-------|-----|--------|------|------|-----|-------|----|----------|-----------------|--------|
| In+++ | EMF | non-aq | 25°C | 100% | U | | | B3=27.5 | 1987USa (27276) | 242 |

Medium: DMF, 0.1 M LiClO4

C3H8O3S3 H3L Unithiol CAS 74-61-3 (1271)
2,3-Dimercaptopropanesulfonic acid; HS.CH2.CH(SH).CH2.SO3H

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|-------|-----|--------|------|------|-----|-------|----|---------------|-----------------|--------|
| In+++ | dis | oth/un | ? | ? | U | | | K(In2L3)=55.3 | 1971EPd (27792) | 243 |

C3H9NS HL CAS 462-47-5 (1566)
3-Aminopropane-1-thiol; H2N.CH2.CH2.CH2.SH

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|---------------------------------|-----------------|--------|
| In+++ | dis | NaClO4 | 20°C | 1.00M | U | | | K(In+H2L)=3.10 K(In+HL)=8.10 | 1985MKc (27954) | 244 |

Extraction by bis(2-ethylhexyl)phosphoric acid and TTA

C3H11NO6P2 H4L (6772)
(Dimethylamino)-N-methylenediphosphonic acid; (CH3)2N.CH(PO3H2)2

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|--|-----------------|--------|
| In+++ | gl | NaNO3 | 24°C | 0.20M | C | | | K1=30.0 B2=35.8 K(InL+H)=9.5 K(InHL+H)<1 K(InL2+H)=10.8 K(InHL2+H)=9.9 K(InH2L2+H)=6.0, K(InH3L2+H)=4.9, K(InH4L2+H)=1.7, K(InH5L2+H)<1 | 1993BRa (28413) | 245 |

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 |
|-------|-----|--------|------|-------|-----|-------|----|----------------------------------|-----------------|--------|
| In+++ | vlt | NaNO3 | 25°C | 2.00M | U | M | | K1=4.30 B2=5.30 B3eff=7.20 | 1987KSb (29087) | 246 |

Data at pH 5 (all Keff ?)

| | | | | | | | | | | |
|-------|-----|--------|------|-------|---|--|--|----------------------------|-----------------|-----|
| In+++ | ISE | KNO3 | 25°C | 0.10M | C | | | K1=5.05 | 1984PGa (29088) | 247 |
| In+++ | vlt | NaClO4 | 25°C | 0.20M | U | | | K1=5.0 B2=7.1 B3=6.2 | 1967NMa (29089) | 248 |

C4H4O4 H2L Fumaric acid CAS 110-17-8 (289)
trans-Butenedioic acid; HOOC.CH:CH.COOH

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|-------|-----|--------|------|------|-----|-------|----|----------|-----------------|--------|
| In+++ | gl | oth/un | 25°C | ->0 | U | | | K1=3.04 | 1951PJb (29204) | 249 |

C4H6O4 H2L Me-Malonic Acid CAS 516-15-2 (816)
Methylpropanedioic acid; HOOC.CH(CH3).COOH

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|--------------------------------|-----------------|--------|
| In+++ | gl | NaClO4 | 30°C | 0.10M | U | | | K1=6.19 B2=11.28 K3=3.71 | 1976DGd (30128) | 250 |

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 |
|-------|-----|--------|------|-------|-----|-------|----|----------------------|-----------------|--------|
| In+++ | gl | NaClO4 | 25°C | 0.10M | C | TI | | K1=14.95 B2=26.70 | 1972SMe (30340) | 251 |

Data for I=0.10-0.40 M NaClO4. At I=0, B2=27.27. Data for 25-45 C.
At 35 C, DH(B2)=-51.1 kJ mol⁻¹, DS(B2)=346 J K⁻¹ mol⁻¹.

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 |
|-------|-----|--------|------|-------|-----|-------|----|--|-----------------|--------|
| In+++ | gl | NaNO3 | 25°C | 0.50M | M | M | | B(-3,1,1)=-3.63 K(2InH-2L=In2H-4L2)=-10.5 | 1989MAa (30648) | 252 |

B(p,q,r): pH+qM+rH2L. K(UO2+In+2H2L=UO2InH-2L2+6H)=-7.45

| | | | | | | | | | | |
|-------|----|--------|------|---|---|--|--|--|-----------------|-----|
| In+++ | gl | oth/un | 25°C | ? | U | | | | 1972MKc (30649) | 253 |
|-------|----|--------|------|---|---|--|--|--|-----------------|-----|

$K(UO_2+In+2H_2L=UO_2InH-2L_2+6H)=-7.62$

In+++ gl NaClO4 25°C 0.10M C TI K1=4.60 B2= 8.21 1972SMe (30650) 254
Data for I=0.10-0.40 M NaClO4. At I=0, B2=8.32. Data for 25-45 C.
At 35 C, DH(B2)=43.6 kJ mol⁻¹, DS(B2)=305 J K⁻¹ mol⁻¹.

In+++ EMF KNO3 22°C 0.20M U B2=10.62 1971PVa (30651) 255
Also quoted B2=9.77

In+++ dis oth/un 25°C ? U 1970AKa (30652) 256
Keff(InL2+0.5(UO2L)2=InUO2L2+L)=1.48, pH 4.

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

In+++ gl NaNO3 25°C 0.50M M M 1989MAa (31025) 257

B(-4,1,1)=-4.91
K(2InH-2L=In2H-4L2)=-11.3

B(p,q,r): pH+qM+rH2L. $K(UO_2+In+2H_2L=UO_2InH-4L_2+8H)=-7.77$

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

In+++ gl NaClO4 20°C 0.10M U 1985SAa (31279) 258

B(InH-1L)=2.65
K(In+H-1L)=17.05

In+++ ISE KNO3 25°C 0.10M C K1=4.5 B2=7.58 1984PGa (31280) 259

In+++ dis NaClO4 25°C 1.00M U K1=5.04 B2=9.21 1975KLb (31281) 260
K(In+2HL)=4.72

Extraction by di-2-ethylhexylphosphoric acid

In+++ gl oth/un 25°C ? U 1972MKc (31282) 261

$K(UO_2+M+2H_2L=UO_2MH-2L_2+6H)=-7.14$

In+++ gl NaClO4 25°C 0.10M U K1=4.44 B2=8.46 1972MRc (31283) 262

Values quoted for meso form
K1(d1)=4.97, K2(d1)=4.77, B2(meso-d1)=11.14

In+++ dis oth/un 25°C ? U 1970AKa (31284) 263
K'(ML2+0.5(UO2L)2=MUO2L2+L)=1.49, conditional constant, pH 4

In+++ dis NaClO4 20°C 0.10M U K1=4.48 1963STc (31285) 264

C4H7NO2S2 H2L CAS 2030-77-5 (4281)

2-Dithiocarbaminopropanoic acid; CH₃.CH(NH.CSSH).COOH

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

In+++ EMF NaClO₄ 25°C 1.00M U K1=7.44 B2=14.19 1972RBb (31477) 265
B3=19.87

C₄H₇N₄ H₂L Aspartic acid CAS 56-84-8 (21)
Aminobutanedioic acid; H₂N.CH(CH₂.COOH).COOH

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

In+++ ISE KNO₃ 25°C 0.10M C K1=9.56 B2=16.7 1984PGa (31872) 266
K(InL₂+H)=4.75

In+++ gl NaClO₄ 25°C 0.10M C TI K1=3.26 B2= 6.10 1972SMe (31873) 267
Data for I=0.10-0.40 M NaClO₄. At I=0, B2=6.17. Data for 25-45 C.
At 35 C, DH(B2)=41.8 kJ mol⁻¹, DS(B2)=258 J K⁻¹ mol⁻¹.

C₄H₇N₄ H₂L IDA CAS 142-73-4 (118)
Iminodiethanoic acid; HN(CH₂.COOH)₂

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

In+++ sp oth/un 25°C 0.10M U K1=10.14 1997YSa (32281) 268

In+++ gl NaClO₄ 25°C 1.00M U K1=10.2 B2=20.3 1985MMa (32282) 269
B3=29.0
B(InHL)=12.6
B(In₂L)=14.0

In+++ gl NaClO₄ 20°C 0.10M U K1=10.20 1985SAa (32283) 270

In+++ ISE KNO₃ 25°C 0.10M C M K1=10.14 B2=19.67 1984PGa (32284) 271
Ternary complexes In(III)-IDA-acetate and In(III)-IDA-maleic acid also
reported

In+++ gl KCl 25°C 0.30M U K1=9.54 B2=18.41 1966MAb (32285) 272

C₄H₁₁NS HL CAS 108-02-1 (1792)
1-Mercapto-2-(N,N-dimethyl)aminoethane; HS.CH₂.CH₂.N(CH₃)₂

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

In+++ vlt KCl 26°C 0.25M U K1=0.28 B2=1.73 1972PMb (35137) 273

C₄H₁₃N₆P₂S H₅L CAS 78014-43-4 (2649)
2-Mercaptoethylamine-N,N-bis(methylphosphonic acid); HS.CH₂.CH₂.N(CH₂.PO₃H₂)₂

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

In+++ dis NaClO4 20°C 1.00M U 1983KdD (35611) 274
K(In+H3L)=9.6

C4H13N09P2S H5L CAS 58480-01-6 (2650)
2-Sulfoethylamine-N,N-di(methylphosphonic acid); HS03.CH2.CH2.N(CH2.PO3H2)2

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

In+++ dis NaClO4 20°C 1.00M U 1983KdD (35621) 275
K(In+H3L)=11.0

C4H14N206P2 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

In+++ dis NaClO4 20°C 1.00M U 1983KdD (35883) 276
K(In+H2L)=12.7

C5H5NOS L CAS 23003-22-7 (2904)
3-Hydroxy-2-mercaptopyridine; C5H3N(OH)(SH)

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

In+++ vlt KCl 25°C 0.10M U K1=5.4 B2=7.41 1977SPc (36727) 277

C5H5N02 HL CAS 13161-30-3 (5582)
1-Hydroxypyridin-2(1H)-one, 2-Hydroxypyridine 1-oxide;

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

In+++ gl KCl 25°C 0.10M U K1=8.09 B2=13.97 1993LMc (36756) 278
K3=4.53

C5H5N02 HL CAS 16867-04-2 (2316)
2,3-Dihydroxypyridine, 3-Hydroxypyridin-2(1H)-one; C5H3N(OH)2

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

In+++ vlt KCl 25°C 0.10M U K1=5.56 B2=8.00 1977SPc (36790) 279

C5H5N03 H2L CAS 99110-85-7 (2195)
1,4-Dihydroxy-2-pyridinone;

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

In+++ gl KCl 25°C 0.10M C B2=17.22 1992CMc (36846) 280
B3=22.29
B(InHL)=15.26

B(InHL2)=24.45
B(InH2L2)=29.89

B(InHL3)=29.20

C5H6N2O L CAS 16867-03-1 (2903)
2-Amino-3-hydroxypyridine; C5H3N(OH)(NH2)

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

In+++ vlt KCl 25°C 0.10M U K1=4.83 B2=7.71 1977SPc (37192) 281

C5H8O2 HL Acetylacetone CAS 123-54-6 (164)
Pentane-2,4-dione; CH3.CO.CH2.CO.CH3

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

In+++ oth NaCl04 25°C 0.50M C I T K1=8.20 1983TUa (37995) 282
IUPAC evaluation

In+++ oth NaCl04 25°C 0.10M C I T K1=7.8 B2=14.4 1982SLc (37996) 283
B3=18.5
IUPAC evaluation. I=0 corr.: K1=8.0, B2=15.1

In+++ vlt NaCl04 25°C 0.50M U K1=8.8 B2=16.20 1966CBb (37997) 284
K3=6.0

In+++ dis oth/un ? 0.10M U K1=8.08 B2=14.3 1960STb (37998) 285
B3=18.6

In+++ gl oth/un 30°C 0.0 U K1=8.0 B2=15.1 1955IFa (37999) 286

C5H9NO2 HL Proline CAS 147-85-3 (44)
Pyrrolidine-2-carboxylic acid; C4H8N.COOH

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

In+++ vlt NaCl04 30°C 0.10M U M K1=7.99 B2=17.00 1983JKb (38623) 287
B(InL(His))=18.14

In+++ vlt KNO3 30°C 0.50M U K1=8.30 B2=14.38 1980PKc (38624) 288
B3=20.94

Method: polarography.

C5H9NO3S2 H3L (2159)
2,3-Dimercaptopropanoyl-glycine; HS.CH2.CH(SH).CO.NH.CH2.COOH

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

In+++ gl KNO3 20°C 0.10M U K1=17.249 B2=31.46 1978KSc (38823) 289
B(InHL)=19.722

B(InHL2)=35.571

C5H10N2O3 HL Glutamine CAS 56-85-9 (18)
2-Aminopentanedioic acid 5-amide; H2N.CH(CH2.CH2.CO.NH2)COOH

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

In+++ vlt NaClO4 30°C 0.10M U M K1=6.65 B2=14.39 1983JKb (39820) 290
B(InL(His))=16.37

In+++ vlt NaClO4 30°C 0.10M C M K1=6.65 B2=14.39 1980JKa (39821) 291
B(InLA)=14.28

Method: polarography. HA is L-methionine

C5H10OS2 HL CAS 110-50-9 (591)
(Butoxy)dithiomethanoic acid; CH3.CH2.CH2.CH2O.CSSH

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

In+++ dis oth/un 25°C 0.25M U 1982SAa (40161) 292
B3=11.1

C5H11NO2S H2L Penicillamine CAS 52-66-4 (350)
DL-2-Amino-3-mercapto-3-methylbutanoic acid; (CH3)2C(SH)CH(NH2)COOH

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

In+++ gl KNO3 21°C 0.10M M K1=15.330 B2=29.79 1976KSe (41272) 293
B(InHL)=18.858
B(InHL2)=33.391
B(InH-1L)=11.25

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

In+++ EMF non-aq 25°C 100% U 1987USa (41355) 294
B3=28.5

Medium: DMF, 0.1 M LiClO4

C5H12N2O2 HL Ornithine CAS 1069-31-4 (46)
2,5-Diaminopentanoic acid; H2N.CH2.CH2.CH2.CH(NH2)COOH

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

In+++ vlt NaClO4 30°C 0.10M C T H K1=1.78 B2= 3.34 1981SBf (41577) 295
B3=5.20

Method: polarography. At 40 C K1=1.30, B2=3.38, B3=5.07.

DH(K1)=-85.9 kJ mol⁻¹, DH(B2)=6.82, DH(B3)=-22.9.

In+++ gl NaClO4 25°C 0.20M U K1=17.25 B2=31.90 1984KJa (44462) 302
By spectrophotometry K1=17.30, K2=14.56, K3=11.75

In+++ gl NaClO4 25°C 0.10M U K1=16.34 1972GKc (44463) 303

In+++ gl NaNO3 25°C 0.20M U K1=17.00 B2=30.85 1968ASa (44464) 304

In+++ sp oth/un 29°C 0.20M U TIH K1=3.71 1965NDa (44465) 305
K1=4.45(I=0), 3.91(I=0.05), 3.79(I=0.1). At I=0.1 M: K1=3.75(20 C),3.84(45C)
DH(K1)=5.9 kJ mol⁻¹, DS=92.8 J K⁻¹ mol⁻¹

C6H7N L Picoline CAS 109-06-8 (320)
2-Methylpyridine; C5H4N.CH3

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

In+++ vlt NaNO3 25°C 2.00M U M 1987KSb (44610) 306

B3eff=10.56
B(InLA)=7.91
B(InLA2)=8.43
B(InL2A)=9.93

B(InLB)=8.05; B(InLB2)=8.97; B(InL2B)=10.23. HA=formic acid,H2B=malonic acid
Data at pH 5 (all Keff ?)

C6H7N L beta-Picoline CAS 108-99-6 (324)
3-Methylpyridine; C5H4N.CH3

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

In+++ vlt NaNO3 25°C 2.00M U M 1987KSb (44700) 307

B3eff=10.36
B(InLA)=6.40
B(InLA2)=7.40
B(InL2A)=9.38

B(InLB)=7.85; B(InL2B)=9.83; B(InLB2)=8.82. HA=formic acid, H2B=malonic acid
Data at pH 5 (all Keff ?)

C6H7N L gamma-Picoline CAS 108-89-4 (325)
4-Methylpyridine; C5H4N.CH3

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

In+++ vlt NaNO3 25°C 2.00M U M K1=5.30 B2=7.90 1987KSb (44826) 308

B3eff=9.78
B4eff=11.85
B5=14.02

B(InLA)=6.34; B(InL2A)=9.64; B(InLA2)=8.49. H2A=maleic acid. Data at pH 5

C6H7NO2 HL CAS 19365-01-6 (6771)

1-Methyl-3-hydroxy-2-pyridinone;

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
In+++      gl  KCl      25°C 0.10M C          K1=9.35  B2=17.35  1992CMc (45029) 309
                        B3=24.44
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 C6H7NO2 HL CAS 17184-19-9 (5888)
 3-Hydroxy-2-methylpyridin-4(1H)-one;

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
In+++      gl  NaCl      25°C 0.15M M          K1=13.51 B2=23.70  1990CLa (45051) 310
                        B3=32.76
-----
```

 C6H8N2 L 2-Picolylamine CAS 29722-36-9 (502)
 2-(Aminomethyl)pyridine; C5H4N.CH2NH2

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
In+++      gl  NaNO3     25°C 0.10M U          K1=7.6    1991DMb (45357) 311
-----
```

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

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
In+++      gl  NaNO3     25°C 0.50M M M          1989MAa (46139) 312
                        K(In+H3L=InH-1L+4H)=-7.3
                        K(2InH-1L=In2H-2L2)=-11.72
-----
```

K(UO2+In+2H3L=InUO2H-2L2+8H)=-11.30

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-----
In+++      gl  NaClO4    20°C 0.10M U          1985SAa (46140) 313
                        B(InH-1L)=5.02
                        K(In+H-1L)=21.02
-----
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-----
In+++      gl  oth/un    25°C ? U M          1972MKc (46141) 314
K(In+UO2+2H3L=UO2InH-2L2+8H)=-11.58
-----
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-----
In+++      dis oth/un 25°C pH 4 U M          1970AKa (46142) 315
Keff(InL2+0.5(UO2L)2=InUO2L2+L)=2.86
-----
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-----
In+++      ix  NaClO4    ? 0.50M U          K1=6.18    1962RMa (46143) 316
-----
C6H9NO6 H3L NTA CAS 139-13-9 (191)
Nitrilotriethanoic acid; N(CH2.COOH)3
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
In+++      gl  KNO3      25°C 0.10M C          K1=13.81 B2=23.70  1994HCa (46863) 317
-----
```

B(InHL2)=26.57

In+++ EMF NaClO4 20°C 0.10M U T K1=16.9 1967BAc (46864) 318

In+++ sp oth/un 21°C ? U K1=15.88 1965ZAa (46865) 319

In+++ ix oth/un ? 0.50M U K1=14.88 1963RMb (46866) 320

In+++ dis NaClO4 20°C 0.10M U B2=24.4 1963STc (46867) 321

C6H9N3O2 HL Histidine CAS 71-00-1 (1)
2-Amino-3-(4'-imidazolyl)propanoic acid; H2N.CH(CH2.C3H3N2)COOH

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

In+++ vlt NaClO4 30°C 0.10M U M K1=10.05 B2=17.96 1983JKb (47570) 322

B(InL(Gln))=16.37

B(InL(Pro))=18.14

C6H10O4S H2L CAS 111-17-1 (139)

3,3'-Thiodipropanoic acid; HOOC.CH2.CH2.S.CH2.CH2.COOH

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

In+++ vlt alc/w 30°C 30% U I K1=1.64 B2=2.32 1972RGc (48183) 323

B3=2.63

B4=3.53

Medium: 0-50% MeOH, 1.2 M KCl. K1(0%)=1.30, K1(50%)=2.08, B2(0%)=1.90,

B2(50%)=2.48, B3(0%)=2.38, B3(50%)=3.08, B4(0%)=3.42, B4(50%)=4.25

C6H11NO3S2 H2L (2160)

2-Mercaptopropanoyl-cysteine; CH3.CH(SH).CO.NH.CH(CH2.SH).COOH

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

In+++ gl KNO3 20°C 0.10M U K1=16.454 B2=29.26 1978KSc (48563) 324

B(InHL)=19.444

B(InHL2)=33.814

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

In+++ gl KNO3 35°C 0.10M U K1=11.61 1980KHb (48747) 325

In+++ sp oth/un 20°C ? U 1972KVa (48748) 326

K(In+H2L)=4.90

K(In+HL)=12.46

In+++ ix oth/un ? 0.50M U K1=11.0 1963Rmb (48749) 327

 C6H12N2O4 H2L CAS 4726-83-4 (5911)
 N,N-Dihydroxyhexanediamide; HN(OH).CO.(CH2)4.CO.NH(OH)

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

In+++ gl NaNO3 25°C 0.10M C K1=14.86 1989EHa (49334) 328

 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

In+++ gl NaNO3 25°C 0.10M C 1995EOa (49726) 329
 B(InH-3L)=-9.21

 In+++ vlt NaClO4 30°C 1.0M C K1=5.30 B2= 6.30 1978PBb (49727) 330
 B3=7.48
 B4=7.60
 B5=9.32

Method: polarography. Medium pH 6.5.

 In+++ vlt NaClO4 25°C 0.20M U K1=2.75 B2=4.67 1973KMc (49728) 331

 C6H13NO4 HL Bicine CAS 150-25-4 (2124)
 N,N-Bis(2-hydroxyethyl)glycine; (HO.CH2.CH2)2N.CH2.COOH

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

In+++ gl NaNO3 25°C 0.10M U K1=7.06 1991DMb (50374) 332
 K(InL+OH)=10.40
 K(InH-1L+OH=InH-2L)=9.82

 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

In+++ dis NaClO4 20°C 1.00M U 1983KDd (52344) 333
 K(In+H5L)=13.2

 C7H5NO4 H2L Quinolinic acid CAS 89-00-9 (567)
 2,3-Pyridinedicarboxylic acid; C5H3N.(COOH)2

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

In+++ vlt NaClO4 30°C 1.5M C K1=6.48 B2= 7.60 1980BPb (52628) 334
 B3=8.52
 B4=9.00

Method: polarography.

C7H5NO4 H2L Dipicolinic aci CAS 449-83-2 (418)
2,6-Pyridinedicarboxylic acid; C5H3N.(COOH)2

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

In+++ vlt NaCl04 25°C 0.5M C T K1=11.7 B2=18.90 1983PBa (52782) 335
B3=20.3
B4=21.8

Method: polarography. Also data for 15 C and 10% MeOH/H2O.

In+++ gl diox/w 25°C 50% U T H K1=5.82 B2=11.03 1977SMc (52783) 336
DH(K1)=-15.7 kJ mol⁻¹, DH(K2)=-17.1

C7H5NO5 H2L Nitrosalicylic CAS 96-97-9 (148)
2-Hydroxy-5-nitrobenzoic acid; HO.C6H3(NO2).COOH

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

In+++ oth oth/un ? ? U K1=7.5 B2=13.80 1971KHb (53051) 337
K3=5.86

C7H6O2 HL Tropolone CAS 533-75-5 (3129)
2-Hydroxycyclohepta-2,4,6-trien-1-one;

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

In+++ dis non-aq 25°C 100% C 2001Nca (53677) 338
K(InL3+TOPO)=0.97
K(InL3+2TOPO)=1.86

TOPO is trioctylphosphane oxide. Medium: CCl4.

C7H6O2S H2L Thiosalicylic CAS 147-93-3 (236)
2-Mercaptobenzoic acid; HS.C6H4.COOH

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

In+++ gl alc/w 25°C 50% M K1=12.03 B2=21.56 1984TZa (53910) 339

C7H6O3 H2L Salicylic acid CAS 69-72-7 (14)
2-Hydroxybenzoic acid, Salicylic acid; HO.C6H4.COOH

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

In+++ gl NaCl04 20°C 0.10M U K1=14.28 1985SAa (54238) 340

In+++ oth alc/w 30°C 75% U K1=2.59 1973SMb (54239) 341
Medium: 75% EtOH, 0.2 M NaCl04

C7H6O6S H3L CAS 5965-83-3 (399)
5-Sulfosalicylic acid, 2-Hydroxy-5-sulfobenzoic; HO3S.C6H3(OH).COOH

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

In+++ gl NaClO4 20°C 0.10M U K1=11.45 1985SAa (55016) 342

C7H7NO2 HL Anthranilic CAS 118-92-3 (1589)
2-Aminobenzoic acid, Anthranilic acid; H2N.C6H4.COOH

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

In+++ oth alc/w 30°C 75% U K1=11.10 B2=20.00 1973SMb (55232) 343
Medium: 75% EtOH, 0.2 M NaClO4

C7H9NO2 HL CAS 30652-11-0 (2458)
3-Hydroxy-1,2-dimethylpyridin-4(1H)-one; (OH)(CH3)(O:)C5H2N.CH3

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

In+++ gl KCl 25°C 0.10M C K1=11.85 B2=22.48 1994MRa (56440) 344
K3=9.23

In+++ gl KCl 25°C 0.10M C K1=11.85 B2=22.48 1992CMb (56441) 345
K3=9.23

In+++ gl NaCl 25°C 0.15M M K1=13.60 B2=23.93 1990CLa (56442) 346
B3=32.93

C7H12O4 H2L CAS 534-59-8 (480)
Butylpropanedioic acid (Butylmalonic acid); HOOC.CH(C4H9).COOH

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

In+++ gl NaClO4 30°C 0.10M U K1=5.86 B2=10.24 1976DGd (57339) 347
K3=3.14

C7H12O6 HL Quinic acid CAS 77-95-2 (2578)
1,3,4,5-Tetrahydroxycyclohexane-1-carboxylic acid;

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

In+++ ix NaClO4 25°C 0.50M U K1=2.56 B2=5.39 1970TOa (57403) 348

C8H5N5O6 H3L Murexide (453)
Purpuric acid (Murexide is ammonium salt);

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

In+++ kin NaClO4 25°C 2.0M U T K1=3.84 1975KId (58510) 349

K(InL+H)=-0.89

In+++ kin NaClO4 10°C 2.0M U T K1=3.79 1975KId (58511) 350

In+++ sp KNO3 12°C 0.10M U K(In+H2L)=4.61 1965GEa (58512) 351

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

In+++ gl mixed 25°C 46% U K1=5.97 B2=11.73 1972BTb (58632) 352
Medium: 0.1 (C2H5)4NClO4, 46% acetone

In+++ dis NaClO4 25°C 0.10M U K1=6.0 B2=12.0 1968SAb (58633) 353
B3=17.6
B(LuL(OH))=16.8
B(LuL(OH)2)=26.0
B(LuL2(OH))=22.3

C8H5O3F3 HL CAS 15788-03-1 (3215)
1,1,1-Trifluoro-3-2'-furoylacetone; F3C.CO.CH2.CO.C4H3O

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

In+++ gl mixed 25°C 46% U K1=5.93 B2=11.38 1972BTb (58715) 354
Medium: 46% acetone, 0.1 M Et4NClO4

C8H8O2 HL Phenylacetic CAS 103-82-2 (1361)
Phenylethanoic acid; C6H5.CH2.COOH

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

In+++ vlt none 25°C 0.0 U B3=10.2 1957CRa (59551) 355

C8H8O3 HL Mandelic Acid CAS 611-72-3 (80)
2-Phenyl-2-hydroxyethanoic acid; C6H5.CH(OH).COOH

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

In+++ ix NaClO4 25°C 0.50M U K1=2.58 B2=5.40 1970TOa (59842) 356

C8H8O4 HL CAS 520-45-6 (4478)
3-Acetyl-2-hydroxy-6-methylpyran-4-one, Dehydroethanoic acid;

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

In+++ gl diox/w 35°C 50% U K1=5.00 B2=9.08 1971MAa (60091) 357

Medium: 50% dioxan, 0.1 M NaClO4

C8H9NO4 H2L (4520)

Dehydroethanoic acid oxime;

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

In+++ gl diox/w 35°C 50% U 1971MAa (60497) 358

K(In+HL)=4.43

K(In+2HL)=8.07

Medium: 50% dioxan, 0.01 M NaClO4

C8H11NO2 HL CAS 30652-12-1 (5889)

3-Hydroxy-2-methyl-1-ethylpyridin-4-one;

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

In+++ gl NaCl 25°C 0.15M M K1=13.53 B2=23.78 1990CLa (61093) 359

B3=32.80

C8H11O2F3 HL CAS 81944-89-0 (4535)

1,1,1-Trifluoro-4-(isobutyl)-2,4-butanedione;

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

In+++ gl mixed 25°C 46% U K1=6.78 B2=13.18 1972BTb (61293) 360

Medium: 46% acetone, 0.1 M Et4NClO4

C8H11O2F3 HL CAS 22767-90-4 (1249)

1,1,1-Trifluoro-5,5-dimethyl-2,4-hexanedione; F3C.CO.CH2.CO.CH(CH3)3

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

In+++ gl mixed 25°C 46% U K1=6.85 B2=13.41 1972BTb (61302) 361

Medium: 46% acetone, 0.1 M Et4NClO4

C8H12N2O8 H4L CAS 35039-85-1 (4537)

1,2-Diaminoethane-N,N'-dimalonic acid; (HOOC)2.CH.NH.CH2.CH2.NH.CH(COOH)2

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

In+++ vlt KNO3 25°C 0.10M U K1=23.12 1973GKc (61510) 362

K(In+HL)=16.75

C8H14O4S2 H2L CAS 54825-18-2 (4543)

Ethylenebis(3-mercaptopropionate)

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

In+++ vlt oth/un 30°C 0.10M U T 1972SCe (62108) 363

K(In+H2L)=0.60
K(In+2H2L)=2.11
K(In+3H2L)=3.93

40 C: K(In+H2L)=0.30, K(In+2H2L)=2.00, K(In+3H2L)=3.93

C8H16N2O4 H2L CAS 38937-66-5 (5912)
N,N-Dihydroxyoctanediamide; HN(OH).CO.(CH2)6.CO.NH(OH)

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

In+++ gl NaNO3 25°C 0.10M C K1=15.32 1989EHa (62540) 364

C8H16N2O4S2 H4L (6947)

2,7-Dicarboxy-3,6-diaza-1,8-octanedithiol;
HS.CH2.CH(COOH)NH.CH2CH2.NH.CH(COOH)CH2.SH

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

In+++ gl KCl 25°C 0.10M C K1=33.0 1996LMa (62549) 365

B(InHL)=35.76
B(In(OH)L)=22.85
B(In(OH)2L)=11.01

C8H24N2O12P4S H8L CAS 33424-58-7 (2648)

1,7-Diaza-4-thiaheptane-1,1,7,7-tetra(methylphosphonic acid);
S(CH2.CH2.N(CH2.PO3H2)2)2

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

In+++ dis NaClO4 20°C 1.00M U K(In+H5L)=13.0 1983KdD (63486) 366

C8H24N2O13P4 H8L CAS 25007-19-4 (2647)

1,7-Diaza-4-oxaheptane-1,1,7,7-tetra(methylphosphonic acid);
O(CH2.CH2.N(CH2.PO3H2)2)2

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

In+++ dis NaClO4 20°C 1.00M U K(In+H5L)=12.2 1983KdD (63494) 367

C9H6N04IS H2L Ferron CAS 547-91-1 (275)

7-Iodo-8-hydroxyquinoline-5-sulfonic acid; (HO)(HO3S)C9H4NI

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

In+++ sp NaClO4 25°C 0.20M U K(In+HL=InHL)=2.84 1982PSb (63809) 368

K(In+HL=InL+H)=2.37

In+++ gl diox/w 25°C 50% U T H K1=8.27 B2=16.12 1977SMc (63810) 369
K3=6.85
DH(K1)=-2.8 kJ mol⁻¹, DH(K2)=-13.3, DH(K3)=-13.3

In+++ sp oth/un ? dil U B2=16.57 1971BRf (63811) 370

C9H7NO HL Oxine CAS 148-24-3 (504)
8-Hydroxyquinoline (8-quinolinol);

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

In+++ gl NaClO4 20°C 0.10M U K1=11.22 1985SAa (64286) 371

In+++ oth NaClO4 25°C 0.10M C I R K1=12.00 B2=23.95 1983TUa (64287) 372
K3=11.45

IUPAC evaluation

In+++ gl diox/w 25°C 50% U K1=13.30 B2=25.46 1978THc (64288) 373
B3=36.43

In+++ gl diox/w 25°C 50% U T H K1=12.66 B2=24.83 1977SMc (64289) 374
K3=10.26
DH(K1)=-20.5 kJ mol⁻¹, DH(K2)=-23.8, DH(K3)=-32

In+++ sp alc/w ? 20% U B3=30.72 1971BRf (64290) 375

In+++ dis NaClO4 25°C 0.10M U K1=12 B2=23.9 1968SAb (64291) 376
B3=35.3

In+++ oth none ? 0.0 U Kso=-31.34 1957PKa (64292) 377

C9H7NO3S2 H2L CAS 58447-10-2 (4675)
8-Mercaptoquinoline-5-sulfonic acid;

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

In+++ sp oth/un ? ? U K1=11.6 B2=22.70 1968ABa (64425) 378
K3=7.2

C9H7NO4S H2L Sulfoxine CAS 84-88-8 (448)
8-Hydroxyquinoline-5-sulfonic acid;

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

In+++ sp NaClO4 25°C 0.20M C K1=6.53 2001RSa (64552) 379
K(In+HL)=3.61
K(InL+H)=1.4
Kout(In+H2L)=-0.52

Kout(In+HL)=0.57

Method: absorption and fluorescence spectra.

In+++ gl diox/w 25°C 50% U T H K1=9.80 B2=19.40 1977SMc (64553) 380
K3=7.82
DH(K1)=-15.0 kJ mol⁻¹, DH(K2)=-18.8, DH(K3)=-22.1

In+++ sp oth/un ? ? U K1=10.9 B2=19.00 1973BIb (64554) 381

C9H7N3O2S H2L TAR CAS 2246-46-0 (707)
4-(2'-Thiazolylazo)-resorcinol; C3H2NS.N:N.C6H3(OH)2

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

In+++ sp NaClO4 ? 0.10M U 1969HSd (64709) 382
K(In+HL)=10.06

In+++ gl alc/w 25°C 50% U 1967NPb (64710) 383
K(In+HL)=10.8
Medium: 50% MeOH, 0.1 M NaClO4

C9H8O4 HL Acetylsalicylic CAS 50-78-2 (1240)
2-Acetoxybenzoic acid, Acetylsalicylic acid; CH3.CO.O.C6H4.COOH

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

In+++ vlt NaClO4 30°C 1.0M U K1=4.48 B2=4.70 1968GJa (64897) 384
B3=6.48
B4=6.81
B5=8.13

C9H8O4 H2L CAS 2613-89-0 (1145)
Phenylmalonic acid; HOOC.CH(C6H5).COOH

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

In+++ gl NaClO4 30°C 0.10M U K1=6.09 B2=11.42 1976DGd (64995) 385

C9H11NO6S H3L CAS 73487-23-7 (5467)
N,N-Dimethyl-2,3-dihydroxy-5-sulfonatobenzamide; HS03.C6H2(OH)2.CONMe2

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

In+++ gl KNO3 25°C 0.10M U K1=15 B2=28 1982PWa (66464) 386
B3=37

C9H13NO2 L (7151)
1,2-Diethyl-3-hydroxy-4-pyridinone

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

In+++ gl KCl 25°C 0.10M C K1=12.04 B2=23.04 1994MRa (66797) 387
K3=9.4

C9H14N2O9 H4L CAS 56360-11-3 (2576)
2-Hydroxy-1,3-diaminopropane-N,N'-di(1,3-propanedioic acid)

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

In+++ vlt KNO3 25°C 0.1M U K1=24.24 1976GDc (67137) 388
K(In+HL)=17.15

C9H18N2O4 H2L CAS 18992-11-5 (5913)
N,N-Dihydroxynonanediamide; HN(OH).CO.(CH2)7.CO.NH(OH)

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

In+++ gl NaNO3 25°C 0.10M C K1=15.93 1989EHa (67940) 389

C9H19NS2 HL CAS 150-11-8 (1154)
N,N-Di(n-butyl)dithiocarbamate; (C4H9)2N.CSSH

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

In+++ EMF non-aq 25°C 100% U 1987USa (67990) 390
B3=29.7

Medium: DMF, 0.1 M LiClO4

C10H7N3O4S H3L CAS 63129-59-9 (4762)
4-(2,4'-Carboxythiazolylazo)-1,3-dihydroxybenzene;

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

In+++ sp oth/un ? 0.10M U K1=4.36 B2=10.77 1971DGd (69087) 391

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

In+++ gl mixed 25°C 46% U K1=5.85 B2=11.80 1972BTb (69152) 392
Medium: 46% acetone, 0.1 M EtNClO4

C10H8N2 L 2,2'-Bipyridyl CAS 366-18-7 (25)
2,2'-Bipyridine; (C5H4N)2

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

In+++ vlt KCl 26°C 1.0M C K1=3.11 B2= 4.30 1987LPb (69589) 393
B3=5.54

Method: polarography. Medium pH 4.5.

In+++ ISE oth/un 25°C 1.0M U K1=4.75 B2=8.0 1972KMf (69590) 394

In+++ dis NaNO3 25°C 1.0M U K1=3.45 B2=8.06 1971KMg (69591) 395

C10H8O8S2 H4L Chromotropic ac CAS 148-25-4 (1875)
1,8-Dihydroxynaphthalene-3,6-disulfonic acid;

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

In+++ gl NaNO3 25°C 0.10M U K1=16.04 1990HWa (69956) 396

C10H9NO HL 8-OH-Quinaldine CAS 826-81-3 (998)
2-Methyl-8-hydroxyquinoline;

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

In+++ gl diox/w 25°C 50% U T H K1=12.30 B2=22.81 1977SMc (70048) 397
K3=8.86
DH(K1)=-15.5 kJ mol⁻¹, DH(K2)=-20.5, DH(K3)=-22.1

In+++ sp alc/w ? 100% U K1=12.2 B2=23.9 19630Ha (70049) 398
B3=35

Medium: EtOH

C10H9NO HL CAS 5541-67-3 (999)
5-Methyl-8-hydroxyquinoline;

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

In+++ gl diox/w 25°C 50% U B2=25.97 1978THc (70066) 399
B(InH2L2)=32.00
B(In(OH)L2)=20.74

C10H9NO3S2 HL (7206)
6-Methyl-5-sulfo-8-mercaptoquinoline;

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

In+++ sp oth/un 20°C 0.10M U K1=11.3 B2=22.40 1985DAb (70177) 400
K3=7.10

C10H10O2 HL Benzoylacetone CAS 93-91-4 (197)
1-Phenylbutane-1,3-dione; C6H5.CO.CH2.CO.CH3

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

In+++ dis oth/un ? 0.10M U K1=8.4 B2=15.5 1960STb (70737) 401
B3=20.8

C10H12N2O4 HL (6004)
N-Benzyloxycarbonylglycyl hydroxamic acid; C6H5.CH2.O.CO.NH.CH2.CO.NHOH

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----------------|-----------------|--------|
| In+++ | gl | KNO3 | 25°C | 0.10M | U | | K1=7.2 B2=15.2 | 1987CSb (71302) | 402 |

C10H16N2O8 H4L EDDS CAS 52759-67-8 (1100)
1,2-Diaminoethane-N,N'-di-1,4-butanedioic acid; (CH2.NH.CH(COOH)CH2.COOH)2

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|-------------|-----------------|--------|
| In+++ | vlt | KNO3 | 25°C | 0.10M | U | | K1=22.70 | 1973GKd (73146) | 403 |

K(In+HL)=16.54

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 |
|-------|-----|--------|------|-------|-----|-------|-------------|-----------------|--------|
| In+++ | EMF | KNO3 | 25°C | 0.10M | C | | K1=25.09 | 1997DFa (73876) | 404 |

K(InL+H)=1.90
K[In(OH)2L+]=10.80
K(In(OH)L+H)=8.36

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|-------------|-----------------|--------|
| In+++ | gl | KNO3 | 25°C | 0.50M | C | M | | 1989TBa (73877) | 405 |

K(InL+H)=0.66
*K(InL)=-8.22
K(InL+F)=0.9
K(InL+S)=9.4

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|-------------|-----------------|--------|
| In+++ | gl | KNO3 | 25°C | 0.50M | C | M | | 1986TBa (73878) | 406 |

K(InL+H)=0.66
*K(InL)=-8.22
K(InL+F)=0.9
K(In(OH)L+HS=InLS)=9.4

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|-------------|-----------------|--------|
| In+++ | gl | NaClO4 | 20°C | 0.10M | U | | K1=20.71 | 1985SAa (73879) | 407 |

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|-------------|-----------------|--------|
| In+++ | gl | KNO3 | 35°C | 0.10M | U | | K1=25.00 | 1980KHb (73880) | 408 |

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|-------------|-----------------|--------|
| In+++ | EMF | NaClO4 | 20°C | 0.10M | U | T | K1=25.3 | 1967BAc (73881) | 409 |

K(InL+H)=1.5
K(InL+OH)=5.33

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference | ExptNo |
|-------|-----|--------|------|------|-----|-------|-------------|-----------------|--------|
| In+++ | sp | NaClO4 | 25°C | 1.0M | U | T | | 1965BRc (73882) | 410 |

K(In+HL)=15.0

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference | ExptNo |
|-------|-----|--------|------|------|-----|-------|-------------|-----------------|--------|
| In+++ | sp | oth/un | 21°C | ? | U | | K1=25.62 | 1965ZAa (73883) | 411 |

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In+++   vlt KNO3   20°C 0.10M U   T K1=24.95   1964PCa (73884) 412
-----
In+++   ix  oth/un   ?  0.50M U   K1=23.06   1963Rmb (73885) 413
-----
In+++   dis NaClO4 20°C 0.10M U   B(InL(OH))=32.0   1963STc (73886) 414
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In+++   cal KNO3   20°C 0.10M U   H   1958SRa (73887) 415
DH(K1)=-30.2 kJ mol-1, DS=374 J K-1 mol-1
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In+++   gl  KNO3   15°C 0.10M U   K(In+HL)=1.0   1956STa (73888) 416
K(InLOH+H)=8.80
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*****
C10H18N2O7           H3L   HEDTA           CAS 150-39-0 (392)
N-(Hydroxyethyl)diaminoethane-N,N',N'-triethanoic acid;
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Metal    Mtd Medium Temp Conc Cal Flags Lg K values   Reference ExptNo
-----
In+++   gl  KNO3   35°C 0.10M U   K1=24.33   1980KHb (75426) 417
-----
In+++   sp  NaClO4 25°C 0.10M U   K1=20.2    1972NKa (75427) 418
-----
In+++   ix  oth/un   ?  0.50M U   K1=17.16   1963Rmb (75428) 419
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*****
C10H20N2O4           H2L           CAS 5578-84-7 (5914)
N,N-Dihydroxydecanediamide; HN(OH).CO.(CH2)8.CO.NH(OH)
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Metal    Mtd Medium Temp Conc Cal Flags Lg K values   Reference ExptNo
-----
In+++   gl  NaNO3 25°C 0.10M C   K1=16.08   1989EHa (75801) 420
-----
*****
C10H20N2O4S2         H4L   EDDASS           (6912)
N,N'-Bis(2-mercaptoethyl)diaminoethane-N,N'-diethanoic acid;
(-CH2.N(CH2.CH2.SH)CH2.COOH)2
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Metal    Mtd Medium Temp Conc Cal Flags Lg K values   Reference ExptNo
-----
In+++   gl  KNO3   25°C 0.10M C   K1=37.0    1996SAb (75814) 421
-----
In+++   gl  KCl    25°C 0.10M C   K1=37.0    1995SMa (75815) 422
-----
In+++   gl  KCl    25°C 0.10M C   K1=37       1995SMb (75816) 423
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*****
C10H24N2S2           H2L           (7871)
N,N'-Bis(2,2-dimethyl-2-mercaptoethyl)diaminoethane;
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Metal    Mtd Medium Temp Conc Cal Flags Lg K values   Reference ExptNo
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In+++ gl KNO3 25°C 0.10M C K1=27.34 1996SAb (76598) 424
 K(In(OH)L+H)=6.66
 K(InL+H)=2.1
 K(In(OH)2L+H)=11.1

 C11H8N3O2Br H2L CAS 17091-08-6 (4865)
 4-(5'-Bromo-2'-pyridylazo)-1,3-dihydroxybenzene;

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

In+++ sp oth/un ? 0.10M U 1967BIa (76921) 425
 K(In+3HL=InL2+3H)=2.54

 C11H8N6O7S2 H4L CAS 35322-95-7 (909)
 3-Hydroxy-4-(1H-tetrazol-5-ylazo)-2,7-naphthalenedisulfonic acid;

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

In+++ gl NaClO4 25°C var U 1992PPa (76939) 426
 K(In+H2L=InL+2H)=0.06

 In+++ sp NaClO4 25°C 0.10M U 1981PSa (76940) 427
 K(In+H2L=InL+2H)=-0.67

 C11H8N6O8S2 H5L CAS 74385-48-1 (897)
 2-(1H-Tetrazol-5-ylazo)chromotropic acid;

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

In+++ gl NaClO4 25°C var U 1992PPa (76952) 428
 K(In+H3L=InHL+2H)=-2.54

 In+++ sp NaClO4 25°C 0.10M U 1981PSa (76953) 429
 K(In+H3L=InHL+2H)=-3.28

 C11H8O4 HL CAS 7555-37-5 (4812)
 3-Acetyl-4-hydroxycoumarin

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

In+++ gl diox/w 35°C 50% U K1=4.30 B2=7.48 1971MAa (77179) 430
 Medium: 50% dioxan, 0.01 M NaClO4

 C11H8O4 HL CAS 6724-42-1 (6183)
 8-Formyl-7-hydroxy-4-methyl-2H-1-benzopyran-2-one; CHO.C9H30(:O)(CH3)(OH)

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

In+++ gl alc/w 35°C 70% U K1=6.56 B2=12.88 1988KRc (77202) 431

C11H9N04 H2L CAS 4321-82-7 (4829)
3-Acetyl-4-hydroxycoumarin oxime;

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

In+++ gl diox/w 35°C 50% U 1971MAa (77422) 432
K(In+HL)=3.84
K(In+2HL)=6.64

Medium: 50% dioxan, 0.01 M NaClO4

C11H9N3O2 H2L PAR CAS 1141-59-9 (636)
4-(2'-Pyridylazo)-1,3-dihydroxybenzene; C5H4N.N:N.C6H3(OH)2

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

In+++ sp NaClO4 25°C 0.80M U I 1985MBa (77551) 433
B(In+H3L=InHL+2H)=-1.44

Also data for 5-35% CH3CN, Me2SO and DMF and 5-50% CH3OH.

In+++ gl diox/w 25°C 50% U K1=12.54 B2=24.00 1978SMb (77552) 434
Medium: 50% dioxane/H2O, 0.20 M NaClO4.

In+++ sp NaClO4 25°C 0.10M U 1971BRd (77553) 435
K(InOH+HL)=21.57

In+++ sp oth/un 25°C ? U 1966DMf (77554) 436
K(?)=9.3

C11H18N2O7S H3L (639)
N,N-Bis-carboxylmethylamino-acetyl-methionine;

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

In+++ EMF KNO3 25°C 0.10M U K1=8.90 B2=15.37 1983YJa (79209) 437

C11H18N2O8 H4L CAS 38539-29-0 (2573)
1,3-Diaminopropane-N,N'-di(1,4-butanedioic acid)

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

In+++ vlt KNO3 25°C 0.1M U K1=22.02 1976GDc (79367) 438
K(In+HL)=16.08

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

In+++ EMF NaClO4 20°C 0.10M U K1=21.15 1967BAc (79452) 439
K(InL+H)=1.64

K(InL+OH)=5.60

C11H18N2O9 H4L CAS 668-21-1 (2562)
2-Hydroxy-1,3-diaminopropane-N,N'-di(1,4-butanedioic) acid

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|-------|-----|--------|------|------|-----|-------|----|----------------------------|-----------------|--------|
| In+++ | vlt | KNO3 | 25°C | 0.1M | U | | | K1=23.75 K(In+HL)=16.98 | 1976GDc (79598) | 440 |

C11H24N2O2S2 H3L (7911)
1-Carboxy-N,N'-bis(2,2-dimethyl-2-mercaptoethyl)diaminoethane;

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|-----------------------------|-----------------|--------|
| In+++ | gl | KNO3 | 25°C | 0.10M | C | | | K1=30.9 K(In(OH)L+H)=8.8 | 1996SAb (79900) | 441 |

C11H30N6 L (6595)
5-(4'-Amino-2'-azabutane)-5-methyl-3,7-diazanonane-1,9-diamine;
CH3.C(CH2.NH.CH2.CH2.NH2)3

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|----|--|-----------------|--------|
| In+++ | gl | KCl | 25°C | 0.50M | M | | | K1=15.1 K(InL+H)=9.7 K(InHL+H)=6.7 K(InH-1L+H)=10.4 | 1991HLA (80060) | 442 |

C12H8N2 L Phenanthroline CAS 66-71-7 (144)
1,10-Phenanthroline;

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|-------|-----|--------|------|------|-----|-------|----|------------------------------|-----------------|--------|
| In+++ | ISE | oth/un | 25°C | 1.0M | U | | | K1=5.70 B2=10.04 B3=14.0 | 1972KMF (80469) | 443 |
| In+++ | dis | NaNO3 | 25°C | 1.0M | U | | | K1=5.51 B2=10.10 B3=14.49 | 1971KMg (80470) | 444 |

C12H9N2O6ClS H4L Lumogallion CAS 4386-25-8 (4967)
5-Chloro-2-hydroxy-1-(2',4'-dihydroxyphenylazo)-3-sulfobenzene;

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|-------|-----|--------|------|------|-----|-------|----|------------------------------|-----------------|--------|
| In+++ | sp | oth/un | rt | ? | U | | | K(InOH+H3L=InOH(H2L)+H)=5.09 | 1967SYa (80612) | 445 |

C12H10N2O2 H2L CAS 2050-14-8 (3378)
2,2'-Dihydroxyazobenzene; HO.C6H4.N:N.C6H4.OH

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
In+++     sp  KCl      25°C 0.10M U                                1962KMa (80701) 446
                                                K(In+H2L=InL+2H)=5.2
                                                K(InL+H2L=InL2+2H)=8.0(?)
*****
C12H11NO2          L                                CAS 49744-73-2 (1602)
3-Hydroxy-2-methyl-1-phenyl-4-pyridone; (O)(CH3)(OH).C5H2N-C6H5
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
In+++     gl  NaCl      25°C 0.15M C                                K1=13.34 B2=22.66 1991ZRa (80823) 447
                                                B3=31.12
                                                B3(eff)=25.12
B3(eff) in 0.15M NaCl, pH 7.4
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In+++     dis NaCl    25°C 0.20M C  H                                1989INa (80824) 448
                                                B3=32.63
*****
C12H11N3O          HL                                CAS 19406-16-7 (3974)
4-Methyl-2-(2'-pyridylazo)phenol; C5H4N.N:N.C6H3(OH).CH3
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
In+++     sp  diox/w 25°C 0.4% U  M  K1=11.8      1968WKa (80876) 449
                                                K(InL+A)=3.0
                                                K(InL2+A)=1.9
                                                K(InL3+A)=1.3
Medium: 0.4% dioxan, 0.2 M. HA=ethanoic acid
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C12H11N3O2          H2L                                CAS 17091-06-4 (4910)
1,3-Dihydroxy-4-(4'-methyl-2'-pyridylazo)benzene;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
In+++     sp  oth/un  ?  0.10M U                                1967BIa (80899) 450
                                                K(In+3HL=InL3+3H)=3.92
*****
C12H11N3O2          H2L                                CAS 18271-45-9 (4911)
1,3-Dihydroxy-4-(5'-methyl-2'-pyridylazo)benzene;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
In+++     sp  oth/un  ?  0.10M U                                1967BIa (80900) 451
                                                K(In+3HL=InL3+3H)=3.52
*****
C12H19O3P          HL                                CAS 66170-45-4 (8310)
Phenylphosphonic acid monohexyl ester;
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| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
|---|-----|--------|------|------------------|-----|-------|----|--|-----------------|--------|
| In+++ | dis | NaCl | RT | 2.0M | C | | | | 1977NAc (81993) | 452 |
| K(In+5HL(org)=InL3(HL)2(org)+3H)=16.3 Method: extraction from 2.0 M NaCl solution into benzene. ***** | | | | | | | | | | |
| C12H20N2O8 | | H4L | | | | | | CAS 40623-42-5 (1101) | | |
| 1,2-Diaminoethane-N,N'-di(2-pentane-1,5-dioic acid); (CH2NHCH(COOH)CH2CH2COOH)2 | | | | | | | | | | |
| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
| In+++ | vlt | KN03 | 25°C | 0.10M | U | | | K1=20.55 K(In+HL)=16.12 | 1973GKc (82079) | 453 |
| ***** | | | | | | | | | | |
| C12H20N2O8S | | H4L | | TEDTA | | | | CAS 923-74-0 (3394) | | |
| 2,2'-Thiobis(ethyliminodiethanoic acid); S(CH2.CH2.N(CH2.COOH)2)2 | | | | | | | | | | |
| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
| In+++ | EMF | NaCl04 | 20°C | 0.10M | U | | | K1=20.26 K(InL+H)=1.88 K(InL+OH)=4.2 | 1967BAC (82462) | 454 |
| In+++ | sp | oth/un | 19°C | 0.0 | U | M | | K1=24.1 K(FeL+In=InL+Fe)=0.76 | 1966ZAb (82463) | 455 |
| ***** | | | | | | | | | | |
| C12H20N2O9 | | H4L | | EEDTA | | | | CAS 923-73-9 (2112) | | |
| Oxa-bis(ethyleneimino)diethanoic acid; ((HOOC.CH2)2N.CH2.CH2)2O | | | | | | | | | | |
| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
| In+++ | EMF | NaCl04 | 20°C | 0.10M | U | | | K1=25.5 K(InL+H)=2.1 K(InL+OH)=3.90 | 1967BAC (82544) | 456 |
| In+++ | sp | oth/un | 19°C | ? | U | M | | K1=22.67 K(FeL+In=InL+Fe)=0.37 | 1965ZAa (82545) | 457 |
| ***** | | | | | | | | | | |
| C12H21N3O6 | | H3L | | NOTA | | | | (5589) | | |
| 1,4,7-Triazacyclononane-N,N',N''-triethanoic acid; | | | | | | | | | | |
| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |
| In+++ | gl | KCl | 25°C | 0.10M | C | | | K1=26.2 *K(InL)=-6.60 | 1991CMd (82737) | 458 |
| ***** | | | | | | | | | | |
| C12H22O12 | | HL | | Lactobionic acid | | | | CAS 96-82-2 (2487) | | |
| 4-O-Beta-D-Galactopyranosyl-D-gluconic acid; | | | | | | | | | | |
| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg | K values | Reference | ExptNo |

In+++ gl NaNO3 25°C 0.10M C 1995EOa (82932) 459
B(InH-3L)=-9.53

C12H27N3O3 L (6685)
1,3,5-Trideoxy-1,3,5-tris(dimethylamino)-cis-inositol;

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

In+++ gl KNO3 25°C 0.10M C B2=28.46 1995HKb (84072) 460

C12H27N3S3 HL TACN-TM (6952)
1,4,7-Tris(2-mercaptoethyl)-1,4,7-triazacyclononane;

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

In+++ gl KCl 25°C 0.10M C K1=36.1 1995Mwa (84100) 461
B(InHL)=42.2

C13H9N3O7S3 H3L CAS 2172-27-2 (5007)
1-(2-Thiazolylazo)-2-naphthol-3,6-disulfonic acid;

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

In+++ sp NaClO4 ? 0.10M U K1=9.26 1972BZa (84653) 462

C13H9N3O8S3 H3L CAS 28467-51-8 (898)
2-(2-Thiazolylazo)chromotropic acid;

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

In+++ sp NaClO4 25°C 0.10M U 1981PSa (84665) 463
K(2In+H2L=In2H-2L+4H)=-8.9

C13H11NO2 HL CAS 304-88-1 (181)
N-Phenylbenzohydroxamic acid; C6H5.CO.N(C6H5).OH

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

In+++ gl diox/w 25°C 50% U K1=8.93 B2=17.45 1972GDb (85157) 464
B3=24.32

Medium: 50% dioxan, 0.25 M NaClO4

In+++ dis NaClO4 25°C 0.10M U K1=9.2 B2=18.4 1968SAb (85158) 465
B3=26.3

C14H8O7S H3L DASA CAS 83-61-4 (950)
1,2-Dihydroxyanthraquinone-3-sulfonic acid, Alizarin Red S;

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

In+++ sp NaClO4 rt 0.10M U 1971NOc (86737) 466
K(In+2H2L)=11.5

C14H9O2F3 HL (3429)
1,1,1-Trifluoro-1'-naphthoylacetone;

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

In+++ gl mixed 25°C 46% U K1=6.93 B2=13.58 1972BTb (86873) 467
Medium: 46% acetone, 0.1 M Et4ClO4

C14H10O7S H5L CAS 30782-99-1 (5045)
1,2,5,10-Tetrahydroxyanthracene-3-sulfonic acid (Leucoalizarin red S)

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

In+++ sp NaClO4 ? 0.10M U 1971NPb (86936) 468

K(In+H3L)=8.4
K(In+H4L)=7.0

C14H13N5OS HL (5394)
1-(2-Pyridylmethylideneamino)-3-(salicylideneamino)thiourea;

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

In+++ sp mixed 25°C 40% U 1985RGa (87616) 469

K1eff=5.05

Medium: 40% DMF, pH 4.5

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

In+++ sp oth/un ? ? U K1=6.22 1966GUa (87686) 470

C14H15N4OBr HL CAS 14337-50-9 (5095)
5-(5-Bromo-2-pyridylazo)-2-ethylamino-4-hydroxy-1-methylbenzene;

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

In+++ sp oth/un ? ? U 1966GUa (87765) 471

K(?)=6.62

C14H16N4O HL PAAC CAS 13059-69-3 (5067)
5-Ethylamino-4-methyl-2-(2'-pyridylazo)phenol;

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

In+++ sp oth/un 20°C ? U 1966GNb (88018) 472
 K(?)=5.19

 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 |
|-------|-----|--------|---------|-------|-----|-------|--|-----------------|--------|
| In+++ | EMF | KNO3 | 25°C | 0.10M | C | | K1=29.37 K(InL+H)=1.36 K[In(OH)L+H]=8.78 | 1997DFa (88690) | 473 |
| In+++ | gl | KNO3 | 35°C | 0.10M | U | | K1=27.87 | 1980KHb (88691) | 474 |
| In+++ | EMF | NaClO4 | 20°C | 0.10M | U | | K1=28.74 K(InL+OH)=5.00 | 1967BAc (88692) | 475 |
| In+++ | ix | oth/un | ? 0.50M | U | | | K1=25.05 | 1963RMb (88693) | 476 |
| In+++ | dis | NaClO4 | 20°C | 0.10M | U | | B(InL(OH))=33.46 | 1963STc (88694) | 477 |

Medium: KClO4

 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 |
|----------------------|-----|--------|---------|-------|-----|-------|---|-----------------|--------|
| In+++ | sp | R4N.X | 25°C | 0.50M | U | | K1=31.17 | 1999DLa (89288) | 478 |
| Medium: 0.5 M Me4NCl | | | | | | | | | |
| In+++ | EMF | KNO3 | 25°C | 0.10M | C | | K1=29.48 | 1997DFa (89289) | 479 |
| In+++ | gl | KNO3 | 35°C | 0.10M | U | | K1=32.82 | 1980KHb (89290) | 480 |
| In+++ | dis | NaClO4 | ? 1.00M | U | | | K1=27.25 K(In+HL)=18.45 K(In+H2L)=11.68 K(In+2H3L)=14.17 | 1974LKc (89291) | 481 |

Distribution between H2O-phase and 0.1% solution of di-2-ethylhexylphosphonic acid in toluol. In-114 used

| | | | | | | | | | |
|-------|-----|--------|------|-------|---|--|-----------------------------------|-----------------|-----|
| In+++ | sp | NaClO4 | 25°C | 0.10M | U | | K1=29.6 | 1972NKa (89292) | 482 |
| In+++ | EMF | NaClO4 | 20°C | 0.10M | U | | K1=29.0 K(InL+OH)=2.06 | 1967BAc (89293) | 483 |
| In+++ | sp | oth/un | 19°C | ? U | M | | K1=28.42 K(In+FeL=InL+Fe)=0.91 | 1966ZAc (89294) | 484 |

In+++ ix oth/un ? 0.50M U K1=27.65 1963Rmb (89295) 485

C14H23O3P HL CAS 13244-67-2 (8312)
Phenylphosphonic acid monoethyl ester;

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

In+++ dis NaCl RT 2.0M C 1977NAc (89478) 486

K(In+3HL(org)=InL3(org)+3H)=7.4

Method: extraction from 2.0 M NaCl solution into benzene.

C14H24N2O8 H4L HMDTA CAS 1633-00-7 (920)
1,6-Diaminohexane-N,N,N',N'-tetraethanoic acid; ((HOOC.CH2)2N.CH2.CH2.CH2)2

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

In+++ sp oth/un 19°C ? U 1965ZAa (89584) 487

K(In+HL)=9.03

C14H25N3O7 H3L (5397)
1-Oxa-4,7,10-triazacyclododecane-4,7,10-triethanoic acid;

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

In+++ gl KCl 25°C 0.10M C K1=25.48 1993DSa (90086) 488

K(InL+H)=1.8

K(In(OH)L+H)=9.59

C14H28N2O4S2 H4L CAS RH (7915)
N,N'-Bis(2,2-dimethyl-2-mercaptoethyl)ethylenediamine-N,N'-diethanoic acid;

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

In+++ gl KNO3 25°C 0.10M C K1=39.8 1996SAb (90469) 489

K(In(OH)L+H)=10.7

Value K1 was reported in this paper incorrectly as 29.8, later (page 2434)

the correct value 39.8 was published

C14H32N2O4 L CAS 102-60-3 (2678)
Tetra(2-hydroxypropyl)-N,N,N',N'-diaminoethane; (-CH2.N(CH2.CH(OH).CH3)2)2

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

In+++ gl NaNO3 25°C 0.10M U K1=8.20 1991DMb (90745) 490

K(InL+OH)=10.40

K(2InL+3OH=In2H-3L2)=32.24

C15H10N3OCl HL CAS 16195-35-0 (27)
5-(4-Chlorophenylazo)-8-hydroxyquinoline; Cl.C6H4.N:N.C9H5N.OH

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference | ExptNo |
|--|-----|--------|------|-------|-----|-------|-------------|-----------------|--------|
| In+++ | sp | oth/un | 25°C | 0.10M | U | | B2=7.86 | 1978KIa (90948) | 491 |
| ***** | | | | | | | | | |
| C15H10N3O5ClS | | H3L | | | | | (7520) | | |
| 7-[(2-Hydroxy-5-chlorophenyl)azo]-8-hydroxyquinoline-5-sulfonic acid; C6H3Cl(OH)N=NC9H4N(OH)(SO3H) | | | | | | | | | |

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference | ExptNo |
|---|-----|--------|------|---------------|-----|-------|-----------------------|-----------------|--------|
| In+++ | sp | KNO3 | 25°C | 0.10M | M | | K1=18.62 | 1997PKb (90955) | 492 |
| ***** | | | | | | | | | |
| C15H10O10S | | H5L | | Quercetin S F | | | CAS 25001-18-7 (1520) | | |
| 3,5,7,3',4'-Pentahydroxy-5'-sulfoflavone; (HO)3(O)C9H2O.C6H2(SO3H)(OH)2 | | | | | | | | | |

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference | ExptNo |
|-------------------------------|-----|--------|------|-------|-----|-------|----------------------|-----------------|--------|
| In+++ | sp | NaClO4 | 20°C | 0.10M | U | | K1=5.58 | 1989K0a (91035) | 493 |
| ***** | | | | | | | | | |
| In+++ | sp | NaClO4 | 20°C | 0.10M | U | | B(InH4L)=7.73 | 1976KTb (91036) | 494 |
| ***** | | | | | | | | | |
| C15H11N3O | | HL | | 4-PAN | | | CAS 7385-98-0 (4060) | | |
| 1-(2'-Pyridylazo)-4-naphthol; | | | | | | | | | |

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference | ExptNo |
|---|-----|--------|------|------|-----|-------|---------------------|-----------------|--------|
| In+++ | sp | alc/w | 20°C | 20% | U | | K(In+HL=InL+H)=1.46 | 1966GNa (91176) | 495 |
| ***** | | | | | | | | | |
| Medium: 20% EtOH | | | | | | | | | |
| C15H11N3O | | HL | | PAN | | | CAS 85-85-8 (572) | | |
| 1-(2-Pyridylazo)-2-naphthol; C5H4N.N:N.C10H6.OH | | | | | | | | | |

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|--------------------|-----------------|--------|
| In+++ | sp | NaClO4 | 25°C | 0.20M | U | I | K(In+HL=InL+H)=1.2 | 1985HSa (91224) | 496 |

Data for various methanol-water mixtures

| | | | | | | | | | |
|---|----|--------|------|-----|---|--|-------------------|-----------------|-----|
| In+++ | gl | diox/w | 25°C | 50% | U | | K1=12.19 B2=22.76 | 1978SMb (91225) | 497 |
| Medium: 50% dioxane/H2O, 0.20 M NaClO4. | | | | | | | | | |

| | | | | | | | | | |
|--|-----|-------|------|-----|---|--|----------|-----------------|-----|
| In+++ | vlt | alc/w | 25°C | 50% | U | | K1=13.05 | 1973TBa (91226) | 498 |
| Medium: 50% EtOH, 0.06 M (HClO4, NaClO4) | | | | | | | | | |

| | | | | | | | | | |
|-------|----|-------|------|-----|---|--|-----------------|-----------------|-----|
| In+++ | sp | alc/w | 25°C | 20% | U | | K(InOH+L)=15.11 | 1971BRe (91227) | 499 |
|-------|----|-------|------|-----|---|--|-----------------|-----------------|-----|

Medium: 20% EtOH, 0.1 M HClO4

C15H11N3O HL CAS 4312-09-8 (989)
5-Phenylazo-8-hydroxyquinoline; C6H5.N:N.C9H5N.OH

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

In+++ sp oth/un 25°C 0.10M U K1=3.77 1978KIa (91268) 500
B3=13.97

C15H11N3O4S H2L 1-PAN-4S (7010)
2-(2-Pyridylazo)-1-naphthol-4-sulfonic acid;

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

In+++ sp KNO3 25°C 0.10M U K1=9.96 B2=18.04 1980VHa (91326) 501

C15H11N3O5S H3L CAS 111248-75-0 (8411)
5-(2'-Hydroxy-5'-phenylazo)-8-quinolinol;

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

In+++ sp oth/un RT dil C 1985IBa (91342) 502
K1eff=5.15
B2eff=11.28
B3eff=16.17

Medium: Britton and Robinson buffer, pH 6.6

C15H12N2O2S HL CAS 29665-05-2 (1405)
1-Phenyl-3-methyl-4-(2-thenoyl)pyrazol-5-one;

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

In+++ dis oth/un 25°C ? U M 1982BTa (91438) 503
K(In+3HL=InL3+3H)=0.87
K(InCl+2HL=InL2Cl+2H)=-0.35

C15H20N2O7 H4L HBET (6954)
N-(Hydroxobenzyl)diaminoethane-N,N',N'-triethanoic acid;
HO.C6H4.CH2.N(CH2COOH)CH2CH2.N(CH2COOH)2

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

In+++ gl KCl 25°C 0.10M C K1=26.94 1995MMa (92170) 504
B(InHL)=31.52
B(InH2L)=33.84

C16H9NO6S H2L CAS 71816-00-7 (9034)
6-Hydroxy-5-oxo-5H-benzo[a]phenoxazine-10-sulfonic acid;

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

In+++ sp KCl 25°C 0.01M C 1980NRa (92638) 505
B2eff=11.46 (pH 5.09)

C16H12N2O8S2 H4L Chromotrope 2R CAS 4197-07-3 (2604)
2-(Benzeneazo)-chromotropic acid, Acid Red 29

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

In+++ gl NaClO4 25°C 0.10M U K1=19.80 B2=37.00 1975MPa (93066) 506

C16H12N2O11S3 H5L CAS 548-81-2 (5180)
2-(4'-Sulfophenylazo)chromotropic acid,
2-(4-sulfophenylazo)-1,8-dihydroxyaphthalene-3,6-diHSO3

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

In+++ gl NaClO4 25°C 0.10M U K1=14.34 B2=27.10 1975MPa (93096) 507

C16H13N2O10AsS2 H5L Thorin I CAS 3688-92-4 (2609)
1-((2-Arsonophenyl)azo)-2-hydroxy-3,6-naphthalylidysulfonic acid;

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

In+++ sp oth/un 25°C ? U 1968GSe (93196) 508
K(?)=9.9

C16H13N2O11AsS2 H6L Arsenazo I CAS 520-10-5 (277)
2-(2'-Arsonophenylazo)chromotropic acid;

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

In+++ sp oth/un 25°C 0.0 U 1973JMa (93258) 509
K(In+H4L=InH2L+2H)=5.6

C16H20N4O L PAMB (5164)
4-Ethoxy-2-ethylamino-1-methyl-5-(2-pyridylazo)benzene;

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

In+++ sp oth/un 20°C ? U B2=5.74 1966GNb (94086) 510

C16H27O3P HL CAS 52299-33-9 (8311)
Phenylphosphonic acid monodecyl ester;

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

In+++ dis NaCl RT 2.0M C 1977NAC (94697) 511
K(In+3HL(org)=InL3(org)+3H)=7.6

Method: extraction from 2.0 M NaCl solution into benzene.

C16H28N4O8 H4L DOTA CAS 60239-18-1 (1017)
1,4,7,10-Tetraazacyclododecane-1,4,7,10-tetraethanoic acid;

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

In+++ gl KCl 25°C 0.10M C K1=23.9 1991CMB (94906) 512
K(InL+H)=3.44

C16H29N3O8 H3L (6699)
1,7-Dioxa-4,10,13-triazacyclopentadecane-N,N',N''-triethanoic acid;

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

In+++ gl KCl 25°C 0.10M C K1=23.56 1993DSa (94976) 513
K(InL+H)=2.49

C16H35O4P HL CAS 298-07-7 (1625)
Di-(2-ethylhexyl)-phosphoric acid; (C2H5C6H12O)2P(O)OH

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

In+++ dis oth/un 25°C var C T 1993LYb (95509) 514
K(In+3H2L2(org)=In(HL2)3(org)+3H)=5.85 for extraction from 0.15 M Na2S04
into octane. For 2.05 M Na2S04, K=5.32. Data for 5-30 C. K on molal scale.

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

In+++ dis oth/un 25°C ? U M 1982BTa (95886) 515
K(InCl+2HL=InL2Cl+2H)=0.26
K(In+3HL=InL3+3H)=1.48

In+++ dis NaCl04 21°C 1.0M C K1=6.9 B2=14.00 1978NMB (95887) 516
B3=20.6

Method: distribution of 114In between 1.0 M NaCl04 solution and benzene.

In+++ dis oth/un 25°C 0.10M U 1969ZGa (95888) 517
B3=20.2

C17H14N2O5S H3L Calmagite CAS 3147-14-6 (2875)
1-(1-Hydroxy-4-methyl-2-phenylazo)-2-naphthol-4-sulfonic acid;

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

In+++ gl NaCl04 25°C 0.20M U K1=17.09 B2=31.96 1978SMB (95928) 518

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

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
In+++      sp  oth/un  ?      ?  U                      1967TAa (96305) 519
                                     B3=14.45
*****
C17H24N4O6      H3L                      (7349)
3,6,9,15-Tetraazabicyclo[9.3.1]pentadeca-1(15),11,13-triene-3,6,9-triethanoic acid;
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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
In+++      gl  R4N.X  25°C 0.10M C          K1=21.42      1997DQa (96457) 520
                                     K(InL+H)=1.8
                                     K(In2(OH)L2+H=2InL)=2.1

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Medium: Me4NNO3

```

*****
C17H30N4O8      H4L      TRITA          CAS 60239-20-5 (1018)
1,4,7,10-Tetraazacyclotridecane-1,4,7,10-tetraethanoic acid;
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
In+++      gl  KCl    25°C 0.10M C          K1=23.00      1991CMb (96651) 521
                                     K(InL+H)=3.33

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K1 by competitive reaction with NTA

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*****
C18H20N2O6      H4L                      CAS 10328-28-6 (3501)
Ethylenedinitrilo-N,N'-bis(2'-hydroxyphenyl)-N,N'-diethanoic acid;
-----

```

```

-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
In+++      gl  KCl    25°C 0.10M C          K1=26.25      1993MMa (97403) 522
                                     K(InL+H)=3.43

```

```

*****
C18H20N2O6      H4L      EHPG          CAS 10328-28-6 (429)
N,N'-Ethylene-bis-(2-(2'-hydroxyphenyl))glycine; (HOOCCH(C6H4OH)NHCH2.)2
-----

```

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
In+++      gl  KCl    25°C 0.10M C          K1=26.68      1989BMd (97432) 523
                                     K(InL+H)=4.47
                                     K(InHL+H)=4.78
                                     K(InLOH+H)=10.57

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Data for the racemic ligand. For the meso ligand K1=25.26; K(InL+H)=6.14; K(InHL+H)=3.42; K(InLOH+H)=8.83

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-----
In+++      gl  KCl    25°C 0.10M C          K1=33.0       1984TMc (97433) 524
*****
C18H22N4O4      H2L                      CAS 2444-14-6 (3502)
N,N'-Bis(2-pyridylmethyl)diaminoethane-N,N'-diethanoic acid;
-----

```

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

In+++ gl NaCl 25°C 0.16M C K1=22.6 1997CRa (97545) 525
K(In+L=InL(OH)+H)=15.44
K(InL(OH)+H)=7.16

C18H24N6O9 H3L BAMTPH CAS 87834-24-0 (5915)
N,N',N''-Tris(3-(hydroxyamino)-3-oxopropyl)-1,3,5-benzenetricarboxamide;
C6H3(CONHCH2CH2CONHOH)3

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

In+++ gl NaNO3 25°C 0.10M C K1=22.83 1989EHa (97620) 526

C18H28N4O4 H2L (7378)
7-Methyl-3,7,11,17-tetraazabicyclo[11.3.1]heptadeca-1(17),13,15-triene-3,11-diethan
oic acid;

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

In+++ gl R4N.X 25°C 0.10M C K1=18.94 1997CDb (97786) 527
K(InL+H)=2.38

Medium: NMe4NO3

X

C18H30N4O12 H6L TTHA CAS 869-52-3 (694)
Triethylenetetraaminehexaethanoic acid;((HOOC.CH2)2N.CH2.CH2.N(CH2.COOH).CH2)2

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

In+++ EMF KNO3 25°C 0.10M C K1=26.88 1997DFa (98055) 528
K(InL+H)=7.30
K(InL+In)=9.0
K(InHL+H)=2.33
K[In2(OH)L+H]=4.2

In+++ gl KCl 25°C 0.10M C K1=26.75 1984TMc (98056) 529

C18H32N4O8 H4L TETA CAS 60239-22-7 (1019)
1,4,8,11-Tetraazacyclotetradecane-1,4,8,11-tetraethanoic acid;

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

In+++ gl KCl 25°C 0.10M C K1=21.89 1991CMb (98210) 530
K(InL+H)=2.71

C18H32N4O9 H4L CAS 189282-31-3 (8974)
4,7,10,13-Tetrakis-(carboxymethyl)-1-oxa-4,7,10,13-tetraazacyclopentadecane;

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

B2eff=8.44 (pH 4.90)

C20H11N09S2 H3L CAS 66451-74-9 (8983)
6-Hydroxy-5-oxo-5H-dibenzo[a,j]phenoxazine-9,11-disulfonic acid;

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

In+++ sp KCl 25°C 0.01M C 1980Nra (99538) 537
K1eff=5.17 (pH 4.95)

C20H13N307S H3L Eriochrome Bl T CAS 1787-61-7 (997)
1-(1-Hydroxy-2-naphthylazo)-6-nitro-2-naphthol-4-sulfonic acid;

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

In+++ sp oth/un 20°C 0.10M U 1980PKa (99567) 538
K(In+3HL)=19.82

Medium: Na2S04

In+++ gl NaCl04 25°C 0.10M U K1=14.36 B2=25.23 1975MPa (99568) 539

C20H14N205S H3L Solochrome 6B CAS 3564-14-5 (3507)
1-(1-Hydroxy-2-naphthylazo)-2-naphthol-4-sulfonic acid, Mordant Black3, Eriochrome blue-black B;

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

In+++ gl NaCl04 25°C 0.10M U K1=18.30 B2=32.60 1975MPa (99653) 540

C20H14N205S H3L EriochrBluBlk R CAS 2538-85-4 (3508)
3-Hydroxy-4-(2-hydroxy-1-naphthylazo)naphthalene-1-sulfonic acid;

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

In+++ gl NaCl04 25°C 0.20M U K1=16.48 B2=31.14 1978Smb (99693) 541

C20H24N206 H4L HBED CAS 3625-89-6 (2208)
N,N'-Di-(2-hydroxybenzyl)-diaminoethane-N,N'-diethanoic acid;

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

In+++ sp R4N.X 25°C 0.50M U K1=29.88 1999DLa (100002) 542
K(InL+H)=3.45

Medium: 0.5 M Me4NCl

In+++ gl KCl 25°C 0.10M U K1=27.76 1994MMe (100003) 543
K(InL+H)=3.48

In+++ sp KCl 25°C 0.10M M K1=32.2 1990MMa (100004) 544

In+++ nmr none 15°C 0.0 U K1=39.66 1985TMa (100005) 545

In+++ gl KCl 25°C 0.10M C K1=39.66 1984TMb (100006) 546

In+++ gl KCl 25°C 0.10M C K1=39.66 1984TMc (100007) 547

C20H24N2O12S2 H6L CAS 3625-85-3 (5755)
N,N'-Bis(2-hydroxy-5-sulfobenzyl)-diaminoethane-N,N'-diethanoic acid;

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

In+++ sp KCl 25°C 0.10M M K1=29.37 1990MMa (100035) 548
K(InL+H)=2.82
K(In(OH)L+H)=10.82

In+++ gl KCl 25°C 0.10M C K1=29.37 1989MSc (100036) 549
K(InL+H)=2.82
K(InH-1L+H)=10.82

In+++ gl KCl 25°C 0.10M C K1=37.40 1984TMb (100037) 550
K(InL+2H)=5.31

C20H26N4O6 H4L ENDA-HP (6746)
N,N'-Bis(3-hydroxy-6-methyl-2-pyridylmethyl)diaminoethane-N,N'-diethanoic acid;

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

In+++ sp KCl 25°C 0.10M C K1=28.02 1992MSa (100331) 551
K(InL+H)=5.98
K(InHL+H)=4.85

C20H30N2O8P2 H4L CAS 112827-88-0 (8105)
N,N'-Bis(2-hydroxybenzyl)diaminoethane-N,N'-bis(methylenephosphonic acid monomethyl ester);

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

In+++ gl KCl 25°C 0.10M C K1=28.12 1984TMd (100415) 552
K(InOHL+H)=6.63

C20H30N4O8S2 H2L CAS 173102-22-2 (3839)
1,10-Bis(2-hydroxy-5-sulfonylphenyl)-1,4,7,10-tetraazadecane;
(C6H3(OH)(HSO3)CH2NHCH2CH2NHCH2)2

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

In+++ gl NaCl 25°C 0.16M C K1=24.54 1996WCa (100426) 553

C20H36O6 L DiCy-18-crown-6 CAS 16069-36-6 (1653)
2,3:11,12-Dicyclohexyl-1,4,7,10,13,16-hexaoxacyclooctadecane;

K(In+HL)=8.65
K(In+2HL)=15.11

Method: polarography. Also data for 30 and 40 C. DH(In+HL)=21.9 kJ mol⁻¹,
DS(In+HL)=90.7 J K⁻¹ mol⁻¹; DH(In+2HL)=45.6, DS(In+2HL)=133.5.

In+++ vlt NaCl04 20°C 0.10M U T H 1983SSh (101819) 560

K(In+HL)=8.31
K(In+2HL)=14.63

Method: polarography. Also data for 30 and 40 C. DH(In+HL)=18.4 kJ mol⁻¹,
DH(In+2HL)=38.2. Ligand defined as Dimethylchlorotetracycline

C22H24N2O9 H2L Oxotetracycline CAS 79-57-2 (2202)

Oxytetracycline, 5-Hydroxy-tetracycline;

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

In+++ vlt NaCl04 20°C 0.10M U T H 1983SSh (101884) 561

K(In+HL)=8.54
K(In+2HL)=14.83

Method: polarography. Also data for 30 and 40 C. DH(In+HL)=21.9 kJ mol⁻¹,
DS(In+HL)=88.6 J K⁻¹ mol⁻¹; DH(In+2HL)=43.9, DS(In+2HL)=134.1.

C22H26N4O8 H4L (5526)

N,N'-Dipyridoxylethylenediamine-N,N'-diethanoic acid;

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

In+++ gl KCl 25°C 0.10M C K1=26.54 1989MSc (101960) 562

K(InL+H)=7.15
K(InHL+H)=6.34
K(InL=InH-1L+H)=-11.21

In+++ nmr none 15°C 0.0 U K1=36.86 1985TMa (101961) 563

K(InL+H)=7.96
K(InHL+H)=6.68

In+++ gl KCl 25°C 0.10M C K1=36.89 1984TMb (101962) 564

K(InL+H)=7.96
K(InHL+H)=6.68

In+++ gl KCl 25°C 0.10M C K1=36.89 1984TMc (101963) 565

K(InL+H)=7.96
K(InHL+H)=6.68

C22H32N2O2 HL CAS 58248-65-0 (1406)

1-Phenyl-3-methyl-4-lauroylpyrazol-5-one;

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

In+++ dis oth/un 25°C ? U M 1982BTa (102199) 566

In+++ gl NaCl 25°C 0.16M C K1=27.56 1997COa (103018) 572

C24H31N3O8 H3L CAS 35369-55-2 (6972)
N,N''-Bis(2-hydroxybenzyl)-2,5,8-triazanonane-N,N',N''-triethanoic acid;

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

In+++ gl KCl 25°C 0.10M C K1=28.96 1994MMF (103058) 573
K(InL+H)=8.37
K(InHL+H)=5.84
K(InH2L+H)=4.69

C24H32N2O6 H3L Me4-HBED (6507)
N,N'-Bis(2-hydroxy-3,5-dimethylbenzyl)ethylenediamine-N,N'-diethanoic acid;

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

In+++ sp KCl 25°C 0.10M M K1=30.72 1990MMa (103064) 574

C24H33N5O8 H5L (6747)
N,N''-Bis(3-hydroxy-6-methyl-2-pyridylmethyl)diethylenetriamine-N,N'.N''-triethanoic acid;

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

In+++ sp KCl 25°C 0.10M C K1=25.70 1992MSa (103204) 575
K(InL+H)=8.87
K(InHL+H)=5.55
K(InH2L+H)=4.42

C24H34N2O5 H3L (6509)
N,N'-Bis(2-hydroxy-3,5-dimethylbenzyl)-N-(2-hydroxyethyl)-diaminoethane-N'-ethanoic acid;

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

In+++ sp KCl 25°C 0.10M M K1=26.30 1990MMa (103215) 576
K(In(OH)L+H=InL+H2O)=8.37

C24H34N3O6 H3L CAS 134627-54-6 (6564)
N-(2-Hydroxy-3,5-dimethylbenzyl)-N'-((3-hydroxy-1,2,5-trimethyl-4-pyridinyl)methyl) EDDA;

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

In+++ sp KCl 25°C 0.10M C K1=27.82 1991MSb (103219) 577

C24H36N4O8 H2L CAS 134653-17-1 (6565)
N,N'-Bis(1,2-dimethyl-3-hydroxy-5-hydroxymethyl)-4-pyridinyl)-methyl) diaminoethaned

iethanoic acid

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-----  
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo  
-----  
In+++     sp  KCl    25°C 0.10M C          K1=21.47      1991MSb (103271) 578  
*****  
C25H32N6          L          CAS 132177-84-5 (536)  
3,11-Bis(2-pyridylmethyl)-3,7,11,17-tetraazabicyclo[11.3.1]heptadeca-1(17),13,15-tr  
iene;
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-----  
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo  
-----  
In+++     gl  KNO3   25°C 0.10M C          K1=14.01      1999CDa (103745) 579  
*****  
C25H48N6O8      H3L      Desferrioxamine CAS 70-51-9 (2488)  
Desferrioxamine B; NH2.((CH2)5.NOH.CO.C2H4.CO.NH)2.(CH2)5.NOH.CO.CH3
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo  
-----  
In+++     gl  KCl    25°C 0.10M C          K1=21.39      1989EHa (103817) 580  
K(In+HL)=20.60  
K(InHL+H)=3.15  
K(InL+H)=10.00  
*****  
C26H33N3O12S3    H6L          (7354)  
1,1,1-Tris(((2-hydroxy-5-sulfobenzyl)amino)methyl)ethane;
```

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-----  
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo  
-----  
In+++     gl  NaCl   25°C 0.16M C          K1=28.49      1997COa (104065) 581  
*****  
C26H48N6O10      H4L          CAS 207388-25-8 (7648)  
Triethylenetetramine-N,N,N',N'',N''',N''''-hexaethanoic acid NN-bis(butanamide);
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-----  
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo  
-----  
In+++     gl  R4N.X  25°C 0.10M C          K1=23.69      1998ACc (104307) 582  
K(InL+H)=4.68  
K(InHL+H)=1.71  
K(InL+In)=5.66  
K(In2L(OH)+H)=2.38  
Medium: N(CH3)4NO3. K(In2L(OH)2+2H)=7.33.
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*****  
C27H36N4O12S3    H6L          (7353)  
Tris(((2-hydroxy-5-sulfobenzyl)amino)ethyl)amine;
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-----  
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo  
-----  
In+++     gl  NaCl   25°C 0.16M C          K1=29.3       1997COa (104565) 583  
*****
```

C27H36N6O3 H3L TACN-HP (6748)
N,N',N''-Tris(3-hydroxy-6-methyl-2-pyridylmethyl)-1,4,7-triazacyclononane;

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

In+++ sp KCl 25°C 0.10M C K1=28.02 1992MSa (104574) 584
K(InL+H)=5.93
K(InHL+H)=5.13
K(InH2L+H)=4.50
K(In+H3L)=10.93

*K(InL)=-10.42

C28H30N4O8S2 H2L CAS 173102-11-9 (4197)
N,N'-Bis(2-hydroxy-5-sulfophenyl)-N,N'-bis(methylpyridyl)diaminoethane;

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

In+++ gl NaCl 25°C 0.16M C K1=34.85 1996WCa (104737) 585

C28H31N3O18S3 H9L 3,4-LICAMS CAS 71659-79-5 (5469)
N,N',N'''-Tris(2,3-dihydroxy-5-sulfonatobenzoyl)-1,5,10-triazadecane;

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

In+++ gl KNO3 25°C 0.10M U K1=39 1982PWa (104746) 586
K(In+H3L=InL+3H)=4.3
K(InL+H)=5.66
K(InHL+H)=5.29

C30H27N3O15 H6L Enterobactin CAS 28384-96-5 (2259)
Enterobactin; cyclo-((OH)C6H3(OH).CO.NH.CH.CO.CH2)3

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

In+++ sp KCl 25°C 0.10M C K1=39 1991LRa (105195) 587
K(InL+H)=4.02
K(InH3L+H)=3.1

C30H27N3O18S3 H9L TRIMCAMS CAS 77069-63-7 (5468)
1,3,5-Tris(2,3-dihydroxy-5-sulfobenzoyl)carbamido)benzene;

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

In+++ gl KNO3 25°C 0.10M U K1=39 1982PWa (105207) 588
K(In+H3L=InL+3H)=4.7
K(InL+H)=4.92
K(InHL+H)=4.70

C30H44N2O6 H3L (6508)
N,N'-Bis(2-hydroxy-3-methyl-5-tert-butylbenzyl)diaminoethane-N,N'-diethanoic acid;

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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
In+++     sp  KCl    25°C 0.10M M          K1=31.26      1990MMa (105317) 589
*****
C30H45N4O6P3      H3L                      CAS 182250-11-9 (8686)
Tris(4-(phenylphosphinato)-3-methyl-3-azabutyl)amine;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
In+++     nmr NaCl 25°C 0.16M C          K(In+2H3L)>=5.4 1996LRc (105323) 590
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Method: 31P nmr. Medium pH 1.5.

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*****
C31H32N2O13S      H6L  Xylenol orange  CAS 63721-85-5 (432)
5,5'-Bis-N,N-bis(carboxymethyl)aminomethyl-4'-hydroxy-3,3'-dimethylfuchstone-2"-sulf
onic acid;
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Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
In+++     sp  oth/un 25°C 0.10M U          K1=8.95  B2=16.11  1990ZCa (105473) 591
-----
In+++     sp  oth/un 25°C    u  U          K1=8.94  B2=16.10  1990ZCb (105474) 592
-----
In+++     sp  oth/un  ?    ?  U          K(In+H3L)=5.23  1969BUa (105475) 593
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In+++     sp  oth/un 25°C    ?  U          K(?)=5.0  1966DMd (105476) 594
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*****
C31H37N7          L                      CAS 259259-40-0 (537)
3,7,11-Tris(2-pyridylmethyl)-3,7,11,17-tetraazabicyclo[11.3.1]heptadeca-1(17),13,15
-triene;
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
In+++     gl  KNO3   25°C 0.10M C          K1=14.10      1999CDa (105538) 595
K(InL+H)=2.08
-----

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*****
C33H45N3O3      H3L                      (6764)
N,N',N''-Tris(3,5-dimethyl-2-hydroxybenzyl)-1,4,7-triazacyclononane;
-----

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-----
Metal      Mtd Medium Temp Conc Cal Flags Lg K values      Reference ExptNo
-----
In+++     sp  alc/w  25°C 75% U          K1=33.99      1991CMc (105958) 596
Medium: 75% v/v EtOH/H2O
-----

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*****
C37H44N2O13S      H6L  MeThymol Blue      (428)
3,3'-Bis(N,N-di(carboxymethyl)aminomethyl)thymolsulfonephthalein;
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```


| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|--------------------------|------------------|--------|
| In+++ | sp | oth/un | 25°C | 0.10M | C | | K1eff=5.53 K2eff=3.89 | 1997ASa (106606) | 597 |

Medium: 0.10 M acetate buffer, pH 5.0.

| | | | | | | | | | |
|-------|----|--------|------|-------|---|--|--|------------------|-----|
| In+++ | sp | NaCl04 | 25°C | 0.10M | U | | B(InH2L)=38.18 K(In+H2L)=13.60 K(InH2L+H4L)=5.48 | 1969PKd (106607) | 598 |
|-------|----|--------|------|-------|---|--|--|------------------|-----|

C40H47N3O10 H7L CAS 86728-01-0 (5503)
 Bis(3-(((2-hydroxy-5-methylbenzyl)amino)methyl)-2-hydroxy-5-methylbenzyl)amine-trie
 thanoic acid

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|---|------------------|--------|
| In+++ | gl | oth/un | 25°C | 0.10M | U | | K1=16.65 K(InH-1L+H)=5.73 K(InH-2L+H)=7.17 K(InH-3L+H)=9.44 K(InL+H)=3.21 | 1983YMa (106788) | 599 |

Polymer L (3532)
 Human transferrin;

| Metal | Mtd | Medium | Temp | Conc | Cal | Flags | Lg K values | Reference | ExptNo |
|-------|-----|--------|------|-------|-----|-------|---|------------------|--------|
| In+++ | sp | KNO3 | 25°C | 0.10M | C | | Keff(In+HCO3L)=18.30 Keff(In+InHCO3L)=16.44 Keff(In+L)=10.0 | 1994HCa (108215) | 600 |

At pH 7.4 in 0.1M N-(2-hydroxyethyl)piperazine-N'-2-ethanesulfonic acid, (HEPES) and 5mM HCO3

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

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